TPM®

MARRIAGE OR COHABITATION IN BULGARIA: HOW DO THESE TWO TYPES OF UNION RELATE TO THE SATISFACTION OF PSYCHOLOGICAL NEEDS?

SARA ALFIERI
MARIA LUISA GENNARI
EMILIANO SIRONI
CATHOLIC UNIVERSITY OF THE SACRED HEART

This study aims to investigate how entering a union whether by marriage or cohabitation impacts the satisfaction of the psychological needs of couples in Bulgaria in terms of autonomy, relatedness, and competence compared to those of people who remain single or in a non-formalized relationship, such as living apart together (LAT). The research takes gender differences into account. A longitudinal survey conducted in two phases was used. The sample included individuals who were single or in a non-coresidential union at the time of the first interview and who got married or started living with their partner (2,557 individuals) between the two waves. The aim of the investigation was to determine whether the decision to get married or cohabit, made between the two waves, was related to changes in the individual partners' psychological needs. In order to estimate the effects of the decision to start a coresidential union on these needs, we used propensity score matching. The results show that even when a control involving a set of observable variables is used: 1) married people of both genders score higher for competence compared to those who are single or in a non-coresidential relationship; 2) relatedness needs are only satisfied by cohabitation for the male participants, and 3) marriage satisfies relatedness needs for both genders.

Keywords: Bulgaria; Cohabitation; Marriage; Psychological needs; Self-determination theory.

Correspondence concerning this article should be addressed to Sara Alfieri, Department of Psychology, Catholic University of the Sacred Heart, Largo Gemelli 1, 20123 Milano (MI), Italy. Email: sara.alfieri@unicatt.it

Couples in Western societies are increasingly choosing to cohabit before marrying or cohabit without marrying. In Europe, this social phenomenon involves an ever-growing segment of the population. About 12.5% of young Europeans between the ages of 20 and 34 cohabit (Organisation for Economic Co-operation and Development [OECD], 2013), either temporarily before marrying, or as an alternative to marriage.

The effects on people's health and well-being of cohabiting compared to getting married have been widely investigated in the field of social sciences, especially in terms of the positive and negative outcomes of the two alternatives (see Evans & Kelley, 2004; Lee & Ono, 2012; Mikucka, 2016; Musick & Bumpass, 2012; Næss et al., 2015; Perrelli et al., 2019; Ryser & Le Goff, 2015; Soons et al., 2009; Stutzer & Frey, 2006; Waite & Gallagher, 2000). Until now, however, the factors influencing the satisfaction of the psychological needs of the individual partners in a relationship have not been explored. In particular, the questions that remain unanswered regard the kinds of needs that are met when a couple starts a coresidential relationship and whether marriage and cohabitation are the same in this respect. In addition, we might ask whether men and women have the same needs when they are single or are not in a coresidential relationship/partnership/union as opposed to when they are married or cohabiting. This study aims to provide an initial answer to these questions.

TPM Vol. 28, No. 4, December 2021 – 485-503 – doi:10.4473/TPM28.4.6 – © 2021 Cises

In order to do this, we referred to the self-determination theory (SDT; Deci & Ryan, 1985, 2000, 2008). This approach defines psychological needs as "nutriments that are essential for ongoing psychological growth, integrity, and well-being" (Decy & Ryan, 2000, p. 229). This is a crucial topic because the satisfaction of psychological needs is not only a necessary condition for well-being, but also a precursor to it (Iafrate et al., 2013; Patrick et al., 2007). Therefore, determining which specific needs are satisfied in relationships involving cohabitation and marriage will provide useful information for the well-being of couples.

The Self-Determination Theory (SDT) and Romantic Relationships

Although a great deal of research has attempted to analyze and understand psychological needs over time, the SDT (Decy & Ryan, 1985, 2000, 2008) is the most widely used theory today and the one that has achieved the broadest consensus. The SDT is complex and has been defined as "a macro theory of human motivation" (Deci & Ryan, 2008, p. 182). In this paper, therefore, we provide only a brief presentation of its key assumptions, focusing on those related to the present study (for a fuller explanation, see Decy & Ryan, 2008). The SDT covers a wide area, but we will limit our analysis to the satisfaction (or lack thereof) of psychological needs as a consequence of a coresidential relationship.

According to the SDT, some universal psychological needs must be satisfied for an individual to function effectively and be in good psychological health. These needs relate to: autonomy, competence, and relatedness. The need for autonomy refers to an individual's urge to be causal and self-governing — that their behavior is fully endorsed, and that they are the originator of their own actions. This issue has given rise to a number of debates in the literature because it has often been confused with independence (Patrick et al., 2007). However, according to the SDT, autonomy does not involve independence or detachment from others but, rather, is defined as being inherent to interpersonal relations. Competence refers to the need to experience behaviors as being effectively enacted, specifically, to feel that something has been done well and the desired outcome has been achieved. Finally, relatedness concerns feeling connected to others and being worthy of love and respect, similar to Maslow's need for belonging (Eggen & Kauchak, 2010). The SDT states that only if all three of these needs are met, can people experience well-being. Many studies have confirmed the universal nature of these needs, even if their relative importance and strength differ across cultures (Decy & Ryan, 2008). The satisfaction or hindrance of psychological needs depend on social conditions and certain personal factors. In particular, the personal regulatory system regarding causality orientations and life goals can explain the outcome relating to quality of needs.

Although the SDT has been applied to many different domains, few studies have focused on romantic relationships. Knee et al. (2002) emphasized that a more consistent application of the SDT in the realm of romantic relations is of great importance due to the fact that the processes that are affected by self-determination may be the same as those that play a role in the maintenance of a relationship, even when it is severely dysfunctional, as shown by the evidence in various clinical studies (see Di Napoli et al., 2019; Gennari et al., 2018).

Relatedness is one of the constructs that have been most frequently studied with regard to relationships involving couples, possibly because in some areas it overlaps with other constructs, for instance, attachment (see, for example, Knee et al., 2002; La Guardia & Patrick, 2008). Nevertheless, as far as the application of the SDT to close relationships and, more specifically, to romantic relationships is concerned, we are not aware of any research into the satisfaction of individual partners' needs with regard to marriage or cohabitation.

MARRIAGE AND COHABITATION: DO THEY MEET THE SAME NEEDS?

The studies investigating the satisfaction of individuals' needs as a result of the transition to a coresidential partnership (marriage or cohabitation) have mostly focused on well-being, and thus, on how psychological needs are affected (Evans & Kelley, 2004; Gennari & Tamanza, 2018; Lee & Ono, 2012; Patrick et al., 2007). These studies have not always led to unanimous results: some, in fact, have revealed that married couples report higher levels of well-being than cohabitants (see, e.g., Brown, 2000; Hansen et al., 2007; Horwitz & White, 1998; Jackson, 2010; Soons et al., 2009; Stanley et al., 2010; Stutzer & Frey, 2006), while others have not found any differences between the two types of status (see, e.g., Blekesaune, 2016; Musick & Bumpass, 2012; Næss et al., 2015; Perrelli-Harris et al., 2019). Other studies found that marriage and cohabitation can lead to varying degrees of well-being depending on the culture in which they occur (see, e.g., Perrelli-Harris et al., 2019; Puur et al., 2012; Soon & Kalmijn, 2009).

Studies on this subject compare marriage and cohabitation mainly by focusing on five closely-related issues: institutional and cultural aspects (Cherlin, 2004; Georgas et al., 2006; Nock, 2005; Wiik et al., 2012); social roles (Davis et al., 2007; Forste & Fox, 2012; Vergauwen et al., 2017); social support (Nock, 1995; Reneflot & Mamelund, 2012; Waite & Gallagher, 2000); commitment (Kline et al., 2004; Rhoades et al., 2009; Stanley et al., 2010); and socio-structural variables (Berrington et al., 2015; Killewald & Gough, 2013; Koops et al., 2017; Layard, 2011; Perelli-Harris et al., 2019; Sorokowski et al., 2017).

Institutional and Cultural Aspects

Institutional and cultural aspects, such as the health and welfare system in a country, its family policies, the meaning attached to marriage, the level of social acceptance of cohabitation, and the number of people cohabiting (Heuveline & Timberlake, 2004; Perrelli-Harris et al., 2019; Soons & Kalmijn, 2009), as well as factors relating to gender roles and religious norms (Lee & Ono, 2012), may all influence the attractiveness of marriage or cohabitation: for example, there may be a change in the reference values that younger individuals are exposed to with respect to the meaning attached to being a couple, or marriage may have been devalued as an institution (Hiekel et al., 2014; Poortman & Mills, 2012). Marriage sanctions a number of rights and obligations concerning the individual partners, their children, and society in general (Cherlin, 2004). Furthermore, in most countries, marriage is more institutionalized than cohabitation and, for this reason, laws regarding marriage are clearer than those relating to cohabitation (Cohan, 2012; Eggebeen, 2005; Manning & Smock, 2005; Nock, 1995; Soons & Kalmijn, 2009). In some cases, given that marriage is considered a legal commitment, it may provide health insurance for the individuals involved, allowing them to feel more relaxed about the future and promoting a sense of well-being in the relationship (Musick & Bumpass, 2012). From this perspective, cohabitation may be seen as more "volatile" than marriage (see Hsueh et al., 2009). In any case, the results of recent research are in stark contrast with each other. The longitudinal study carried out by Soons and Kalmijn (2009) in over 30 European countries revealed that in some countries (e.g., Bulgaria, Denmark, Italy, Spain, and the United Kingdom) people report higher levels of well-being if they are married while, in other countries (e.g., Cyprus, Estonia, Iceland, the Netherlands, Norway, Poland, etc.) the same is true for cohabitation. The same authors found that the gap in the degree of well-being between married and cohabiting couples living in the same country was inversely proportional to the extent to which cohabitation was institutionalized in that country.

Social Roles

Marriage implies the assumption of social roles (including those that the society in question may expect of the individuals involved) and there are precise rules for each role (Ferree, 1990). In addition to these rules and a set of accordingly appropriate behaviors, the institution of marriage also provides a framework of meaning within which the individual partners find legitimation for a variety of everyday actions (Davis et al., 2007). On the contrary, these social roles do not apply to cohabitation and therefore the stability of the union is not guaranteed in the same way (Cohan & Kleinbaum, 2002; Molgora et al., 2014; Reneflot & Mamelund, 2012). In particular, Yucel (2018) found that cohabiting partners are faced with a larger number of negotiations over their roles in the relationship and are generally less satisfied than married couples. The fact that there may also be some degree of conflict between the partners concerning the balance of work and family responsibilities might also diminish the couple's satisfaction with the relationship (see also Ryser & Le Goff, 2015). The fulfillment of practical responsibilities, including domestic chores, differentiates the two statuses: married people tend to be more aware of the importance of providing support (e.g., emotional, informational, and instrumental support) and social companionship than cohabitants are (Soulsby & Bennet, 2017). The prevailing context in terms of religion may also heavily influence the decision to get married rather than cohabit. Some research (Gennari et al., 2017; Giuliani & Gennari, 2014; Giuliani et al., 2017; Kiernan, 2000) has shown that those who belong to religious communities are more likely to choose marriage than cohabitation.

Social Support

There are two aspects related to social support: on the one hand, spouses are required to provide for each other's need for intimacy, companionship, and interaction, while on the other hand, they also need to establish connections with a broader network including friends, family, and the members of their social context (Alfieri & Lanz, 2015; Cutrona et al., 2005; Musick & Bumpass, 2012; Umberson et al., 2010). Some scholars have found that social support is lower for cohabiting couples than for married couples due to the lack of institutional norms and a low cultural diffusion of cohabitation (Liefbroer & Dourleijn, 2006; Waite & Gallagher, 2000). In other literature on the subject (e.g., Soulsby & Bennett, 2017), there is evidence that cohabiting couples have fewer expectations of social support compared to those they would have if they were married. Furthermore, it appears that cohabiters maintain a more independent social network and are less reliant on their partner for social support and social engagement. Cherlin (2004) emphasized that the symbolic nature of marriage (usually celebrated in the presence of relatives and friends in religious or civil institutions) creates an "enforceable trust" (p. 136). In general, marriage, with respect to cohabitation, represents a sense of satisfaction and personal fulfillment for many people, especially those tied to traditional, religious values and symbolic meanings (Berrington et al., 2015; Ryser & Le Goff, 2018).

Commitment

This factor pertains to the assumption of a mutual engagement in the union and a reciprocal responsibility for it, both of which represent the "glue" that facilitates long-term investments in terms of physical, psychological, and material investment. This ensures that individual interests are deferred in favor of the

couple's interests (Stanley et al., 2004), an aspect that, in the long run, can produce self-definition and well-being (Doss et al., 2009; Soons & Kalmjin, 2009; Stanley et al., 2010; Willoughby et al., 2012). Cohabitants are often less committed to their relationship (Marcussen, 2005; Niehuis et al., 2015; Nock, 1995; Poortman & Mills, 2012) and report lower levels of well-being (Brown & Booth, 1996; Rhoades et al., 2012). Moreover, studies have indicated that people who cohabit with the aim of marrying in the future are more committed and satisfied with their partners and the relationship itself compared to cohabitants who have no intention of marrying (Murrow & Shi, 2010; Rhoades et al., 2009; Stanley et al., 2004; Vaculík, & Jedrzejczyková, 2009; Willoughby et al., 2012). The perspective of marriage makes people feel more involved in and connected to the relationship and results in better relationships.

Socio-Structural Variables

Many studies have found evidence that any decisions concerning marriage or cohabitation seem to be associated with certain socio-structural variables such as gender, level of income, standard of education, and social status (Berrington et al., 2015; Killewald & Gough, 2013; Koops et al., 2017; Layard, 2011; Perelli-Harris et al., 2019). For example, financial precariousness might lead people to postpone marriage and so choose cohabitation in the meantime (Hiekel et al., 2014) and women increasigly investing in their own career development may negatively affect their orientation toward the prospect of marriage (Huang et al., 2011). A recent cross-national study (Perrelli-Harris et al., 2019) comparing the United Kingdom, Australia, Germany, and Norway shows that the choice to cohabit depends on the financial and health situation of the partners concerned, in particular for women and disadvantaged people — confirmation of the evidence found in the literature emphasizing the symbolic and idealistic representation of marriage for women (Soulsby & Bennett, 2017) and the stability and security associated with it (Berrington et al., 2015). With regard to gender differences, the literature on the subject is not unanimous. While there are many studies indicating that marriage is more advantageous for men than for women (Killewald & Gough, 2013; Robles et al., 2014; Williams, 2003), other research has shown that both men and women benefit from being married (Blekesaune, 2016; for a review, see Waite & Gallagher, 2000). Moreover, compared to men, women appear to be more oriented toward marriage because they are more susceptible to the social disapproval associated with cohabitation (Huang et al., 2011) and more influenced by the social beliefs linked to their role in a partnership (Willoughby & Belt, 2016).

Marriage and Cohabitation in Bulgaria: Current Trends

A number of studies on how couples in Bulgaria manage their relationship have revealed that the current context is characterized by a gradual decrease in the number of marriages and an increase in cohabitation, to the point that the latter is the preferred living arrangement among young people. Authors such as Koytcheva (2005) and Kovacheva (2012) believe that there are historical and social aspects that explain the decline in the number of marriages over the last 20 years. First of all, there has been a tendency for the number of weddings to decrease and the number of people cohabiting to increase due to the lack of stability with regard to employment and, consequently, financial resources, causing people to be less inclined to invest in a long-term commitment such as marriage. Secondly, the increase in cohabitation as a preferred living arrangement is probably also due to the profound changes resulting from the fall of communism. This has

led to an increase in the influence of Western values and habits in turn leading to an extensive alteration in the attitudes and representations attached to relationships both within the family and for couples. Ethnicity has also had a certain influence on the increase in the number of people cohabiting. The Roma are present in significant numbers in Bulgaria and are the group showning a greater tendency to cohabit, both because Roma women become mothers at a very early age without necessarily getting married, and because it has always been very difficult for Roma people to obtain authorization for a civil marriage, the only form of union recognized by the Bulgarian state since 1945. From this perspective, we understand why cohabitation has been a consolidated practice for a long time in this community — established even before the collapse of communism (Koytcheva, 2005; Kostova, 2007).

A study (Home et al., 2010) researching the transition into a coresidential union (either married or cohabitation) has shown that Bulgarian citizens are more likely to decide to cohabit. In fact, Bulgaria ranks third after Estonia and East Germany, even after personal background, civil status, and standard of education have been accounted for. Furthermore, in Bulgaria, the probability of people getting married by the age of 35 is 41%, which is less than other Eastern European countries such as Russia, Romania, Hungary, and Poland. However, the probability of people deciding to cohabit is 63%, which is the highest percentage in the group of countries considered in the study. Interestingly, Bulgaria has had a strong tradition of cohabitation (alongside East Germany and Estonia) since the 1940s with more than 40% of women beginning their first more binding union with a period of cohabitation before marrying and in the last 20 years this figure has reached 80% (Puur et al., 2012). Some authors explain this as being a socially accepted custom in Bulgaria given that most young couples typically begin by living together, usually in the household of one of the two sets of parents. This usually quite quickly leads to marriage: until the late 1980s, approximately 80% of first partnerships that began with cohabitation were converted to marriage during the first year of union (Hoem & Kostova, 2008). Bulgaria today, compared to other Eastern European countries, reports the youngest age for people entering into cohabitation and marriage (Hoem et al., 2010; Pamporov, 2008), despite the fact that the average age for first coresidential union has recently increased for all of the three major ethnic groups in the country (Bulgarian, Roma, and Turkish) going from 22.8 to 24.6 years for men and from 20.1 to 22.1 years for women (Kostova, 2007; Philipov & Jasilioniene, 2008).

Another interesting aspect in the literature regards the perceived quality of the relationship. Studies have tended to distinguish between cohabiters who intend to marry from those who do not and the motivation of the individual partners has been found to affect their own and their partner's satisfaction with the relationship (Brown, 2003, 2004). In Wiik et al.'s research (2012), the results relating to Bulgaria surprisingly showed no differences between the two samples with regard to satisfaction with the relationship. Hiekel et al. (2014) identified a number of potential meanings relating to cohabitation and marriage in today's Bulgaria. The authors explained how cohabitation represents a real alternative to marriage which is now considered an old-fashioned and outdated institution by 32.3% of the population; in fact, another 26.8% conceive marriage only as a conformist choice, that, though faithful to traditions, is rarely appreciated or valued. Moreover, only 16% of the Bulgarian respondents viewed cohabitation as a prelude to marriage while financial hardship was perceived as a hindrance to marriage by 9.6% of the respondents.

Regarding gender, Krasteva and Marinova-Schmidt (2006) reported that, in Bulgaria, when socialism played a decisive role in creating a new type of family configuration, the equality between man and woman was strengthened. The communist ideology resulted in more women working and their earning capacity was a critical factor in terms of their role in the family. Women continued to be housekeepers and child carers in addition to working and in some cases became the social and financial head of the family.

This shift in the distribution of family power is a significant characteristic of the modern family in Bulgaria today, and husbands and wives live in a union typified by equality.

THE PRESENT STUDY

In light of the previous literature on the subject, the aim of the present paper is threefold: 1) to investigate how people's needs change in the transition from the condition of singleness or in a non-coresidential relationship to a coresidential union involving cohabitation or marriage; 2) to distinguish between the effects in terms of satisfaction of psychological needs of cohabiting or being married as opposed to being single or in a non-coresidential relationship; and, finally, 3) whether the effects addressed in the previous point are gender-specific, to wit, whether men benefit more or less than women from the transition to cohabitation or marriage. In order to achieve this goal, the SDT was adopted as the framework.

In terms of the relationships between partners, Bulgaria stands out among other European countries in a number of specific issues. First of all, in Bulgaria, there is a certain tradition of cohabitation, a form of union that is historically established and has been in existence for decades alongside marriage. Furthermore, romantic relationships between two partners are characterized by a particular egalitarianism, with women playing an important role within the family and in society since the period of communism. Both these factors make it interesting to investigate any differences in the specificities attributed to marriage compared to cohabitation, assuming that in Bulgaria there prevails a degree of indifference in people's attitude to these two forms of union due to their diffusion and acceptance. A greater understanding of the psychological needs met by cohabitation and marriage in today's Bulgaria would therefore be extremely useful.

Research Hypotheses

Based on the literature review, three hypotheses can be formulated.

Hypothesis 1. Entering into a coresidential union (cohabitation or marriage) is expected to decrease autonomy: we may imagine that people who start living with their partner or who get married between the two waves of the study will be less autonomous because, although the feeling of security increases for older people, individual autonomy is limited by the presence of a partner. Furthermore, getting married between the two waves of the interviews is expected to reduce autonomy more than cohabitation, given that marriage is considered to be a more binding form of union. We anticipate this effect to be stronger for women than for men in both cases.

Hypothesis 2. Both marriage and cohabitation are expected to improve relatedness because in each form of union both partners bring family and friends with them into the relationship with the result of a balanced increase in the network around the couple. We hypothesize that there will be no gender differences.

Hypothesis 3. Marriage and cohabitation are both expected to improve competence in the three years following the beginning of the coresidential union. In this case, no differences in effects are expected between the two different types of union or between the genders.

METHOD

Participants and Procedure

The data used in this study come from a survey carried out in Bulgaria entitled "The Impact of Social Capital and Coping Strategies on Reproductive and Marital Behavior,"[1] sponsored by the Max Planck Institute for Demographic Research in Rostock, Germany. The survey investigated the impact of the significant economic, cultural, social, and institutional changes that affected the Bulgarian society during the transition to an open market economy. In particular, it explored topics connected to young people reaching adulthood and family formation as well as gathering information on the respondents' social and financial background. The survey also explored the attitudes, value orientations, religious beliefs, and social capital of the individuals interviewed. The first wave of the survey was undertaken in 2002[2] and considered family formation and the decision to have children. The dataset was representative of Bulgarians of reproductive age and included 10,003 respondents aged 18-34, equally distributed by gender. In the second wave of the winter of 2005/2006, 7,481 respondents from the first wave were re-interviewed. Based on propensity score matching, our analysis only includes a subsample of individuals, namely, the 2,557 respondents who were single or in a non-coresidential relationship at the time of the first wave and decided to cohabit or get married in the meantime. The aim was to investigate whether the change in relationship had resulted in any changes in levels of autonomy, relatedness, and competence. The decision to use the above-mentioned survey was due to the fact that the data is of high quality and there is a relatively low attrition rate between the two waves. As a result, this set of data, together with the Generations and Gender Survey (GGS), represents the most recent and important source of longitudinal data relating to Bulgaria that specifically focuses on family formation with a sample of 10,000 interviewees. Considering that the specific purpose of the present paper waves was to focus on life events that occurred between the two waves, the large sample size was essential because it enabled us to obtain robust estimates. The participants' socio-demographic characteristics are summarized in Table 1. Table 2 describes aspects relating to the dynamics of couples' relationships in the period between the first and second waves.

As we can see in Table 2, the total sample size considered for the propensity score analysis was 2,557; 77.28% of the sample was single or in a non-coresidential relationship at the time of the first interview and did not get married or start cohabiting between the waves (those who lived apart but were in a relationship were considered in this category as well); 9.81% began a cohabitation without getting married between the two interviews, while 12.91% got married; among these, we considered those who were together but living apart in the first interview round and had subsequently decided to live together and then to get married before being interviewed for the second time.

Measures

Autonomy. Autonomy pertains to the feeling of being completely in control of one's actions, behavior, and destiny. This was measured using a five-point scale item worded as follows: "I have little influence over my fate," to which possible answers were 1 = *definitely yes*, 2 = *somewhat yes*, 3 = *neither yes nor no*, 4 = *somewhat no*, and 5 = *definitely no*. Following the procedure established by Bühler (2008), we dichotomized the five-point scales into two categories, grouping positive responses in the first category and negative

TABLE 1
Descriptive statistics for the initial sample in terms of the variables used in the propensity score matching

Categorical variables	Percentage of each category
Gender	
Males	47.9%
Females	52.1%
Past partnerships	
Yes	61.4%
No	38.6%
Age	
18-24	37.0%
25-29	33.3%
30-34	29.7%
Income in the household	
Household Income 1st quartile	32.8%
Household Income 2nd quartile	21.2%
Household Income 3rd quartile	35.1%
Household Income 4th quartile	11.0%
Employment status	
Does not work or study	34.2%
Studies, does not work	6.9%
Works for a private firm	46.0%
Works for a state firm	12.9%
Marital Status	
Not living with a partner	40.9%
Married	38.0%
Cohabiting	21.1%
Education	
Elementary or less	22.8%
Secondary	60.7%
Higher	16.5%
Father's Education	
Elementary or less	33.1%
Secondary	52.8%
Higher	14.0%
Mother's Education	
Elementary or less	33.8%
Secondary	52.2%
Higher	15.0%
Religion/beliefs	
Religious	54.2%
Not religious	45.8%
Numerical variables	Mean
Number of children at 1st wave	0.800
Number of Siblings	1.363

TABLE 2
Descriptive statistics for individuals included in the subsample analyzed

	n	%
Respondents who remained single or in a non-coresidential relationship between the two waves	1,976	77.28
Respondents who got married between the two waves	330	12.91
Respondents who started a non-marital cohabitation between the two waves	251	9.81
Total	2,557	100

and neutral responses in the second. The item was recoded so that low scores indicated low autonomy levels and high scores high autonomy levels. Finally, autonomy was recoded into a dummy variable (1 = *high autonomy*, corresponding to scores from 3 to 5 on the original scale, and 0 = *low autonomy*, corresponding to 1 and 2 on the original scale).

Relatedness. Relatedness was construed as the connections the couple have with family and friends and their social circles and, therefore, the social support they receive. This was measured on a five-point scale worded as follows: "During the past month, have you ever felt lonely or distant from other people?" Possible answers to the item were: 1 = *definitely yes*, 2 = *somewhat yes*, 3 = *neither yes nor no*, 4 = *somewhat no*, and 5 = *definitely no*. Also in this case, we followed the previous strategy, generating a dummy variable which was coded 1 if an individual showed a high degree of relatedness (corresponding to values of 3, 4, and 5 for the original item) and 0 if the respondent showed low relatedness scores (corresponding to values of 1 and 2 for the original item), according to Bühler's procedure (2008).

Competence. Competence refers to the perception of oneself as efficacious in managing one's living arrangements. Competence was measured using the item "How much control do you feel you will have over your situation with regard to living arrangements in the next two years?," with Likert scale answers (1 = *none at all*, 2 = *little*, 3 = *some*, 4 = *quite a lot*, 5 = *a great deal*). Likewise, the variable was recoded to create two possible categories: 1= some (3), quite a lot (4), a great deal (5) of control over one's living arrangements, and 0 = little (2) or no control (1).

Data Analysis

The aim of the empirical analysis was to identify the impact on individual psychological needs of the type of coresidential union (marriage or cohabitation) formed, in terms of autonomy, relatedness, and competence. In order to measure the effects of marriage and cohabitation, we compared the scores of those who were single or in a non-coresidential relationship at the time of the first interview and had started to cohabit or got married before the second interview with the scores of those who were not in a coresidential union at the time of the first interview and had not changed their partnership status in the time-span between the two waves.

The type of analysis carried out did not allow us to assess the impact of cohabitation or marriage with a distinction between the three major ethnic groups present in Bulgaria due to the reduced size of the sample. We focused, therefore, on the effects of cohabitation and marriage with a differentiation between genders.

In particular, we assumed that there were two potential outcomes for each individual at the end of the panel observation in terms of psychological needs. These were: $Y_{1i}^{t+\Delta t}$ if the individual had started a union (marriage or cohabitation in two separate models) between the two waves and $Y_{0i}^{t+\Delta t}$ if they had not.

The impact of starting a coresidential union on each respondent in terms of their scores for autonomy, relatedness, and competence was $Y_{1i}^{t+\Delta t} - Y_{0i}^{t+\Delta t}$. Because this is a specific variable for each individual, Rosenbaum and Rubin (1983) suggested focusing on quantity, here $E\left[Y_{1i}^{t+\Delta t} - Y_{0i}^{t+\Delta t} \mid T_i = 1\right]$, which in empirical literature is defined as the average treatment effect (ATE). In the case of the present study, this refers to the expected difference in the outcomes of each individual *i* depending on whether they had started a coresidential union or remained single/in a non-coresidential relationship. The ATE measures the effect, in a causal inference setting, on each individual of starting to live with a partner.

T_i (*treatment*) is a dichotomous variable which is coded 1 if an individual, who was single or in a non-coresidential relationship during the first wave, got married or started cohabiting between the two waves, and coded 0 if they did not (see Table 2). Heckman (1997) proposed restricting the analysis only to those who were actually eligible for *treatment*. Hence, the main quantity of interest is:

$$ATT = E\left[Y_{1i}^{t+\Delta t} - Y_{0i}^{t+\Delta t} \mid T_i = 1\right] = E\left[Y_{1i}^{t+\Delta t} \mid T_i = 1\right] - E\left[Y_{0i}^{t+\Delta t} \mid T_i = 1\right] \quad (1)$$

ATT (average treatment effect on treated) is the average treatment effect on treated subjects, namely, the mean effect of treatment on the items of interest only for those who started their coresidential union in some form in the interim. In this way, the quantity expressed as $E\left[Y_{0i}^{t+\Delta t} \mid T_i = 1\right]$ is unobservable because only one of the potential outcomes can be observed for each individual. A possible solution to this problem was to consider the difference between the treated (those who entered a union) and untreated (those who remained single or in a non-coresidential union) groups:

$$E\left[Y_{0i}^{t+\Delta t} \mid T_i = 1\right] = E\left[Y_{0i}^{t+\Delta t} \mid T_i = 0\right] \quad (2)$$

This assumes that there is no selection bias — those who got married or started a cohabitation have been randomly selected so that the two groups may be considered comparable for all other relevant observables. However, this assumption is not realistic because the two groups are different in terms of both observable and non-observable characteristics. Hence, identification of the *ATT* in Equation 1 is feasible if we compute the expected values conditionally on a vector of covariates[2] that summarizes all of the differences between the treated and control groups; this requires the imposition of *mean* independence (Smith & Todd, 2005), that is:

$$E\left[Y_{0i}^{t+\Delta t} \mid X_i^t, T_i = 1\right] = E\left[Y_{0i}^{t+\Delta t} \mid X_i^t, T_i = 0\right] \quad (3)$$

There is a second issue when dealing with *ATT* estimates: the difficulty in finding individuals with identical values for vector *X* when the covariates are many or continuous.

Rosenbaum and Rubin (1983) proposed a matching based on a univariate quantity called a *propensity score* which is the conditional probability of receiving the *treatment* given *X*:

$$p(X_i^t) = P\left[T_i = 1 \mid X_i^t\right] \quad (4)$$

Matching individuals with the same propensity score is the same as comparing them on vector *X*, together with the advantage that an estimate of the propensity score is easily obtained by means of a simple logistic regression. Therefore, the *ATT* can be formalized as:

$$ATT = E_{p(X_i)}\left\{E\left[Y_{1i}^{t+\Delta t} \mid p(X_i^t), T_i = 1\right] - E\left[Y_{0i}^{t+\Delta t} \mid p(X_i^t), T_i = 0\right]\right\} \quad (5)$$

The variables used as covariates of vector *X* are listed in Table 1. The method illustrated above was applied to all of the respondents. Because we needed to obtain sample estimates of *ATT*, we could not match individuals with equal values for the propensity score. Therefore, we had to implement matching algorithms

(Leuven & Sianesi, 2003) in order to overcome the problem and compare similar respondents. In this framework, we implemented *nearest neighbor matching*, which consists of comparing each treated unit *i*, that is, the men and women who had started a coresidential union between the two interviews, with the closest control unit in terms of propensity score, namely, individuals who remained single between the two waves. In this case, the following applied:

$$\hat{ATT} = \frac{1}{N_1} \sum_{i \in \{T_i=1\}} \left[y_{1i}^{t+\Delta t} - \sum_{j \in \{T_i=0\}} w_{ij}\, y_{0i}^{t+\Delta t} \right] \quad (6)$$

where N_1 indicates the number of units that entered a union in the interval between the two rounds of the interviews, and w_{ij} represents a sample weight for control units used in the matching procedure and is usually equal to one.

Results

As we can see from Table 3, the pattern relating to the answers by the men was more positive than that for the women. With respect to autonomy, 67.3% of men perceived a high level of autonomy (compared to a value of about 64% for women). The women satisfied their need for relatedness in 82.9% of cases compared to 90.8% of the men. Finally, competence was generally higher among the males than the females (69.2% vs. 64.7%).

TABLE 3
Descriptive statistics for autonomy, relatedness, and competence at Wave 2

	Autonomy	Relatedness	Competence
Males	67.3%	90.8%	69.2%
Females	64.0%	82.9%	64.7%
Difference (males-females)	+ 3.3%**	+ 7.9%***	+ 4.5%**

Note. ** $p < .01$. ***$p < .001$.

Table 4 shows the differences (after propensity score matching) in the satisfaction of psychological needs between those individuals who got married or started cohabiting in the period between the two survey waves and those who remained single or had not started a coresidential relationship. More specifically, being part of a couple influenced the scores for autonomy, relatedness, and competence, but the degree and direction of the effect varied depending on gender and the coresidential union type. Marriage seems to be connected to a decrease in autonomy compared to singles or to people who live apart together only in the case of the females. More specifically, the scores for the women who got married between the two waves indicate a decrease of about 12% in positive responses compared to the responses they gave before their status changed. Conversely, starting a non-marital cohabitation does not seem to have had any effect on the scores for autonomy for either females or males. If we look at the effect of coresidential relationship on relatedness, the *ATT* scores for both marriage and cohabitation were statistically significant for both females and males. However, marriage positively influenced the scores for relatedness for both genders (females: +21% and males: +14.7%), while cohabitation only had a positive effect for the male subsample (females: –14.5% vs. males: +21.1%). Finally, competence was also affected by the decision to start a coresidential union: both

males and females reported more competence if they got married while cohabitation did not affect their competence scores.

TABLE 4
Propensity score estimates for the effects of starting a coresidential union on individual psychological needs (autonomy, relatedness, and competence)

		Autonomy	Relatedness	Competence
Marriage	Males	n.s.	+14.7%***	+11.9%*
	Females	–11.8%**	+21.0%***	+12.6%*
Cohabitation	Males	n.s.	+21.1%***	n.s.
	Females	n.s.	–14.6%*	n.s.

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

DISCUSSION

The literature on the subject has emphasized the importance of studying psychological needs as the satisfaction of these needs is a necessary antecedent to well-being (Patrick et al., 2007). With regard to the present study, a preliminary observation concerns the status of the couples in the period of time investigated: most of those (77.28%) who were not in a coresidential partnership at the time of the first wave of data collection had maintained their status without marrying or starting to live with a partner between the two waves of data collection.

Against this background, the results of the study indicate that, compared to remaining single or being in a non-coresidential union, getting married is connected to a decline in autonomy but an increase in competence and relatedness for women. The traditional social role for women in Bulgaria might provide a rationale for this result if one takes into account that women tend to feel that their psychological needs are satisfied by marriage even though they experience a lower degree of autonomy compared to men (Berrington et al., 2015; Pamporov, 2008). This partially supports Hypothesis 1. In any case, this result is only statistically significant for marriage and is limited to the female subsample. With regard to autonomy, women's perceptions seem to be highly affected by the traditional division of roles according to gender. Taking care of the house and doing the chores is still predominantly women's burden and responsibility and this probably results in them feeling less autonomous (Wiik et al., 2012). Probably for the same reason, marriage does not impact men's autonomy: husbands traditionally maintain the same independence and autonomy they had before getting married.

When a couple gets married, relatedness increases for both genders. In the case of cohabitation, however, this occurs only for males, while in females it decreases. This result partially supports Hypothesis 2. While the status of being married enables women to feel less alone — and thus more connected to their own friends and family — for males this also happens in cohabitation. This finding might be attributable to the social norms pertaining to gender which prevail in the culture we observed. In line with findings from research on the subject (see, for example, Huang et al., 2011), it may be hypothesized that, within a traditionalistic society such as Bulgaria, support and social approval are connected to marriage for women. Conversely, cohabitation entails fewer social and financial responsibilities for men allowing them more time to build social relationships (Jasilioniene & Philipov, 2008).

In general, feelings of competence increased as a result of couples changing from being unpartnered or in a non-coresidential union to being married, while this was not the case when the couple decided to cohabit. These results partially support Hypothesis 3. Nevertheless, it appears that the way a coresidential relationship is built does matter; more specifically, competence refers to the ability to function effectively in the environment, significantly this only applies to marriage, irrespective of gender. This result seems to be consistent with findings from previous research (Brines & Joyner, 1999; Cherlin, 2000) which found evidence that cohabiting couples are more aware of the risks of making joint investments, both in financial and psychological terms, and thus less amenable to and capable of managing their living arrangements (Poortman & Mills, 2012).

The presence of a number of different ethnic groups in Bulgaria (i.e., Bulgarians, Roma, and Turks) and the fact that it is still a country with strong family traditions might explain why the results of the present research are different, also considering that cohabitation in Bulgaria is almost always taken to represent part of the passage toward marriage (Hoem & Kostova, 2008). In this respect, according to the traditions of the Roma, for example, couples usually get married after the birth of a child (Jasilioniene & Philipov, 2008; Pamporov, 2008) and young people tend to seek fulfillment in their work before getting married (Hoem et al., 2010; Krasteva & Marinova-Schmidt, 2006).

The present work has some limitations suggesting that caution is required in the interpretation of the results. The first and most important regards the use of single items to assess levels of autonomy, relatedness, and competence. Although a growing corpus of research uses single items to investigate complex constructs based on the assumption that they are highly representative of scales composed of numerous items (see, e.g., Blekesaune, 2016; Campbell et al., 1976; Sandvik et al., 1993; Wiik et al., 2009), it would nonetheless be necessary to apply additional instruments to investigate to what degree psychological needs are satisfied by marriage and cohabitation. The use of single items, in fact, means that it is not possible to collect information about the reliability of the indicators. A second limitation concerns the analysis and empirical methodology employed. The literature (i.e., Rosenbaum, 2002) has shown that propensity score matching provides accurate estimates by reducing the selection bias due to the observable variables but, of course, it does not consider unobserved variables. For this reason, these results may not be robust in relation to unobserved variables. An additional limitation is represented by the presence of a dropout rate between the two rounds of the interviews. Although the sample in the first round of interviews is representative of Bulgarians of reproductive age, an attrition rate cannot be avoided in a longitudinal study, hence, there may be a selection bias with respect to the subsample of people who decided to participate in the second phase, even if the attrition rate is quite low (70%). Propensity score matching (which only considers individuals who are similar in terms of the probability of receiving treatment) is a suitable procedure that helps to reduce the selection bias and to compare sampled and control individuals who are as similar as possible. Nevertheless, even though this procedure effectively reduces bias, it cannot eliminate it entirely. Finally, another bias results from considering only those who were single or in a non-coresidential relationship at the beginning of the analysis. This, however, is due to the fact that the investigation focuses on the effects of the transition from a single status or a non-coresidential union to a coresidential union with particular attention paid to the type of arrangement — cohabitation or marriage. A further limitation regards the ethnic groups present in Bulgaria (i.e., Bulgarians, Roma, and Turks) for whom differentiated analyses would be more appropriate. It was not possible to carry out an analysis with this kind of distinction due to the small number of participants. In the present study, the subjects were divided between those who got married between the two research waves, those who started cohabiting between the two research waves, and those who remained in their condition of single or non-coresidential partner. Finally, the literature on the subject suggests that cohabitation needs to

be defined more clearly in terms of its status as a form of union because there appear to be many meanings and motivations which differentiate the relationships of couples who are cohabiting (Brown et al., 2017; Hixson, 2008; Vaculík, & Jedrzejczyková, 2009; Wiik et al., 2009; Willoughby & Belt, 2016). In fact, if cohabitation is intended as a prelude to marriage, the oucomes of this research also take on a more understandable meaning. In any case, specifying the reason why people decide to cohabit would have made it possible to interpret the results of this study in a more precise way.

Despite these limitations, the results of this study provide an indication that there is a need to rethink the complexities and distinctions between the psychological effects of marriage and cohabitation in Bulgaria for both genders. There is evidence that both men and women feel that marriage (compared to being single or in a non-coresidential partnership) increases their sense of competence. At the same time, however, only women appear to believe that marriage offers greater relatedness given that men believe this need to be satisfied also by cohabitation. Regarding the need for autonomy, the results suggest that for females marriage means a loss of autonomy, probably due to the increase in household duties that marriage entails for them. However, the results show that there is a greater gain for women than for men, as indicated in the literature.

NOTES

1. Although the first phase may now be considered out of date, no update has been published yet.
2. In order to establish the correct direction of causality requiring that pre-treatment confounders determine cohabitation as the transition to a union between the two waves, the vector of covariates was observed at the time of the first interview. The covariates used in the matching procedure are listed with their frequencies in Table 1. They also include the values for psychological needs at the time of the first interview in order to compute ATT, with the starting levels of the dependent variables being equal.

REFERENCES

Alfieri, S., & Lanz, M. (2015). The measurement of family relationships: Individual, dyadic, and family dimensions of relational construct and their implication for family members. *TPM – Testing, Psychometrics, Methodology in Applied Psychology*, *22*(2), 251-267. https://doi.org/10.4473/TPM22.2.6

Berrington, A., Perelli-Harris, B., & Trevena, P. (2015). Commitment and the changing sequence of cohabitation, childbearing, and marriage: Insights from qualitative research in the UK. *Demographic Research*, *33*, 327-362. https://doi.org/10.4054/DemRes.2015.33.12

Blekesaune, M. (2016). Is cohabitation as good as marriage for people's subjective well-being? Longitudinal evidence on happiness and life satisfaction in the British household panel survey. *Journal of Happiness Studies*, *19*(2), 1-16. https://doi.org/10.1007/s10902-016-9834-x

Brines, J., & Joyner, K. (1999). The ties that bind: Principles of cohesion in cohabitation and marriage. *American Sociological Review*, *64*, 333-355. https://doi.org/10.2307/2657490

Brown, S. L. (2000). The effect of union type on psychological well-being: Depression among cohabitors versus marrieds. *Journal of Health and Social Behavior*, *41*(3), 241-255. https://doi.org/10.2307/2676319

Brown, S. L. (2003). Relationship quality dynamics of cohabiting unions. *Journal of Family Issues*, *24*(5), 583-601. https://doi.org/10.1177/0192513X03252671

Brown, S. L. (2004). Moving from cohabitation to marriage: Effects on relationship quality. *Social Science Research*, *33*(1), 1-19. https://doi.org/10.1016/S0049-089X(03)00036-X

Brown, S. L., & Booth, A. (1996). Cohabitation versus marriage: A comparison of relationship quality. *Journal of Marriage and the Family*, *58*(3), 668-678. https://doi.org/10.2307/353727

Brown, S. L., Manning, W. D., & Payne, K. K. (2017). Relationship quality among cohabiting versus married couples. *Journal of Family Issues*, *38*(12), 1730-1753. https://doi.org/10.1177/0192513X15622236

Bühler, C. (2008). On the structural value of children and its implication on intended fertility in Bulgaria. *Demographic Research*, *18*(20), 569-610. https://doi.org/10.4054/DemRes.2008.18.20

Campbell, A., Converse, P. E., & Rodgers, W. L. (1976). *The quality of American life: Perceptions, evaluations, and satisfactions*. Russell Sage Foundation.

Cherlin, A. J. (2000). *Toward a new home socioeconomics of union formation*. In L. Waite, C. Bachrach, M. Hindin, E. Thomson, & A. Thornton (Eds.), *Ties that bind: Perspectives on marriage and cohabitation* (pp. 126-144). Aldine de Gruyter.

Cherlin, A. J. (2004). The deinstitutionalization of American marriage. *Journal of Marriage and the Family*, *66*, 848-861. https://doi.org/10.1111/j.0022-2445.2004.00058.x

Cohan, C. L., (2012). *The Cohabitation Conundrum*. In M. A. Fine & F. D. Fincham (Eds.), *Handbook of Family Theories* (Chapter 7). Routledge. https://doi.org/10.4324/9780203075180.ch7

Cohan, C. L., & Kleinbaum, S. (2002). Toward a greater understanding of the cohabitation effect: Premarital cohabitation and marital communication. *Journal of Marriage and Family*, *64*(1), 180-192. https://doi.org/10.1111/j.1741-3737.2002.00180.x

Cutrona, C. E., Russell, D. W., & Gardner, K. A. (2005). The relationship enhancement model of social support. In T. A. Revenson, K. Kayser, & G. Bodenmann (Eds.), *Decade of behavior. Couples coping with stress: Emerging perspectives on dyadic coping* (pp. 73-95). American Psychological Association. https://doi.org/10.1037/11031-004

Davis, S. N., Greenstein, T. N., & Marks, J. P.G. (2007). Effects of union type on division of household labor: Do cohabiting men really perform more housework? *Journal of Family Issues*, *28*(9), 1246-1272. https://doi.org/10.1177/0192513X07300968

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Plenum.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*, 227-268. https://doi.org/10.1207/S15327965PLI1104_01

Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology*, *49*(3), 182-185. https://doi.org/10.1037/a0012801

Di Napoli, I., Procentese, F., Carnevale, S., Esposito, C., & Arcidiacono, C. (2019). Ending intimate partner violence (IPV) and locating men at stake: an ecological approach. *International Journal of Environmental Research and Public Health*, *16*(9), 1652. https://doi.org/10.3390/ijerph16091652

Doss, B. D., Rhoades, G. K., Stanley, S. M., & Markman, H. J. (2009). The effect of the transition to parenthood on relationship quality: An 8-year prospective study. *Journal of Personality and Social Psychology*, *96*(3), 601-619. https://doi.org/10.1037/a0013969

Eggebeen, D. J. (2005). Cohabitation and exchanges of support. *Social Forces*, *83*, 1097-1110. https://doi.org/10.1353/sof.2005.0027

Eggen, P., & Kauchak, D. (2010). *Educational psychology: Windows on classrooms* (8th ed.). Merrill.

Evans, M. D., & Kelley, J. (2004). Effect of family structure on life satisfaction: Australian evidence. *Social Indicators Research*, *69*, 303-349. https://doi.org/10.1007/s11205-004-5578-9

Ferree, M. M. (1990). Beyond separate spheres: Feminism and family research. *Journal of Marriage and the Family*, *52*, 866-884. https://doi.org/10.2307/353307

Forste, R., & Fox, K. (2012). Household labor, gender roles, and family satisfaction: A cross-national comparison. *Journal of Comparative Family Studies*, *43*(5), 613-631. https://doi.org/10.1037/t55086-000

Gennari, M., Giuliani, C., & Accordini, M. (2017). Muslim immigrant men's and women's attitudes towards intimate partner violence. *Europe's Journal of Psychology*, *13*(4), 688-707. https://doi.org/10.5964/ejop.v13i4.1411

Gennari, M., & Tamanza, G. (2018). Dynamic and functional characteristics of the couple constitutive stage, *Ricerche di Psicologia*, *41*, 615-638. https://doi.org/10.3280/RIP2018-004005

Gennari M., Tamanza G., & Molgora S., (2018). Intimate partner violence and child custody evaluation: A model for preliminary clinical intervention, *Frontiers in Psychology*, 9, 1471-1481. https://doi.org/10.3389/fpsyg.2018.01471

Georgas, J., Berry, J., Van de Vijver, F., Kağitçibaşi, Ç, & Poortinga, Y. (2006). Part I. In J. Georgas, J. Berry, F. Van de Vijver, Ç Kagitçibasi, & Y. Poortinga (Eds.), *Families Across Cultures: A 30-Nation Psychological Study* (pp. 1-2). Cambridge University Press. https://doi.org/10.1017/CBO9780511489822

Giuliani, C., & Gennari, M. (2014). Intimate male partner violence: Voci dei migranti musulmani. *Maltrattamento e Abuso all'Infanzia*, *16*(1), 101-112. https://doi.org/10.3280/MAL2014-001006

Giuliani, C., Olivari, M., & Alfieri, S. (2017). Being a "good" son and a "good" daughter: Voices of Muslim immigrant adolescents. *Social Sciences*, *6*(4), 142. https://doi.org/10.3390/socsci6040142

Hansen, T., Moum, T., & Shapiro, A. (2007). Relational and individual well-being among cohabitors and married individuals in midlife: Recent trends from Norway. *Journal of Family Issues*, *28*(7), 910-933. https://doi.org/10.1177/0192513X07299610

Heckman, J. J. (1997). Instrumental variables: A study of implicit behavioral assumption used in making programme evaluation. *Journal of Human Resources*, *32*(3), 441-462.

Heuveline, P., & Timberlake, J. M. (2004). The role of cohabitation in family formation: The United States in comparative perspective. *Journal of Marriage and the Family*, *66*, 1214-1230. https://doi.org/10.1111/j.0022-2445.2004.00088.x

Hiekel, N., Liefbroer, A. C., & Poortma, A. R. (2014). Understanding diversity in the meaning of cohabitation across Europe. *European Journal of Population*, *30*, 391-410. https://doi.org/10.1007/s10680-014-9321-1

Hixson, L. (2008). *Reconceptualizing cohabitation: Commitment among nonmarried heterosexual couples*. Albany, NY: State University of New York.
Hoem, J. M., Gabrielli, G., Jasilioniene, A., Kostova, D., & Matysiak, A. (2010). Levels of recent union formation: Six European countries compared. *Demographic Research*, *22*, 199-210. https://doi.org/10.4054/DemRes.2010.22.9
Hoem, J. M., & Kostova, D. (2008). Early traces of the second demographic transition in Bulgaria: A joint analysis of marital and non-marital union formation. *Population Studies*, *62*(3), 259-271. https://doi.org/10.1080/00324720802313256
Horwitz, A. V., & White, H. R. (1998). The relationship of cohabitation and mental health: A study of a young adult cohort. *Journal of Marriage and the Family*, *60*, 505-514. https://doi.org/10.2307/353865
Hsueh, A. C, Morrison, K. R., & Doss, B. D. (2009). Qualitative reports of problems in cohabiting relationships: Comparisons to married and dating relationships. *Journal of Family Psychology*, *23*(2), 236-246. https://doi.org/10.1037/a0015364
Huang, P. M., Smock, P. J., Manning, W. D., & Bergstrom-Lynch, C. A. (2011). He says, she says: Gender and cohabitation. *Journal of Family Issues*, *32*(7), 876-905. https://doi.org/10.1177/0192513X10397601
Iafrate, R., Donato, S., & Bertoni, A. (2013). Family of origin heritage, individual well-being, and relationship satisfaction in young couples. In P. Barberis & S. Petrakis (Eds.), *Parenting: Challenges, practices and cultural influences* (pp. 201-212). Hauppauge, NY: Nova Science.
Jackson, J. B. (2010). Premarital couple predictors of marital relationship quality and stability: A meta-analytic study (Doctoral dissertation). *Theses and Dissertations*, *2176*. https://scholarsarchive.byu.edu/etd/2176
Jasilioniene, A., & Philipov, D. (2008). Union formation and fertility in Bulgaria and Russia: A life table description of recent trends. *Demographic Research*, *19*(62), 2057-2114. https://doi.org/10.4054/DemRes.2008.19.62
Kiernan, K. (2000). *European perspectives on union formation*. In L. J. Waite, C. Bachrach, M. Hindin, E. Thomson, & A. Thornton (Eds.), *The ties that bind: Perspectives on marriage and cohabitation* (pp. 40-58). Aldine de Gruyter.
Killewald, A., & Gough, M. (2013). Does specialization explain marriage penalties and premiums? *American Sociological Review*, *78*, 477-502. https://doi.org/10.1177/0003122413484151
Kline, G. H., Stanley, S. M., Markman, H. J., Olmos-Gallo, P. A., St. Peters, M., Whitton, S. W., & Prado, L. M. (2004). Timing is everything: Pre-engagement cohabitation and increased risk for poor marital outcomes. *Journal of Family Psychology*, *18*(2), 311-318. https://doi.org/10.1037/0893-3200.18.2.311
Knee, C. R., Patrick, H., Vietor, N. A., Neighbors, C. T., & Nanayakkara, A. (2002). Self-determination as growth motivation in romantic relationships. *Personality and Social Psychology Bulletin*, *28*, 609-619. https://doi.org/10.1177/0146167202288005
Koops, J. C., Liefbroer, A. C., & Gauthier, A. H. (2017). The influence of parental educational attainment on the partnership context at first birth in 16 Western societies. *European Journal of Population*, *33*, 533-557. https://doi.org/10.1007/s10680-017-9421-9
Kostova, D. (2007). The emergence of cohabitation in a transitional socioeconomic context: Evidence from Bulgaria and Russia. *Demográfia*, *50*(5), 135-162.
Koytcheva, E. (2005, July). *Contemporary union formation in Bulgaria. The emergence of cohabitation*. Paper presented at the XXV International Population Conference of the International Union for the Scientific Study of the Population, Tours, France.
Kovacheva, S. (2012). Managing uncertainty of young people's transitions to adulthood in Bulgaria. *Sociologija*, *54*(2), 245-262. https://doi.org/10.2298/SOC1202245K
Krasteva, E., & Marinova-Schmidt, V. (2006). Bulgaria: Socialism and open-market economy. In J. Georgas, J. Berry, F. Van de Vijver, Ç. Kagitçibasi, & Y. Poortinga (Eds.), *Families Across Cultures: A 30-Nation Psychological Study* (pp. 275-283). Cambridge University Press. https://doi.org/10.1017/CBO9780511489822.014
La Guardia, J. G., & Patrick, H. (2008). Self-determination theory as a fundamental theory of close relationships. *Canadian Psychology/Psychologie Canadienne*, *49*(3), 201-209. https://doi.org/10.1037/a0012760
Layard, R. (2011). *Happiness: Lessons from a new science*. Penguin Books.
Lee, K. S., & Ono, H. (2012). Marriage, cohabitation, and happiness: A cross-national analysis of 27 countries. *Journal of Marriage and Family*, *74*, 953-972. https://doi.org/10.1111/j.1741-3737.2012.01001.x
Leuven, E., & Sianesi, B. (2003). *PSMATCH2: Stata module to perform full Mahalanobis and propensity score matching, common support graphing, and covariate imbalance testing* [Statistical Software Components S432001] Boston College Department of Economics. http://ideas.repec.org/c/boc/bocode/s432001.html
Liefbroer, A., & Dourleijn, E. (2006). Unmarried cohabitation and union stability: Testing the role of diffusion using data from 16 European countries. *Demography*, *43*, 203-221. https://doi.org/10.1353/dem.2006.0018
Manning, W., & Smock, P. (2005). Measuring and modeling cohabitation: new perspectives from qualitative data. *Journal of Marriage and Family*, *67*(4), 989-1002. https://doi.org/10.1111/j.1741-3737.2005.00189.x
Marcussen, K. (2005). Explaining differences in mental health between married and cohabiting individuals. *Social Psychology Quarterly*, *68*(3), 239-257. https://doi.org/10.1177/019027250506800304
Mikucka, M. (2016). The life satisfaction advantage of being married and gender specialization. *Journal of Marriage and Family*, *78*, 759-779. https://doi.org/10.1111/jomf.12290

Molgora, S., Ranieri, S., & Tamanza, G. (2014), Divorce and coparenting: A qualitative study on family mediation in Italy, *Journal of Divorce & Remarriage*, *55*, 300-314. https://doi.org/10.1080/10502556.2014.901854

Murrow, C., & Shi, L. (2010). The influence of cohabitation purposes on relationship quality: An examination in dimensions. *The American Journal of Family Therapy*, *38*(5), 397-412. https://doi.org/10.1080/01926187.2010.513916

Musick, K., & Bumpass, L. (2012). Reexamining the case for marriage: Union formation and changes in well-being. *Journal of Marriage and the Family*, *74*(1), 1-18. https://doi.org/10.1111/j.1741-3737.2011.00873.x

Næss, S., Blekesaune, M., & Jakobsson, N. (2015). Marital transitions and life satisfaction: Evidence from longitudinal data from Norway. *Acta Sociologica*, *58*, 63-78. https://doi.org/10.1177/0001699314563841

Niehuis, S., Reifman, A., & Lee, K.-H. (2015). Disillusionment in cohabiting and married couples: A national study. *Journal of Family Issues*, *36*(7), 951-973. https://doi.org/10.1177/0192513X13498594

Nock, S. L. (1995). A comparison of marriages and cohabiting relationships. *Journal of Family Issues*, *16*, 53-76. https://doi.org/10.1177/019251395016001004

Nock, S. L. (2005). Marriage as a public issue. *Future of Children*, *15*(2), 13-32. https://doi.org/10.1353/foc.2005.0019

Organisation for Economic Co-operation and Development. (2013). *Cohabitation rate and prevalence of other forms of partnership*. OECD Family Database. https://www.oecd.org/els/family/database.htm

Pamporov, A. (2008). Pattern of family formation: Marriage and fertility timing in Bulgaria at the turn of the twenty-first century–A case-study of Sofia. *The History of the Family*, *13*(2), 210-221. https://doi.org/10.1016/j.hisfam.2008.04.002

Patrick, H., Knee, C. R., Canevello, E., & Lonsbary, C. (2007). The Role of need fulfillment in relationship functioning and well-being: A self-determination theory perspective. *Journal of Personality and Social Psychology*, *92*(3), 434-457. https://doi.org/10.1037/0022-3514.92.3.434

Perelli-Harris, B., Hoherz, S., Lappegård, T., & Evans, A. (2019). Mind the "Happiness" gap: The relationship between cohabitation, marriage, and subjective well-being in the United Kingdom, Australia, Germany, and Norway. *Demography*, *56*, 1219-1246. https://doi.org/10.1007/s13524-019-00792-4

Philipov, D., & Jasilioniene, A. (2008). Union formation and fertility in Bulgaria and Russia: A life table description of recent trends. *Demographic Research*, *19*, 2057-2114. https://doi.org/10.4054/DemRes.2008.19.62

Poortman, A. R., & Mills, M. (2012). Investments in marriage and cohabitation: The role of legal and interpersonal commitment. *Journal of Marriage and Family*, *74*(2), 357-376. https://doi.org/10.1111/j.1741-3737.2011.00954.x

Puur, A., Rahnu, L., Maslauskaite, A., Stankuniene, V., & Zakharov, S. (2012). Transformation of partnership formation in Eastern Europe: The legacy of the past demographic divide. *Journal of Comparative Family Studies*, *43*(3), 389-418. https://doi.org/10.3138/jcfs.43.3.389

Reneflot, A., & Mamelund, S. E. (2012). The association between marital status and psychological wellbeing in Norway. *European Sociological Review*, *28*, 355-365. https://doi.org/10.2307/41495128

Rhoades, G. K., Stanley, S. M., & Markman, H. J. (2009). Couples' reasons for cohabitation: associations with individual well-being and relationship quality. *Journal of Family Issues*, *30*(2), 233-258. https://doi.org/10.1177/0192513X08324388

Rhoades, G. K., Stanley, S. M., & Markman, H. J. (2012). The impact of the transition to cohabitation on relationship functioning: Cross-sectional and longitudinal findings. *Journal of Family Psychology*, *26*, 348-358. https://doi.org/10.1037/a0028316

Robles, T. F., Slatcher, R. B., Trombello, J. M., & McGinn, M. M. (2014). Marital quality and health: A meta-analytic review. *Psychological Bulletin*, *140*(1), 140-187. https://doi.org/10.1037/a0031859

Rosenbaum, P.R. (2002). *Observational studies*. Springer.

Rosenbaum, P. R., & Rubin, D. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika*, *70*(1), 41-55. https://doi.org/10.1093/biomet/70.1.41

Ryser V. A., & Le Goff, J. M. (2015). Family attitudes and gender opinions of cohabiting and married mothers in Switzerland. *Family Science*, *6*(1), 370-379, https://doi.org/10.1080/19424620.2015.1102155

Ryser, V. A., & Le Goff, J. M. (2018). The transition to marriage for cohabiting couples: Does it shape subjective well-being and opinions or attitudes toward family? In R. Tillmann, M. Voorpostel, P. Farago (Eds.), *Social Dynamics in Swiss Society. Life Course Research and Social Policies* (Vol. 9, pp. 47-59). Springer. https://doi.org/10.1007/978-3-319-89557-4_4

Sandvik, E., Diener, E., & Seidlitz, L. (1993). Subjective well-being: The convergence and stability of self-report and non-self-report measures. *Journal of Personality*, *61*, 317-342. https://doi.org/10.1007/978-90-481-2354-4_6

Smith, H., & Todd, P. (2005). Does matching overcome LaLonde's Critique of Non-experimental Estimators? *Journal of Econometrics*, *125*(1-2), 305-353. https://doi.org/10.1016/j.jeconom.2004.04.011

Soons, J. P., & Kalmijn, M. (2009). Is marriage more than cohabitation? Well-being differences in 30 European countries. *Journal of Marriage and Family*, *71*, 1141-1157. https://doi.org/10.1111/j.1741-3737.2009.00660.x

Soons, J. P. M., Liefbroer, A. C., & Kalmijn, M. (2009). The long-term consequences of relationship formation for subjective well-being. *Journal of Marriage and Family*, *71*, 1254-1270. http://dx.doi.org/10.1111/j.1741-3737.2009.00667.x

Sorokowski, P., Randall, A. K., Groyecka, A., Frackowiak, T., Cantarero, K., Hilpert, P., Ahmadi, K., Alghraibeh, A. M., Aryeetey, R., Bertoni, A., Bettache, K., Błażejewska, M., Bodenmann, G., Bortolini, T. S., Bosc, C., Butovskaya, M., Castro, F. N., Cetinkaya, H., Cunha, D., David, D., … Sorokowska, A. (2017). Marital satisfaction, sex, age, marriage duration, religion, number of children, economic status, education, and collectivistic values: Data from 33 countries. *Frontiers in Psychology*, *8*, 1199. https://doi.org/10.3389/fpsyg.2017.01199

Soulsby, L. K., & Bennett, K. M. (2017). When two become one: Exploring identity in marriage and cohabitation. *Journal of Family Issues*, *38*(3), 358-380. https://doi.org/10.1177/0192513X15598547

Stanley, S. M., Rhoades, G. K., Amato, P. R., Markman, H. J., & Johnson, C. A. (2010). The timing of cohabitation and engagement: Impact on first and second marriages. *Journal of Marriage and Family*, *72*(4), 906-918. https://doi.org/10.1111/j.1741-3737.2010.00738.x

Stanley, S. M., Whitton, S. W., & Markman, H. J. (2004). Maybe I do: Interpersonal commitment and premarital or nonmarital cohabitation. *Journal of Family Issues*, *25*(4), 496-519. https://doi.org/10.1177/0192513X03257797

Stutzer, A., & Frey, B. S. (2006). Does marriage make people happy, or do happy people get married? *The Journal of Socio-Economics*, *35*, 326-347.

Umberson, D., Crosnoe, R., & Reczek, C. (2010). Social relationships and health behavior across the life course. *Annual Review of Sociology*, *36*, 139-157. https://doi.org/10.1146/annurev-soc-070308-120011

Vaculík, M., & Jedrzejczyková, V. (2009). Commitment in unmarried cohabitation. *Studia Psychologica*, *51*(1), 101-117.

Vergauwen, J., Neels K., & Wood J. (2017). Educational differentials in cohabitors' marriage intentions at different childbearing stages in seven European countries, *Social Science Research*, *65*, 253-267. https://doi.org/10.1016/j.ssresearch.2017.03.006

Waite, L. J., & Gallagher, M. (2000). *The case for marriage: Why married people are happier, healthier, and better off financially.* Doubleday.

Wiik, K. A., Bernhardt, E., & Noack, T. (2009). A Study of commitment and relationship quality in Sweden and Norway. *Journal of Marriage and Family*, *71*, 465-477. https://doi.org/10.1111/j.1741-3737.2009.00613.x

Wiik, K. A., Keizer, R., & Lappegård, T. (2012). Relationship quality in marital and cohabiting unions across Europe. *Journal of Marriage and Family*, *74*(3), 389-398. https://doi.org/10.1111/j.1741-3737.2012.00967.x

Williams, K. (2003). Has the future of marriage arrived? A contemporary examination of gender, marriage, and psychological well-being. *Journal of Health and Social Behavior*, *44*(4), 470-487.

Willoughby, B. J., & Belt, D. (2016). Marital orientation and relationship well-being among cohabiting couples. *Journal of Family Psychology*, *30*(2), 181-192. https://doi.org/10.1037/fam0000150

Willoughby, B. J., Carroll, J. S., & Busby, D. M. (2012). The different effects of ‘‘living together’’: Determining and comparing types of cohabiting couples. *Journal of Social and Personal Relationships*, *29*(3), 397-419. https://doi.org/10.1177/0265407511431184

Yucel, D. (2018). The dyadic nature of relationships: Relationship satisfaction among married and cohabiting couples. *Applied Research Quality Life*, *13*, 37-58. https://doi.org/10.1007/s11482-017-9505-z