The transition from living apart together to a coresidential partnership

Michael Wagnera,⁎, Clara H. Mulderb, Bernd Weißc, Sandra Krapfd

a Institute of Sociology and Social Psychology, University of Cologne, Greinstr. 2, 50939 Cologne, Germany
b Faculty of Spatial Sciences, Population Research Centre, University of Groningen, the Netherlands
c GESIS Leibniz Institute for the Social Sciences, Mannheim, Germany
d Mannheim Centre for European Social Research, University of Mannheim, Germany

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ABSTRACT
Moving in with a partner is a step in the process of institutionalising a romantic relationship, that is, establishing the relationship in such a way that it is more embedded in the social environment and more strongly regulated by social norms and mutual expectations. But under what circumstances do couples decide to establish a joint household? We study the transition to a coresidential partnership among couples in a ‘living-apart-together’ (LAT) relationship. We use data from the seven waves of the German Family Panel (pairfam) dataset (N = 2428 LAT relationships of men and women born in 1971–1973, 1981–1983, and 1991–1993). In order to analyse especially the partnership processes of younger adults, we focus on respondents in the age range of 18 to 42 in the time period between 2008 to 2016. Using discrete-time event-history models, we test hypotheses about the partners’ resources, relationship quality, degree of relationship institutionalisation, and exposure to different kinds of costs. Our results indicate that especially equality and institutionalisation factors, as well as the costs of moving and of starting to coreside, are associated with the decision to move in together. Resources are important for those LAT partners who are living in the parental household, while for LAT partners who have already left the parental home no effect of resources was found on the transition to a coresidential union.

1. Introduction
Union formation is a crucial event in the life course that has important repercussions for fertility, housing demand, and well-being. The transition to a coresidential union is therefore an important topic of research among family sociologists and demographers. Most earlier research on union formation focused almost exclusively on the transition to a married union (e.g., Oppenheimer, 1988). More recently, however, it has become common practice to consider unmarried cohabitation when analysing union formation (e.g., Guzzo, 2006; Jalovaara, 2012; Mulder, Clark, & Wagner, 2006; Sassler & Goldscheider, 2004; Thornton, Axinn, & Teachman, 1995; Wiik, 2009; Xie, Raymo, Goyette, & Thornton, 2003). In a recent study for Norway, Wiik (2011) concentrated on the transition to cohabitation only, arguing that in Norway marriage has become nonstandard behaviour.

In most of these previous studies, analyses of the formation of coresidential unions included all individuals who had never lived with a partner or who were not currently living with a partner. Thus, all individuals without a partner were treated as being ‘at risk’ of starting a coresidential partnership. This approach failed to take into account that most couples who move in together have been in a pre-existing dating relationship or a non-coresidential partnership. A similar argument was made by Sassler, Michelmore, and Qian, (2018). In a recent study these authors analysed the transition of women into a coresidential union with a partner they had a sexual relationship with. But most researchers rely on what Roseneil (2006) has called a tripartite model of relationships, which assumes that individuals are either single, cohabiting, or married; while ignoring non-residential partnerships, or living-apart-together (LAT) partnerships.

There are several reasons why neglecting LAT partnerships in analyses of union formation can result in a misinterpretation or an unrealistic view of partnership arrangements and trajectories in a society. First, failing to take LAT partnerships into account usually leads to a massive overestimation of the proportion of partnerless men and women (e.g., Castro-Martín, Domínguez-Folgueras, & Martín-García, 2008). This is especially true for younger adults, as the prevalence of LAT relationships decreases with age until people reach their mid-thirties, and remains low thereafter (Asendorpf, 2008). Accordingly, European data show that the proportion of men and women in LAT relationships who intend to live together is highest in the age group...
20–30 years and lowest in the age group 51 years and older (Levin, 2017).

Second, in many societies, the average age at marriage has been increasing. A possible reason for this trend is that finding a partner and establishing a stable partnership is becoming more difficult. If this is the case, individuals might see living apart together as an acceptable arrangement during the partner search process. This assumption is supported by empirical evidence showing that the stability of LAT partnerships tends to be low because the partners usually either separate or move in together (Asendorpf, 2008), and that the length of a LAT partnership is positively related to the stability of a subsequent co-residential union (Schnor, 2015). Third, the transition from a LAT partnership to a co-residential union is often a precondition for family formation. It is therefore clear that the investigation of the process of transitioning from a non-coreidential to a coresidential union contributes to our understanding not only of the course of partnerships, but also of the realisation and the timing of childbirth.

Another reason why studying non-coreidential partnerships and the process of transition to coresidence is important is that the LAT partnership type is quite common. Recent empirical studies have estimated the prevalence of LAT relationships. Based on data from the Generations and Gender Survey 2004 and 2010, Liebbror, Poortman, and Seltzer, (2015) and Pastees, Lyssens-Danneboom, and Mortelmans, (2017) examined the prevalence of LAT relationships in 10 western and eastern European countries. Their results indicated that the prevalence of LAT partnerships among the population aged 18–79 ranged from less than 2% in Estonia and Georgia to almost 10% in Belgium, France, Norway, and Russia (see also Mortelmans, Pastees, Régnier-Loilier, Vigoni, & Mazzucato, 2015). Based on data from the German Family Survey, Schneider (1996) reported that in 1994, 11% of the western and 6% of the eastern German population aged 18–61 were living apart together. Ermisch and Siedler (2009) used data from the British Household Panel Survey for United Kingdom and data from the Socio-Economic Panel for Germany. For respondents aged 16 to 35, they found a LAT prevalence of 21% for the United Kingdom and of 25% for Germany. For respondents aged 35 and older, they found a LAT prevalence of 4% in the United Kingdom and of 5% in Germany. A study for Spain found that in 1999, 31% of women aged 20–24 and 23% of women aged 25–29 reported being in a LAT partnership (Castro-Martín et al., 2008).

While it has often been suggested that the prevalence of LAT relationships has increased over time (e.g., Levin, 2004; Duncan & Phillips, 2010), only a few previous studies have examined such historical trends. Asendorpf (2008) found for Germany that the proportion of LAT relationships among all relationship types increased from 3.5% in 1992 to 10.9% in 2006. For Japan, Iwasawa (2004) observed that the share of women who were in an intimate relationship with a non-coreidential partner increased from 6% in 1987 to 17% in 1997.

In this article, we address the question what factors determine the likelihood of transitioning to a coresidential union. We investigate how this transition is related to indicators of resources, the quality and the degree of the institutionalisation of the LAT relationship, and several costs that are associated with moving in together. We extend existing research by considering a broader variety of explanatory factors that are derived from more general theories. The data stem from seven waves of the German Family Panel friendship sample. Discrete-time event-history models are estimated to identify the individuals who form coresidential unions.

2. Previous research: Definitions, typologies, and empirical findings

The term “living apart together” was introduced in 1978 in an article in the Haagse Post by the Dutch journalist Michiel Berkel (Levin & Trost, 1999). LAT relationships are defined in different ways, and the existing survey research has used different measures to identify LAT relationships (Haskey, 2005; Pastees et al., 2017). These relationships have also been referred to as non-residential partnerships (Strohm, Seltzer, Cochrans, & Mays, 2009, p.178), dating partnerships (Meggiolaro, 2010), and bilocal relationships (e.g., Dorbritz, 2009). There seems to be agreement in the literature that LAT relationships differ from casual or dating relationships. Both dating and LAT relationships are intimate relationships between partners living in different households. However, compared to individuals in dating relationships or in (short) “romantic experiences” (Régnier-Loilier, 2016), individuals in LAT relationships are more committed to each other. LAT partnerships (or LAT relationships) are usually defined as intimate relationships between unmarried partners who live in separate households, but who identify themselves and are identified by network members as being part of a couple (Levin & Trost, 1999). In particular, being identified as a couple by others indicates a commitment level that separates a LAT relationship from a pure dating relationship, and from a boyfriend or girlfriend relationship (Duncan & Phillips, 2011).

Several scholars have developed typologies of LAT relationships. These typologies are important for our study because the likelihood of moving in together differs between LAT relationship types. A criterion that is often used to distinguish between different kinds of LAT relationships is whether the partners have been forced to live apart because of social circumstances, or whether they prefer this arrangement and have deliberately chosen it. For example, Levin (2004) identified two categories of people in LAT relationships. The first category consists of partners who would like to live together, but decided against doing so because they are responsible for other people (i.e., they are caring for young children or older parents living in their household), or because they are working or studying in different places. The second category consists of partners who prefer living apart together to other arrangements because, for example, they had negative experiences in (previous) relationships with common households. Schneider and Ruckdeschel (2005) differentiated LAT relationships that were work-related from those that were deliberately chosen. They concluded that work-related LAT relationships often represent a temporary solution for younger people who are still in vocational training and want to establish a common household as soon as possible, whereas deliberately chosen LAT relationships are often formed by older people who for personal reasons want to maintain this kind of relationship as long as possible. Drawing on a European cross-national qualitative study, Stoïlova, Rosenell, Crowhurst, Hellesund, and Santos, (2014) found that there are five main ways how LAT-partners characterise their relationship: chosen, temporary, transitional, undecided, and unrecognisable. Lois (2012) distinguished three main LAT types: a precursor to a coresidential partnership, a work-related long-distance relationship, and a deliberately chosen living arrangement. Although we cannot make detailed distinctions between such types in this paper, we try to distinguish work-related long-distance relationships from other LAT relationships.

It thus appears that the transition from living apart together to forming a coresidential union is an early step in the process of partnership development and partnership institutionalisation (Lois, Kunz, & Kopp, 2010). This idea is supported by the large share of individuals living in a LAT union who say they intend to live with their partner in the future (Liebbror et al., 2015). Coulter and Yang (2017) also looked at whether LAT partners intend to coreside. They found that the social factors that are likely to constrain the partners from realising this intention vary between young adults, independent adults, single parents, and seniors.

Living apart together can also be a long-term living arrangement that aligns with the needs and the social circumstances of the partners. Lois and Lois (2012) performed a cluster analysis in which they identified the groups with the highest risk of having long-lasting LAT partnerships. One of their findings was that LAT partnerships were more stable if the partners indicated that they preferred or sought autonomy in their partnerships. Furthermore, Lois and Lois found that
members of a cluster with a high proportion of partners who were enrolled in education and had low disposable incomes were less likely to establish coresidential unions; and that members of a cluster of economically deprived LAT partners had higher separation risks.

A number of studies have attempted to identify who is in a LAT partnership, and to determine what motivates people to be in a LAT partnership (Duncan & Phillips, 2011; Ermisch & Siedler, 2009; Régnier-Loillier, Beaugouan, & Villeneuve-Gokalp, 2009). Sassler (2004) and Huang, Smock, Manning, and Bergstrom-Lynch, (2011) investigated the motives for moving into a common household. For example, Sassler (2004) identified six broad categories of reasons why respondents decided to cohabit: finances, convenience, housing situation, simply wanting to, as a response to parents/family, and as a trial. Huang et al. (2011) emphasised that there are gender differences in perceptions of the potential disadvantages of moving in together: men typically fear losing their freedom, whereas women typically fear that marriage will be delayed. Manning and Smock (2005) asked cohabiters indepth interviews to look back at their experience of moving in together, and to describe the event and the process. The interview responses revealed that the process of moving in together is characterised by a high degree of fluidity, and not by clear-cut decision-making. Raley, Crissey, and Muller, (2007) found that romantic relationships during adolescence are associated with the formation of unmarried and married coresidential unions in early adulthood; but that non-romantic sexual relationships during adolescence are associated with later cohabitation that is not followed by marriage. Liebfroer, Gerritsen, and Gierveld, (1994) analysed the factors that influence union formation behaviour among young adults in a dating partnership. They found that the intention to start a coresidential union is a very strong predictor of actually moving in together (see also Régnier-Loillier, 2016 for France). Meggiaro (2010) performed a multiple-risk event-history analysis of the transition to cohabitation, marriage, or separation among couples in a dating partnership, paying specific attention to the role of sexuality. The results indicated that couples who are sexually satisfied have a higher likelihood of living in a coresidential union than of living apart. Another factor that has been shown to influence the decision to start living together is the distance between LAT partners. In a competing risks setting, Krapf (2018) showed that couples with at least one employed partner who are in a long-distance relationship are more likely to separate and are less likely to move in together than LAT couples who are living in close proximity. This finding indicates that for employed couples, living farther apart increases the costs of moving in together. The empirical findings of Sassler and Miller (2011) and Sassler, Michelmore, and Holland, (2016) suggest that social class plays a role in the transition to coresidence. Individuals who are economically disadvantaged or who grew up in an unstable family are more likely to enter a coresidential union at a young age.

Previous research suggests that the reasons why people decide for a LAT relationship differ across the life course. For young people, LAT relationships are likely to be of a shorter duration than for older people. In contrast to LAT relationships of older people, LAT relationships of younger people more often serve as a precursor of coresidence. They are often transformed into a coresidential union if there is an option to move in (Pasteels et al., 2017). Older divorced or widowed men and women might prefer LAT relationships over coresidential partnerships because this might facilitate to continue life as usual and to allow family integration and social networking (De Jong Gierveld, 2002). Lewin (2017) argues that for older people entering a coresidential union is more complicated as already established finances, careers, children and lifestyles have to be merged or shared between partners.

3. The transition to a coresidential partnership: Theoretical background and hypotheses

In principle, partners who are living apart together face a number of biographic options: they can maintain their non-residential relationship, they can separate, or they can move in together. Regardless of which of these options is being investigated, it is necessary to apply theoretical perspectives that stem from two research areas. One research area examines how partnerships develop, the second area focuses on residential relocations. In order to improve our understanding of partnership development (the first research area), we need to take into account both internal and external factors of the partnership. The internal relationship of the partners refers to aspects such as the quality of the partnership and their level of commitment. The degree to which the partnership is linked to its external social environment focuses on the degree of institutionalisation of the partnership. Concerning research that focuses on residential relocations (the second research area), we have to consider the costs and the returns of a residential move for one or both partners that may derive from local ties, the household composition, and the available resources. In the following, we develop a number of hypotheses that are derived from a partnership development perspective, while recognising that the start of coresidence requires that at least one of the partners makes a residential move.

Interdependence and exchange theory (Lewis & Spanier, 1979; Thibaut & Kelley, 1961) are often applied to understand the course and stability of partnerships. Here, it is assumed that partners try to maximise their gains from their interactions with their partner. Partners weigh these gains against a comparison or an aspiration level, and pursue the partnership as long as alternative options do not appear to offer higher gains. The quality of a relationship results from the interactions or exchange between the partners in different spheres of life. In partnerships in which these interactions are satisfying for the partners they are likely to become intensified, i.e. partners’ commitment increases. A theory that seeks to explain the degree of commitment in a partnership was developed by Rubel (1980). Her investment theory, which is based on the interdependence theory, posits that the level of commitment of a partnership is explained also by how much partners invest into their relationship. The higher the level of satisfaction the more the partners invest into the partnership, the higher is the level of commitment. Therefore, the course of partnerships is driven by the quality of partners’ relationship. An important internal precondition or inducement for intensifying a partnership by moving in together should therefore be high partnership quality: The better the quality of a LAT partnership is, the more likely the partners are to constitute a coresidential union (H1).

The consolidation and intensification of partnerships can be indicated by the quality of the relationship and by the level of commitment, both are related to factors that are internal to the partnership. But the strength of partners’ bonding is also externalized and manifested in the way a partnership is linked to its social environment. The level of institutionalisation of a partnership indicates and symbolises not only the degree of commitment, but also the social approval and normative regulation of a partnership. Lois et al. (2010) divided the course of a partnership into a series of decisions steps associated with increasing levels of commitment: making an emotional commitment (e.g., first sexual intercourse), forming a common household, forming an economic community, marrying, and starting a family (Lois et al., 2010). As a partnership develops by progressing through these steps, the partnership becomes more institutionalised and because the social barriers against its dissolution increase it gains in stability. Although many partnerships will not pass through all of these steps, it is still a normative prerequisite to constitute a coresidential union before partners get married or start a family.

In this paper, we consider the early steps of this process of institutionalisation, such as the introduction of the partner to significant others, like the parents (see also Dorbritz & Naderi, 2012). We also consider whether LAT partners intend or hesitate to further institutionalise their partnership. For example, they might be reluctant to marry, or they might fear losing some of their autonomy. Findings from qualitative interviews suggest that some people decide for a LAT
relationship because they fear to get too strongly committed if they coreside (Van der Wiel, Mulder, & Bailey, 2018). Thus, our next hypothesis is as follows: The higher the actual or the intended degree of institutionalisation of the LAT partnership, the more likely it is that the partners will establish a coresidential partnership (H2).

The establishment of a common household is a central topic in microeconomic theory of union formation (Becker, 1981). From that theoretical viewpoint, the creation of a common household is advantageous because the partners have the opportunity to combine their resources, to establish a division of labour, and to reduce their costs of living. While forming a joint household can reduce costs for those living in separate households, for those living in the parental home this might incur considerable costs. Not only are their costs of living at the parents' home usually very low, but moving in together with their partner involves considerable financial and non-financial costs. LAT partners who are living in the parental home occupy a position in a close inter-generational relationship, they perform the role of a dependent child, have not developed an own lifestyle and have little experience in homemaking. Under these conditions, it is especially costly to establish a common household with a LAT partner. Accordingly, one can expect that LAT partners who are living in their parental home are more reluctant to move in than those living away from their parents (see Castro-Martin et al., 2008).

Partners who have coresidential children might also face higher costs when establishing a common household with their LAT partner. The literature on children’s well-being indicates that family transitions can have detrimental effects on behavioural and cognitive outcomes (Magnuson & Berger, 2009). Therefore, a parent might fear that his or her child will have difficulties adapting to the new living arrangement or handling the interruption of daily routines that would occur if a new partner entered the household. Indeed, it has been shown empirically that individuals with children are less likely to repartner than their childless counterparts (Beaupreau, 2012; De Jong Gierveld & Merz, 2013; Ivanova, Kalmijn, & Uunk, 2013). We therefore expect that the higher the costs of starting a coresidential union are, the less likely the partners are to move in together (H3). We expect this to hold for both the costs associated with living with parents and the costs associated with having children in the household.

As moving in with a partner can incur costs, it is likely that the partners’ economic resources play a role in their decision about whether to move in together. For those living with their parents, it is more costly to start coresidence than for those who already have left parental home and therefore, we expect that for LAT partners living with their parents economic resources facilitate forming a common household. For LAT partners living in an own household the opposite could be the case. The more resources they have the less they are in need to pool resources and form a common household. Furthermore, some of them may prefer the independence they have experienced while living alone, and losing this independence may form an opportunity cost of making a transition to coresidence. Indeed, as Konietzka and Tatjes (2014) argued, highly educated couples should have the best biographic options, and thus the highest opportunity costs of moving in together. Our next hypothesis is therefore as follows: For those who have already left the parental home, resources lead to a decreased likelihood of establishing a coresidential partnership (H4a). For those who are living in their parents’ household, more resources are related to a higher likelihood of establishing a coresidential partnership (H4b).

Obviously, a residential relocation of at least one partner is a necessary requirement for partners in a non-residential union to start living together in a common household. The costs of moving could be an obstacle for such a relocation. If the relationship is long-distance, the costs of moving are positively related to the amount of location-specific capital, because at least one of the partners has to abandon his or her existing social networks; e.g., family and friends, and local ties to work (Mulder & Malmberg, 2014). These costs can be so high that they do not exceed the returns from the transition to coresidence. We thus expect that the higher the moving costs, the less likely the partners are to enter into a coresidential partnership (H5).

It could also be argued that the costs of maintaining a LAT relationship affect the probability of starting to live together. The transaction costs are higher for partners in long-distance relationships than for couples who live nearby, because, for example, their commuting costs are generally higher. To reduce these high transaction costs, long-distance couples might be especially likely to move in together (Dorbritz & Naderi, 2012). Our last hypothesis is therefore as follows: The higher the transaction costs of maintaining a LAT relationship, the more likely the partners are to form a coresidential partnership (H6). However, the existing research has shown that distance is positively associated with separation, and is negatively associated with starting a coresidential union. It thus appears that the moving costs seem to be more important than the transaction costs for the establishment of a joint household (Krapf, 2018).

4. Data, variables, and methods

4.1. Data and dependent variable

We use seven waves of the German Family Panel pairfam (Panel Analysis of Intimate Relationships and Family Dynamics). In wave 1 (2008/2009) 12,402 German-speaking men and women from the birth cohorts 1991–1993, 1981–1983, and 1971–1973 were interviewed. Wave 7 took place in 2015/2016. For a detailed description of the aims of the study and its methods, see Brüderl et al. (2010), Huink et al. (2011) and Pairfam (2018). In our subsample, we include all LAT relationships that existed in wave 1 and all that were formed between waves 2 and 6. The pairfam team provides a dataset of the partnership histories in episode format (biopart). Combining information from this dataset with the information provided in the interviews (anchor data-sets), we analysed whether couples started a coresidential union in the subsequent waves. The number of missing values on the separate variables in our analyses was below 10%.

In our analyses, the term LAT relationship refers to all couples in which the main respondent (the so-called anchor) reported being in a steady relationship, but never having shared a household with his or her current partner. The main question posed was: “In the following, I’ll ask you about steady relationships. Do you currently have a partner in this sense?” (answering categories were yes/no, don’t know, no answer). Respondents with a partner were asked whether they were living with their partner in the same dwelling. Unfortunately, LAT partners have not been asked why they are living apart. We excluded those LAT relationships in which at least one of the partners was younger than age 18. We followed the LAT couples as long as possible; that is, until the time of the last interview, or until they moved in together. Couples who separated before moving in together were treated as censored. In an alternative model specification, we estimated a multinomial logistic regression with separation as a competing outcome (see Appendix). The results of these analyses were in line with the results the simpler analyses that we report.

In our analyses, we considered 3497 relationship-years from 2428 partnerships. In the data, 27.5% of the couples experienced a transition to coresidence (n = 668), while 33.1% of the couples separated (n = 803), and 39.4% of the couples maintained their LAT status (n = 957). For 1.2% of the partnerships, we found that the month of marriage was the same as the month of the start of coresidence. This finding suggests that “direct marriage”, i.e. marriage without a phase of cohabitation before, is a marginal phenomenon among young adults in Germany.

1 This paper uses data from the German Family Panel pairfam, coordinated by Josef Brüderl, Sonja Drobnic, Karsten Hank, Bernhard Nauck, Franz Neyer, and Sabine Walper. Pairfam is funded as a longterm project by the German Research Foundation (Deutsche Forschungsgemeinschaft—DFG).
Table 1
Descriptive statistics. Column percent (and means) of relationship-years.

| Time | Duration of LAT relationship |
|------|-----------------------------|
| < 1 year | 30.6 |
| 1- < 2 years | 26.4 |
| 2- < 3 years | 16.1 |
| 3- < 4 years | 19.3 |
| 4+ years | 16.6 |

| Partnership quality | Male partner’s age |
|---------------------|-------------------|
| Partnership satisfaction | Mean: 24.8 |
| Intention to marry | Mean: 7.9 |

| Resources | Female partner’s education |
|-----------|---------------------------|
| Low | 24.2 |
| Medium | 60.6 |
| High | 15.2 |

| Male partner’s education | Low | 15.8 |
|---------------------------|-----|------|
| Medium | 65.8 |
| High | 18.5 |

| Female partner’s labour force status | Employed | 59.0 |
|-------------------------------------|----------|------|
| Unemployed, inactive, marginal employment | 10.3 |
| Enrolled in education | 30.7 |

| Male partner’s labour force status | Employed | 67.2 |
|-------------------------------------|----------|------|
| Unemployed, inactive, marginal employment | 6.8 |
| Enrolled in education | 26.0 |

| Costs of starting a coresidence | Children of main respondent |
|---------------------------------|-----------------------------|
| No children | 85.2 |
| 1 or more children | 14.8 |
| Parental household | 46.4 |

| Transaction costs | Yes | 53.6 |
|-------------------|-----|------|
| No | 46.4 |

Note: LAT – living apart together relationships. Source: pairfam, male and female main respondents (anchors), waves 1–7. In case percentages do not sum up to 100, this is caused by rounding.

4.2. Independent variables

All independent variables used in the analyses are time-varying. Several characteristics of the partner – labour force status, education, and age – were reported by the main respondent. All other information in the sample pertains to the main respondent only. Pairfam is a multi-actor survey and partners also participated. However, the response rate among partners was considerably lower than of the main respondents. Therefore, we refrained from analysing information collected directly from the partners. The descriptive information on the variables in our analytical sample is reported in Table 1 (information refers to relationship years).

4.2.1. Quality of the LAT relationship

The quality of the current LAT relationship was measured by the satisfaction of the main respondent (“How satisfied are you with your current relationship?”). The range is from 0 (very unsatisfied) to 10 (very satisfied), and the mean value is 7.9.

4.2.2. Institutionalisation of the LAT partnership

The degree to which a LAT partnership was institutionalised was measured by four items. LAT partners who plan to marry or to start a family are inclined to further institutionalise their partnership. Therefore, we regard the respondents’ intention to get married as an indicator of a planned increase in institutionalisation (“Are you and your partner planning to get married within the next 12 months?”). The indicator was coded as 1 if the respondent answered that he/she definitely or perhaps plans to get married, and as 0 otherwise. Another indicator is the acceptance of social constraints, we accounted for the value the respondent places on autonomy in a relationship: “Has your partner already introduced you to his/her parents and/or have you already introduced your partner to your parents?” The respondent answered “yes” if the partner introduced them to his/her parents and “no” if they did not know – were coded as 0. Another indicator is the acceptance of increasing institutionalisation: “Has your partner already introduced you to his/her parents and/or have you already introduced your partner to your parents?” The respondent answered “yes” if the partner introduced them to his/her parents and “no” if they did not know – were coded as 0. All other answers – including those cases in which the respondents indicated that they had not thought about it yet, or simply did not know – were coded as 0. Another indicator that measured the degree of institutionalisation was: “Has your partner already introduced you to his/her parents and/or have you already introduced your partner to your parents?” If the respondent answered “yes”, the variables were coded as 1, and were otherwise coded as 0. Because increasing institutionalisation implies the acceptance of increasing social constraints, we accounted for the value the respondent places on autonomy in a relationship using the item: “How strongly do you worry about being constrained by a partner?”

The answers ranged from “1–not at all” to “5–very strongly”. We classified categories 1 and 2 as “low level of autonomy” (58.8%), category 3 as “medium level of autonomy” (26.9%), and categories 4 and 5 as “high level of autonomy” (14.4%). Again, the item refers to the expectations of the main respondent.

4.2.3. Resources

We use two measures of resources of the couple: education and labour force status of both partners. The education variables are based on the International Standard Classification of Education (ISCED 97) and are divided into 3 categories for each partner. The category “low education” includes all respondents who have no or lower secondary school degrees, “medium education” refers to upper secondary and post-secondary (but non-tertiary) education. Those in the “high education” category had a university or college degree or had earned a doctorate. Respondents who are enrolled in school at time of interview are classified based on their highest degree. Our second measure for resources is the labour force status of each partner. We distinguished between those who were employed, those who were economically inactive and those who were enrolled in school at time of interview. The first category includes both full-time and part-time employment because there were too few part-time employees to distinguish between them. The second category is heterogeneous and includes marginally employed, unemployed and other inactive persons (e.g. people on parental leave). The third category includes all respondents and partners who were enrolled in education at time of interview and includes persons who were striving for a vocational degree.2

2 In Germany, the educational system has a category „vocational training“. The programs differ considerably but often students participate in a mixture of school and paid work in a company. The programs usually take 2 to 3 years and end with a vocational degree. After earning the degree, earnings increase considerably.
4.2.4. Transaction costs

The transaction costs for maintaining a LAT relationship should be higher, the longer the distance between the households of the LAT partners. Based on our previous work (Krapf, 2018), we used the information on travel time to meet the partner, and distinguished between short- (less than one hour travel time) and long-distance relationships (one hour or more travel time).

4.2.5. Costs of starting coresidence

In order to account for the costs of starting coresidence, we included the number of children of the main respondent. We also included the information on whether the main respondent was living in the parental home. In our sample, more than 50% were living in the parental home. This information was not available for the partner.

4.2.6. Costs of moving

Moving produces costs, and these costs are higher if the distance between the partners is large. In order to account for local ties of the main respondent in a long-distance LAT partnership, we included the interaction effect between distance (see above) and the main respondent’s employment status. We believe that this approach enabled us to identify work-related LATS. Another factor that is related to the costs of moving are the social ties at the place of residence. Unfortunately, we had no information about the partners’ social ties. Thus, we had to rely on local ties to work in our analyses.

4.2.7. Control variables

LAT relationships can be considered as a stage in the union formation process. Therefore, we expect to find that the transition to a coresidential union would be associated with time in two ways: namely, as duration and age dependent. To account for the duration of the LAT relationship, we generated five categories (< 1 year, 1- < 2 years, 2- < 3 years, 3- < 4 years, and 4+ years). This categorical measurement allows us to capture non-linearity. More than half of the relationships in our sample lasted less than two years. The positive effect of duration of the LAT relationship on the likelihood of coresidence likely partly reflects selection effects: the proportion of LAT partners who were happy or satisfied with their partnership and LAT status increases with duration, indicating that less happy LAT partners are more likely to separate (see also the negative effect of relationship satisfaction on separation in the Appendix). Duration might also be correlated with the degree of institutionalisation of the LAT relationship. Unfortunately, however, this substantive effect could not be isolated from the selection effect.

Moreover, we included age into our analyses. A number of studies have shown that the likelihood of living in a coresidential union without being married is highest between ages 25 and 35 (Asendorpf, 2008; Duncan & Phillips, 2011). Age is also associated with other variables in our models, such as enrolment in education, living in the parental household, or having children. In order to account for such confounding, we controlled for the age of the male partner at the time of the interview. Age of the male partner is strongly correlated to women’s age ($R = 0.84$) and therefore we did not include women’s age into the model. Similarly, in the cohort setting of pairfam, cohort and age of the main respondent are strongly correlated ($R = 0.91$) and thus we refrained from including birth cohort into the models.

4.3. Methods

We estimated discrete-time event-history models with the transition to a coresidential union as the dependent variable. The process time was the duration of the LAT relationship in years. Assuming that the underlying latent time variable was continuous, we specified a complementary log-log model (Allison, 1982). It should be noted that while the pairfam data provided monthly data for relationship duration, the other variables were measured only at the time of the annual interview. Therefore, we organised the data in relationship-years. The dependent variable was coded as 1 if the LAT relationship had been transformed into a coresidential partnership at the time of the interview, and as 0 otherwise. In our data, some main respondents contribute more than one partnership to our sample and thus the homoscedasticity assumption underlying regression analyses might be violated. In order to avoid this problem, we calculated panel robust standard errors (Kohler & Kreuter, 2012).

To identify work-related LAT relationships, we also analysed the interaction effect of distance and the main respondent’s labour force status on moving in together. These results are presented in Fig. 2 (see below).
5. Results

Table 2 provides the effects of the independent variables on the likelihood of establishing a coresidential partnership. Because the interpretation of the parameters of a logistic model is not straightforward (Kohler & Kreuter, 2012), we present the average marginal effects (AME). The average marginal effect is the mean of the marginal effects for each combination of covariates in the dataset. In our analyses, it represents the average change in the probability of seeing a transition for each combination of covariates in the dataset. We observe substantial effects of the two time variables: duration of the LAT relationship and the age of the male partner. The likelihood of transitioning into shared living seems to be highest during the second and third years of the LAT relationship; it is lowest in the first year of the LAT relationship, and decreases after a relationship duration of four years or more (Table 2). Male partner’s age is positively related to forming a coresidential union ($p = 0.05$).

As hypothesised in H1, we observe that the quality of the LAT relationship, as indicated by the respondent’s level of partnership satisfaction, significantly and strongly predicts whether the LAT partners form a common household: higher partnership satisfaction is associated with a higher probability of moving in together.

Among the four indicators of the degree of institutionalisation of the LAT relationship, three are positively related to the transition to coresidence (significant with $p < 0.05$ or $p < 0.01$): whether the partner has been introduced to the parents, the intention to marry, the intention to have a child, and fear of being constrained by the partner (autonomy). This finding is in line with hypothesis H2. Regarding autonomy, we find that if a respondent is very concerned about being constrained by a partner, it is less likely that he or she will enter a coresidential union. In order to test whether institutionalisation effects differ for men and women, we controlled for respondents’ sex and we also ran additional analyses including interaction terms. The results (not presented here) did not show significant gender effects.

The costs of moving in together are found to predict the likelihood that a couple will start to coreside. In line with hypothesis H3, we find that those LAT partners who had already left the parental home are more likely to establish a coresidential union than those who are still living in their parents’ household. The results further show that LAT partners with children are less likely than their childless counterparts to establish a coresidential union.

Our findings for the resources variables are mixed. High education of the female partner is associated with a significantly increased risk of starting coresidence (AME = 0.046; reference category: medium education) but the effect is insignificant for the female partner’s low education. Low education of the male partner is negatively associated with starting coresidence while the AME of high education was statistically insignificant. The male partner’s labour force status seems to be relevant: non-employed men are significantly less likely to move in with their partner than employed men. This is the case for both inactive men and those who are enrolled in education. For female partners we find that the AME of being inactive is positive and significant. This means that, in contrast with our argument, nonemployed women who are not enrolled in education are more likely to move in together with their partner than those who are employed. One explanation for this gendered effect of a person’s labour force status could be that men are expected to gain financial independence before starting coresidence while for women this is not the case. Fig. 1 depicts the interaction effect of labour force status and whether the respondent lived in the parental household (Hypotheses 4a, 4b). The graph reveals that among respondents who are living in the parental home, labour force status is a relevant factor: Those who are inactive or enrolled in education are significantly less likely to start coresidence compared to those who are employed ($p < 0.10$). This finding is in line with hypothesis 4b. In contrast, labour force status is not significantly related to starting coresidence among those not living in their parents’ home. This result does not support hypothesis 4a.

Long-distance partnerships are found to be less likely than other LAT partnerships to be transformed into a coresidential union. This finding is not in line with the idea that higher transaction costs of maintaining a LAT relationship would increase the LAT partners’ likelihood of moving in together, and thus does not support hypothesis H6.

With regard to moving costs, we assumed that LAT partners who are employed and living far away from each other have strong local ties to work that prevent them from establishing a common household. Fig. 2

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3 In order to identify how institutionalization and education of each partner were interrelated, we performed some additional analyses in which we added education and institutionalization to the model in a stepwise manner. Our results did not support the idea that institutionalization and education mediate each other in their effect on start of coresidence.
displays the interaction effect between the labour force status of the main respondent and the distance variable. In line with hypothesis H5, the results suggest that moving costs are particularly high for long-distance LAT couples if the main respondent is employed, and that this category has a lower probability of starting to coreside than employed respondents who live in close proximity to their partners. In contrast, if the main respondent is non-employed the probability of starting coresidence does not significantly differ between long- and short-distance couples.

6. Discussion

The aim of the paper was to identify the social conditions that affect the likelihood that partners in a LAT relationship will move in together. The results suggest that the transformation of a LAT relationship into a coresidential partnership is linked to the quality and the degree of the institutionalisation of the relationship. Whether the partners have been introduced to each other’s parents, plan to marry, want to have a child, and prefer an autonomous living arrangement are significantly related to the likelihood of moving in together. The explanatory power of the quality of a LAT relationship and the degree of its institutionalisation can be understood with the help of exchange and interdependence theories.

Microeconomic theory also helps us improve our understanding of the formation of coresidential partnerships. We argued that LAT partners are less in need to profit from a coresidential union if they have many resources. In fact, our results indicated that especially for men, being nonemployed was negatively associated with starting coresidence. For female partners, conversely, we found a positive association between being inactive on the labour market (including those who were marginally employed) and the establishment of a coresidential union. This gender difference in the role of resources implies that for male partners it is (still) important to reach economic independence before moving in with their partner while this seems not to be the case for women. These findings point to a high prevalence of more traditional patterns of partnership development even for members of the younger cohorts.

We found strong empirical evidence that certain types of costs are associated with the probability of forming a common household. For example, it was hypothesised that moving costs as indicated by the distance between the partners’ dwellings in combination with their local ties would have an negative impact on the chance that the partners would enter a coresidential union. The interaction found between distance and employment showed that distance is negatively related to the quality of a LAT relationship and the degree of its institutionalisation can be understood with the help of exchange and interdependence theories.

The analyses have several limitations. First, we mainly used information pertaining to the main respondent (e.g. institutionalisation variables) and only limited information pertaining to the partner. Second, measures of each partner’s housing costs and housing quality, features of the housing market, and the partner’s residential moves were not available. These factors may be expected to have an impact on the decision to move in together. Third, the dataset did not allow us to observe the bargaining processes of the LAT partners. For example, our results showed that the intention to marry strongly affects the likelihood of transitioning to a coresidential union. However, we were unable to discern what happens if the partners disagree about the future development of their partnership, or if they have different subjective evaluations of their housing situation. A more complete dyadic perspective could also help to explain how couples decide who moves in with whom, or whether to move to a new home.

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Appendix A

Table A1

| Duration of LAT relationship | start of coresidence | union dissolution | remaining in LAT relationship (reference) |
|-----------------------------|----------------------|------------------|----------------------------------------|
| < 1 year                    | −0.095**             | −0.024           | 0.119***                               |
| 1-<2 years                  | 0                    | 0                | 0                                      |
| 2-<3 years                  | −0.025               | −0.007           | 0.032**                                |
| 3-<4 years                  | −0.041               | −0.032           | 0.072**                                |
| 4+ years                    | −0.050**             | −0.032           | 0.082**                                |

(continued on next page)
Table A1 (continued)

| start of co-residence | union dissolution | remaining in LAT relationship (reference) |
|-----------------------|-------------------|------------------------------------------|
| Male partner's age    |                   |                                          |
| 0.002**               | −0.006***         | 0.008***                                 |
| Partnership satisfaction |   |                                          |
| 0.019***              | −0.027***         | 0.009***                                 |
| Intention to marry    |                   |                                          |
| Yes                   | 0.124***          | −0.069***                                |
| No                    | 0                 | 0                                        |
| Intention to have a child |   |                                          |
| Yes                   | 0.098***          | −0.011                                   |
| No                    | 0                 | 0                                        |
| Partner introduced to parents |   |                                          |
| Yes                   | 0.052**           | −0.128***                                |
| No                    | 0                 | 0                                        |
| Fear of being constrained by partner (autonomy) |   |                                          |
| Low                   | −0.011            | −0.019                                   |
| Medium                | 0                 | 0                                        |
| High                  | −0.035            | 0.016                                    |
| Female partner's education |   |                                          |
| High                  | −0.016            | 0.023                                    |
| Medium                | 0                 | 0                                        |
| Low                   | 0.047***          | 0.001                                    |
| Male partner's education |         |                                          |
| High                  | −0.041**          | 0.060**                                  |
| Medium                | 0                 | 0                                        |
| Low                   | −0.006            | −0.004                                   |
| Female partner's labour force status |   |                                          |
| Employed              | 0                 | 0                                        |
| Unemployed, inactive, marginal employment | 0.044* | −0.015                                 |
| Enrolled in education | −0.015            | −0.020                                   |
| Male partner's labour force status |   |                                          |
| Employed              | 0                 | 0                                        |
| Unemployed, inactive, marginal employment | −0.048* | 0.031                                    |
| Enrolled in education | −0.028            | 0.026                                    |
| Children of main respondent |       |                                          |
| No children           | 0                 | 0                                        |
| 1 or more children    | −0.041*           | 0.023                                    |
| Parental household    |                   |                                          |
| No                    | 0                 | 0                                        |
| Yes                   | −0.075***         | −0.001                                   |
| Distance between partners |               |                                          |
| Short distance (< 1 hour) | 0            | 0                                        |
| Long distance (1 + hour) | −0.047**         | 0.036*                                   |

Note: LAT – living apart together relationships.
* p < 0.10.
** p < 0.05.
*** p < 0.01.

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