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ARTICLES

AGE AND GENDER DEPENDENCE AND THE SECULAR TREND OF DEATH CAUSES IN THE U.S., ANALYSED ON DIVERSITY CURVES

Rudolf Izsák – János Izsák

ABSTRACT

Age vs. death cause diversity curves seem to be the appropriate objects to study death cause diversity. The findings of the present paper are consistent with earlier findings of ad-hoc methodological pilot studies. The paper serves as a significant reference for further studies on epidemiological diversity or concentration. The diversity of death causes has become an important population character to be investigated recently. Its variations treated in the paper may correlate with other demographic characteristics of the population. Furthermore, the revealed variations in death cause diversity refer to the need for standardisation before comparing death cause diversities of various populations.

Keywords: diversity, concentration, death causes, age dependence, sex differences, secular changes

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INTRODUCTION AND OBJECTIVES

The frequency distribution of death causes can be regarded as an essential component of the demographic features of a population or subpopulation. Specifically, the concentration of death causes is an epidemiological or demographic indicator that correlates with given environmental and health care conditions or age structures. Besides, variations in the mortality and morbidity features of the death cause frequency may refer to future trends in mortality and may have implications for the adequacy of health policies. In economic terms, there is an observable correlation between diagnosis concentration and mean medical expenses concerning various patient groups. At any rate, "high CoD (causes of death) diversity implies major challenges to health-care sysems" (Calazans and Permanyer, 2023).

Numerous investigations have been done concerning the diversity of death causes in several countries, regarding given years. We aim to demonstrate the age and sex specificity of death cause distributions – or to put it differently, death cause diversity and the secular tendency in its change. We use death cause statistics from the United States (USA) regarding the years 2001 and 2006. Some possibilities for the application of the observed diversity conditions will also be presented. Furthermore, we discuss the possibility of applying some other diversity measures and offer new perspectives for further diversity studies on death causes.

LITERATURE

Detailed studies on the diversity or concentration of death causes and morbidity diagnoses are relatively rare in the existing literature. Herdan (1957) was the first to discuss the diversity of diagnoses with regard to hospitalized patients. In the 1970s, new application possibilities for the entropy of diagnoses emerged. Evans and Walker (1972) revealed that in a multivariate linear regression model, the "cost/treated case" ratio parameter (the response variable) correlates with the "complexity parameter" (the explanatory variable). The latter complexity parameter, in turn, bears a relation to the diagnosis entropy (see e.g. Hornbrook, 1982a, 1982b; Farley, 1989; Farley and Hogan, 1990; Lasser et al., 2006). Also citing this result, some authors have recently reported observations on the entropy of morbidity diagnoses referring to a large sample of hospitals (Ostermann and Schuster, 2015).

Recently, Bergeron-Boucher et al. (2020) investigated the diversity (diversification) of mortality causes in entire disease sections in numerous countries. McMonagle et al. (2022) performed similar investigations on the diversity of death causes among subpopulations within Scotland. In both papers, citing our former results, the Shannon index (see below) is applied as a diversity measure.

Another kind of death cause diversity was recently reported on mortality statistics of the United States (Trias-Llimós and Permanyer 2023).

In our own investigations, first we carried out death cause diversity analyses in relation to several disease sections on Hungarian mortality statistics for the years 1967 and 1975, based on ICD-7 and ICD-8, respectively (Izsák and Juhász-Nagy, 1981–1982). Later, we studied the Vital Statistics from the US, Section 1, General Mortality, Deaths, 281 causes (Izsák and Juhász-Nagy, 1984). This study was performed for various, at that time racially defined groups for 1974 and 1975. Numerous diversity indices were applied in this study, among others, the Shannon index, Simpson's reciprocal diversity index, the Gini-Simpson index, both related to the fractionalization index mentioned by Calazans and Permanyer (2023), and some members of Hill's and Hurlbert's index families. In a further study, we found certain main characteristics also relating to age dependence, sex differences and the annual trend of the concentration of mortality cause diagnoses, analyzing circulatory diseases and neoplasms with regards to several countries, such as England and Wales, Norway, Finland, Hungary and Japan (Izsák, 1986, 1993).

The question arises as to why diversity indices are commonly applied instead of concentration indices. As known, diversity and concentration are in a sense opposite terms (Izsák, 1993; Ostermann and Schuster, 2015). That is, the increase in diversity is equivalent to the decrease in concentration. Therefore, most statements on trends in diversity imply the opposite statement regarding concentration.

DATA AND METHODS

Data and their availability

The data sets supporting the conclusions of this article are available in the vital statistics of the United States for the years 2001 and 2006 (NCHS, 2021). They include data on the total number of deaths for each cause by five-year age groups between 1999 and 2006 (GMWKI). Tables include case numbers for most disease categories for 5-year age groups by sex and "race". These statistics have been chosen due to their standard quality, large case numbers and easy availability.

The tenth revision of the International Classification of Diseases (ICD-10) was used (see Moriyama et al., 2011).

Notwithstanding its usefulness, the utilized statistical data has its limitations. Firstly, the statistical tables in question are demographic (static) tables, because the underlying statistics are not based on equilibrium populations or cohorts. This can be crucial when considering the age dependence of some outlined properties. Moreover, the ICD categories are not so clear-cut entities as are e.g. the species in biological taxonomy. Furthermore, the designation of the underlying cause of death is, in some cases, vague. Numerous shortcomings of epidemiological and demographic statistics are widely known. At the same time, the production and the study of such statistics, including mortality statistics, is unavoidable, despite these apparent shortcomings. Similar situations occur in other statistical fields as well.

In similar analyses, the authors generally do not appropriately specify the set of death cause categories selected for the study. This can be attributed to some of the above-mentioned problems in the case of numerous ICD death cause categories. Namely, a considerable part of the death causes are classified as others, ill-defined, or unspecified, etc. In addition, some causes in statistical source data, partly due to extremely small case numbers, are combined. For these reasons, it is reasonable to omit or combine some categories of ICD death causes in certain investigations. In such cases, we found it reasonable to combine a frequent cause with a less frequent one, regardless of being rather similar.

All these conditions make the delimitation of the study set vague to some degree. Even so, only the leading or the largest case numbers have a crucial impact on the values of the most frequently used diversity or concentration indices, such as the Shannon index or the Simpson indices. In addition, these frequent causes are generally only slightly affected by the above-mentioned uncertainties. For example, in the neoplasm disease section, the causes with total case numbers exceeding 1000 were regarded as "leading causes" and were taken into account as such. Our former numerical experimentations affirm this decision. Concerning similar methodological issues, we refer to our earlier findings (Izsák, 1989).

We demonstrate the above considerations with a concrete example taken from the 2001 US mortality statistics (whites, males). In the section of *neoplasm diseases,* we omitted C00 (lip, case number 3) and took it into account in a combined form [C01 (base of tongue 96) + C02 (other parts of mouth 918)]. The further causes of death taken into account separately or combined: [C10 (oropharynx 305) + C11 (nasopharynx 269) + C12 (pyriform sinus 82) + C13 (hypopharynx 123)], separately

C14 (other sites … pharynx 958), C15 (oesophagus 8205), C16 (stomach 5568), C17 (small intestine 462), C18 (colon 20026), [C20 (rectum 3157) + C21 (anus and … 164)], C22 (…), etc. The final cause taken into account is the combination [C94 (other leukaemias 45) + C95 (other leukaemia… 1192)].

In the case of the *circulatory diseases* section, the first causes up to cause I09 (other rheumatic heart disease, with case number 166) were omitted; causes I10 (essential (primary) hypertension 2986), I11 (hypertensive heart disease 7395), I12 (hypertensive renal disease 2365) were separately taken into account; I20 (angina pectoris 140) was omitted; I21 (acute myocardial infarction 85 280) were taken into account, etc. We delimited the set of causes similarly with regard to the *respiratory section* of diseases.

Entropy as a measure of diversity

A number of diversity measures, in the sense of inverse concentration measures, can be used. Taking into account that no essential differences in diversity tendencies were found between applying different diversity indices in former studies (Izsák, 1993, 2005), only the most frequently used diversity index, the Shannon entropy H is applied in the current study. The Shannon entropy has favourable statistical properties. It was the preferred index, in essence e.g., by Bergeron-Bousher et al. (2020) and McMonagle et al. (2022). Moreover, the interpretation of H in *information theory* is straightforward. The formula of H and its applied simple standard estimate, $\hat{H}$ is

$$H = -\sum_{i=1}^{s} p_i \log p_i \approx \hat{H} = -\sum_{i=1}^{s} \frac{n_i}{n} \log \frac{n_i}{n},$$

where p_i is the (positive) occurrence probability of category i; s is the number of categories, n_i is the case number regarding category i (=1,..., s), n is the sum of the n_i's. The base of the logarithm is practically unessential – base 10 logarithms are used in this study. The value of should be considered zero in case n_i=0.

RESULTS AND DISCUSSION

Age dependence of death cause diversity

To demonstrate the results, age–diversity curves were applied. These curves demonstrate the features of age dependence, sex differences and secular trends.

The age dependence of death cause diversity can be established regarding both sexes in all studied disease sections, except for some lower and upper age groups with small case numbers. Namely, a "hollow" starts evolving at about the age intervals 30–34 or 35–39, in most cases, resulting in a diversity minimum (see *Figures 1–4*). This phenomenon emerges in all studied disease sections. The hollow can be attributed to socio-economic factors (Izsák, 1993; Lasser et al., 2006) with a maximum impact seen at age 60–75. It can be linked to the trends in leading causes of death among the elderly in the United States (Gorina et al., 2006).

The relevance of factors such as diet, lifestyle, smoking, etc., is evident. This concept is also supported by the fact that in earlier studies, the hollow was practically missing for African Americans (c.f. with the case studies of "low mortality" population groups by McMonagle et al., 2022). As the diversity curves demonstrate, the intensity of the hollow formation differs with regards to the various disease sections.

Figure 1: Death cause diversity for circulatory diseases by age group and sex, USA, 2001 and 2006

Source: NCHS, 2021.

Figure 2: Death cause diversity for neoplasms by age group and sex, USA, 2006

Source: NCHS, 2021.

Sex differences

In some disease sections, a clear excess of either male or female diversity is observable in the older age groups – for example, in the case of circulatory diseases *(Figure 1)*. In the case of neoplasms, higher female diversity excess is confined to the upper age groups. In mid-life, between the age groups of 30–34 and 55–59, a male diversity excess is apparent *(Figure 2)*. In the case of respiratory diseases, there is not a clear diversity difference between sexes, except for a male diversity excess in the first age groups and a female diversity excess in some upper age groups *(Figure 3)*.

Figure 3: Death cause diversity for respiratory diseases by age group and sex, USA, 2006

Source: NCHS, 2021.

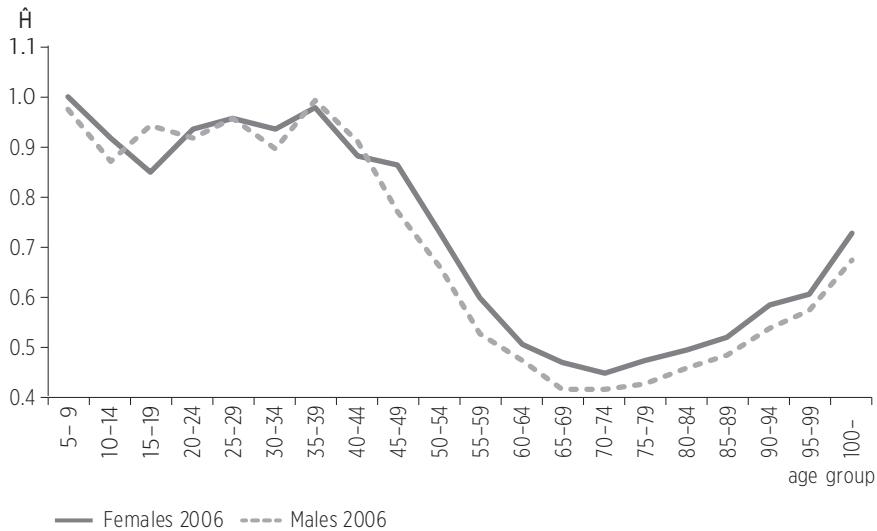
Secular changes in diagnosis entropy

In light of the socio-economic background of the diagnosis entropy or diversity differences, the observed secular trends are not surprising. Furthermore, social campaigns and medical policies usually address the leading death causes. These imply a reduction in the extreme dominance or concentration of the leading death causes.

For example, such a trend can be observed in the case of circulatory diseases in the middle age groups, where diversity increased between 2001 and 2006 regarding both sexes (see *Figure 1*). At the same time, diversity decreased in the case of respiratory diseases among females between 2001 and 2006 *(Figure 4)*.

Furthermore, we can observe e.g. a horizontal dislocation of a given section of a curve expressing a time delay in the corresponding male or female diversity.

Figure 4: Death cause diversity for respiratory diseases by age group, females, USA, 2001 and 2006



Source: NCHS, 2021.

CONCLUSIONS AND PERSPECTIVES

Characteristic variations of entropy by age groups, sex and calendar year of death can be established. They include the characteristic hollow observable in the age-diversity curves in all studied disease sections, the frequently appearing diagnosis diversity excess in the female groups, and the secular increase in diversity with regards to certain disease sections.

The discussed findings are instructive global epidemiological observations on the somewhat underutilised death cause statistics, even bearing the latter's statistical weaknesses. The introduced diversity curves are simple, efficient and convenient objects when investigating the diversity of death causes in various populations.

The proliferation of epidemiologic data sets worldwide, even if carrying numerous uncertainties of different nature, offers an opportunity to search for new epidemiological findings. The initiation of new studies can result in novel demographic and epidemiologic discoveries. One such example can be the present work, reporting characteristic trends of death cause diversity. Namely, the age–diversity graphs in the studied death cause statistics have

a minimum at age 60–75. Furthermore, women tend to show an excess of diagnosis diversity. Finally, in some sections, a unanimous secular change in diagnosis diversity is observable. Most of these findings can be ascribed to certain socioeconomic factors: on some trends in the therapy of major death causes, see Gorina et al. (2006). Additionally, some aspects of the sensitivity of cause-specific death hazards regarding changes in certain factors were recently discussed by Caswell and Ouellette (2016).

Some possible applications of the findings could be the further study of the relationship between the diversity of causes and hospital costs.

Beyond the above points, there are a few additional implications. As mentioned, the entropy index *H* has a straightforward interpretation in information theory. However, when using other diversity indices, further diversity interpretations may also emerge. For example, such measures are the *s(m), m* = 2, 3,... members of Hurlbert's diversity or rarefaction index family (Hurlbert, 1971). In the present case, these indices express the mean number of death causes occurring in a sample consisting of m randomly and independently selected concrete death causes. The formula of the index family and the unbiased estimates using the above symbols are:

$$s(m) = \sum_{i=1}^{s} (1 - (1 - p_i)^m),$$

$$\hat{s}(m) = \sum_{i=1}^{s} \left(1 - \binom{n - n_i}{m} \Big/ \binom{n}{m} \right) \qquad m = 2, 3, \ldots$$

(It should be noted that the sensitivity properties of index (10) are similar to those of the Shannon index (Izsák, 2007), as shown by the corresponding curve in *Figure 1.*)

The index *s*(2) is related to the average number of switches from the "type" of a concrete diagnosis to the "type" of the next one in a series of cases. Such a switch can be linked to a diagnose-specific cost of switching to new medical preparations. Then, the *s*(2) diagnosis diversity or the 1/*s*(2) diagnosis concentration can be linked to the cost component of the medical procedures. More specifically, suppose we know the cost of a single *switch* or change in a series of medical procedures (in the sequence *a a a b b c c a* there are three switches, namely, between (the third) *a* to *b*, *b* to *c* and from *c* to *a*). The introduction of an index expressing the average number of switches in a random series of

procedures as a function of diversity/entropy will make it possible to reveal a concrete link between diversity and a certain cost component. An antecedent of such analyses is published by Brindle and Gibson (2008), discussing the expenditures of the application of some medical devices. As the authors formulate, "... a reduction in diversity is associated with a lower risk of incidents, simplified maintenance and a lower training burden ..." (Brindle and Gibson, 2008: 399).

Another prospective study could be to carry out similar studies on morbidity diagnoses originating from data on, e.g., hospitalized inpatients or results of general screenings. We formerly investigated similar age vs. *H* diversity curves in the case of Hungarian all-diagnosis morbidity, observing approximately maximum curves.

Finally, it should be mentioned that after postulating taxonomic or similar differences or distances of diagnosis categories, one could apply the so-called *quadratic diversity indices* used in mortality and morbidity diversity studies, given that these indices can express the average difference between two randomly chosen diagnoses. Such analyses may significantly widen the realm of diversity studies on epidemiologic statistics.

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THEORETICAL FRAMEWORK FOR THE STUDY OF THE TWO-WAY RELATIONSHIP BETWEEN MIGRATION AND SUBJECTIVE WELL-BEING[1]

Ádám Németh – Borbála Göncz – Josef Kohlbacher – György Lengyel – Attila Melegh – Zsolt Németh – Ursula Reeger – Lilla Tóth

ABSTRACT

This paper provides an overview of the relevant theoretical frameworks of well-being and migration and the links between the two concepts. The article is part of the theoretical preparatory work for the MIGWELL project. We argue that subjective well-being should be a key concept in migration research, because increasing it at the individual level is a universal human desire. From this perspective, migration – if it is truly voluntary – may be a tool to reach the desired outcome of increasing well-being. In general, micro-level approaches are more suitable for linking subjective well-being and migration. In particular, the "new

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economics and sociology of migration", the "network theory" and the "capabilities approach" offer the implicit or explicit possibility to do so. Regarding well-being, we apply a hybrid approach, inspired by both the OECD and the WeD concepts. Finally, in this paper we propose a research design that may be suitable (with some limitations) to capture the two-way relationship between the two concepts: the impact of subjective well-being on migration intention and the effect of migration on subjective well-being.

Keywords: migration, well-being, satisfaction, happiness, theory

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INTRODUCTION

The motivation behind migration has been extensively explored in extant literature. A multitude of theories, conceptual frameworks and empirical approaches have been developed to explain the initiation and the perpetuation of migration. With the increasing complexity of international migration processes, migration research has also begun to take a greater interest in how diverse migration situations influence individual well-being. This concept paper presents and critically analyses the relevant theoretical frameworks of well-being and migration. It provides an overview of the research state, highlighting both strengths and weaknesses of these concepts. The paper also includes critical reflections.

This paper is part of the theoretical preparatory work for the MIGWELL project. We present a research design from the perspective of this specific project, which focuses on the Hungary–Austria migration nexus. The proposed design could be, however, successfully applied in other empirical studies as well. This approach is innovative because it links the concepts of well-being and migration, and interprets their two-way relationship within one research framework.

CONCEPTUAL FRAMEWORKS OF WELL-BEING

Since the 1950s, there has been a growing concern that the dominant economic frameworks are inadequate in addressing the challenges of our rapidly changing society. The concept of *well-being* has gained prominence due to the realization that a narrow focus on economic factors and some widely used indicators such as GDP does not accurately reflect people's welfare (Stiglitz et al., 2009; Organisation for Economic Co-operation and Development [OECD], 2011; Adler and Seligman, 2016; Coulthard et al., 2018).

The term 'well-being' is not new at all. It has been used loosely and abstractly for centuries (Milner-Gulland et al., 2014). The roots of the concept date back to Aristotle and were later revived particularly by Bentham (Aristotle, 2009; Bentham, 2013). During the last decades of the 20th century, there was a significant increase in interest in well-being research (see Easterlin, 1974; Diener, 1984; Kahneman, 1999). This topic gained even more attention following the final report of the Commission on the Measurement of Economic Performance and Social Progress, chaired by Amartya Sen, Joseph Stiglitz, and Jean-Paul Fitoussi (Stiglitz et al., 2009). In the wake of the global financial crisis, the world-famous economists emphasised the urgent need for policymakers and scientists to shift their focus from production and growth to sustainable human well-being. However, the term 'well-being' can be interpreted in various ways without proper conceptualisation, leading to potential confusion and misunderstandings.

The Stiglitz report stimulated global initiatives to develop a comprehensive framework for understanding well-being (e.g. Allin and Hand, 2014; McGregor and Sumner, 2010; OECD, 2011; UK ONS, 2011). As a result, an increasing number of statistical agencies have launched targeted surveys to measure it. Although there is no universally accepted theoretical framework, it is widely accepted that well-being should be understood as multidimensional. In addition to objective living conditions, it is important to consider how people feel about their lives – i.e., their subjective well-being (SWB).

OBJECTIVE INDICATORS APPROACH

Attempts to quantify well-being initially relied on easily measurable objective components that reflected people's life circumstances on a national level. The idea of compressing information on economic and social *attributes into one composite index* dates back to the mid-20th century (see e.g. Bauer, 1966).

Examples include popular metrics such as the Physical Quality of Life Index (Morris, 1979), the Human Development Index, HDI (UNDP, 1990), the Human Poverty Index (UNDP, 1997), the Multi-Dimensional Poverty Index, MPI (Alkire and Foster, 2011) or the Index of Sustainable Economic Welfare, ISEW (Daly and Cobb, 1989). Most of these indices have been suggested to replace or supplement GDP as the key indicator for economic policy worldwide. Aggregating various objective indicators across different domains is a shared characteristic, such as in the case of HDI, which includes gross national income per capita, life expectancy at birth, mean years of schooling and expected years of schooling. While these are not explicitly well-being measures, they do address a limited range of factors that might be relevant to well-being.

The indicators of development or welfare have evolved from a narrow focus on objective measures to more complex and multidimensional indicators over the last decades. This expansion includes subjective components, as reviewed by King et al. (2016). Indices such as the Happy Planet Index, the National Well-being Index, and the Better Life Index represent transitions towards integrated well-being frameworks (see later) because they already contain life satisfaction or happiness data as subjective elements. However, the authors place a strong emphasis on quantitatively measurable, objective dimensions. Their aim is to provide only one or a few comparable indices on a national level.

In 2006, the New Economics Foundation introduced the *Happy Planet Index* (HPI) by aggregating life expectancy at birth, ecological footprint per capita, and subjective life satisfaction (see e.g. Marks et al., 2006). Conceptually, it approximates multiplying life satisfaction and life expectancy and dividing that by the ecological footprint. The index is weighted to give higher scores to nations with lower ecological footprints. In the same year, Vemuri and Constanza (2006) published the *National Well-being Index* (NWI). One of the best-known indicators is the *Better Life Index* (BLI), which relies on best practices for creating composite indicators (OECD, 2008).

Although well-designed composite indices are useful for distilling complex topics into easy-to-communicate numerical values, they have limitations and they "cannot be used for policy evaluation" per se (OECD, 2011: 26).

THE EVOLUTION OF THE CONCEPT OF SUBJECTIVE WELL-BEING

Beside the relatively easily measurable objective components of well-being, research on its subjective factors has also gained increasing attention over the past few decades (Diener, 1984, 1994; Easterlin et al., 2010; Kahneman and Krueger, 2006, etc.). *Subjective well-being* (SWB) generally captures people's thoughts and feelings about the quality of their life circumstances. It is usually measured through psychological responses, such as life satisfaction, autonomy, social connectedness, or personal security (Diener, 2012; Ryff and Keyes, 1995).

Although notions such as "happiness" have long been considered important aspects of quality of life in common parlance, they were deemed beyond the scope of statistical measurement until recently. Over the last three decades, a growing body of evidence has shown that the slippery term of subjective well-being can be operationalized and measured using both quantitative and qualitative methods (e.g. Camfield et al., 2009; Diener and Suh, 1997). International surveys and scientific investigations based on them are able to support policy-making by providing subjective evaluations of well-being, in addition to objective information about living conditions and resources.

The evolution of the concept has entailed numerous interpretations since the 1970s, when the first attempts were made to associate happiness and satisfaction with welfare (Easterlin, 1974; Scitovsky, 1976). Since then, approaches and methods aiming at understanding what people believe they need to achieve a good quality of life, and measuring their degree of satisfaction with the extent to which these needs are met, have become more sophisticated (King et al., 2016; McGregor et al., 2009; Veenhoven, 2008, etc.). While the terms "utility", "pleasure", "happiness" and "subjective well-being" were used more or less interchangeably in the past,[2] there is now a general consensus that subjective well-being should be "an umbrella term for the different valuations people make regarding their lives, the events happening to them, their bodies and minds, and the circumstances in which they live" (Diener, 2006). The following paragraphs summarise the most important approaches that focus on the cognitive, affective, or psychological aspects of subjective well-being.

[2] On their differences see Camfield and Skevington, 2008 or Selezneva, 2011.

The hedonic and eudaimonic approaches

The *hedonic* interpretation of subjective well-being relies on the utilitarian concept of pleasure and it is frequently operationalised in terms of life satisfaction and affects. The *life satisfaction* interpretation is both cognitive and evaluative and requires individuals to make evaluative statements about different areas of life and about life as a whole (Boyce et al., 2010; Christoph, 2010; Dumludag, 2014, etc.). Satisfaction is usually understood as a lasting state of well-being. *Happiness* is closer to the terms 'affect' or 'affective well-being' used in psychology literature (Di Fabio and Palazzeschi, 2015; Graham, 2009; Layard, 2005, etc.).

Positive and negative emotions – the components of *affective* well-being – reflect a more corporeal and transitory state of well-being. These are typically surveyed with reference to a shorter timeframe, for instance the most recent four weeks. Nevertheless, it is important to underline that satisfaction and emotions can be separated in theory, but they might be interrelated in practice, since people's emotional experiences influence their evaluation of life satisfaction (Dragolov et al., 2018). As Kahneman (1999) summarized: in a hedonic approach, subjective well-being can be seen as an index of psychological wellness, and happiness refers to the accumulated moments of experiencing pleasure and the absence of pain (Diener et. al, 1999; Selezneva, 2016).

Eudaimonic well-being is expounded in the tradition of humanistic psychology. Unlike emotions or satisfaction, this component of SWB does not correspond to a single internal state; rather, it utilizes individuals' self-reports on a broader suite of elements that are necessary for people to flourish and to fulfil their potential. Eudaimonic well-being reflects the feeling of meaning and purpose in life, accomplishment, as well as the aspects of belonging, self-esteem, and self-actualisation (Clark et al., 2008; Di Fabio and Palazzeschi, 2015; Vittersø, 2016).

As will be discussed in more detail later, in practice these are not mutually exclusive but rather complementary measurement concepts.

Capability approach

A further concept used in subjective well-being research is the capability approach, which challenges utilitarian happiness and instead brings individual-specific capabilities into focus. This approach emphasises the importance of a person's autonomy in achieving valued "*functionings*". According to Sen

(1985), "the standard of living is really a matter of functionings and capabilities and not a matter directly of opulence, commodities, or utilities". To put it simply: it is not the things that people *have* that make them feel well, but what they are able to *do* and *achieve* with those things.

One of the chief strengths of Sen's framework is its flexibility and internal pluralism, which allows researchers to develop and apply it in a multitude of ways (Alkire, 2002: 8–11, 28–30). Sen refrains from endorsing a fixed or definitive list of capabilities as objectively correct due to practical and strategic reasons (Clark, 2002: 54). Instead, he argues that the selection and weighting of capabilities depend on personal value judgements (which are partly influenced by the nature and purpose of the evaluative exercise). Sen also indicates that his approach can be used to assess individual advantage in a range of different spaces.

The criticism casts doubt on the usefulness of the approach for making interpersonal comparisons of well-being in the presence of potential disagreements about the valuation of capabilities, including the relative weights to be assigned to these capabilities (e.g. Beitz, 1986). Sen was optimistic about achieving agreement about evaluations: he suggested that the intersections of different people's rankings are typically quite large (Sen, 1985: 53–56). He has also proposed a range of methods, including the intersection approach for extending incomplete orderings (Saith, 2001). Finally, the informational requirements of Sen's approach can be extremely high (see Alkire, 2002: 181; Sen, 1994). Evaluating social states typically depends on acquiring data on multiple functionings. In some cases, however, the relevant social indicators are not available. The transition from functioning to capability complicates the exercise drastically, as additional information is required on counterfactual choices (which cannot be observed) as well as actual choices (Clark, 2005). Despite these operational difficulties, numerous pioneering attempts have been made to measure well-being in both the functioning and capability domains (e.g. Clark, 2002).

The OECD guidelines on measuring subjective well-being

While subjective well-being has been extensively examined in the academic literature for decades, the lack of a consistent set of questions has hampered the international comparability of data. Bridging this gap was the main motivation for the OECD (2013a) to elaborate the *Guidelines on Measuring Subjective Well-being*. These Guidelines offer an integrated approach and propose a

solution for statistical agencies to follow a standardised survey structure and methodology. The primarily objective of the document is to provide guidance on best practice and to "assist data producers in meeting the needs of users by bringing together what is currently known on how to produce high quality, comparable measures of subjective well-being" (OECD, 2013a: 9).

According to the OECD definition, subjective well-being encompasses the three elements mentioned in the previous section: life satisfaction (a reflective assessment of a person's life or a specific aspect thereof), affect (feelings or emotional states, typically measured with reference to a particular point in time) and eudaimonia (a sense of meaning and purpose in life, or good psychological functioning) (OECD, 2013a: 10; *Table 1*).

Table 1: A simple model of SWB measurement and related question examples

Measurement concept	Sub-components	Recommended question modules	Question examples
Life satisfaction	Overall life satisfaction, satisfaction with income, accommodation, health status, etc.	1 Life satisfaction	Overall, how satisfied are you with life as a whole these days? (0–10)
		4 Domain satisfaction	How satisfied are you with your income / accommodation / working conditions / health / personal relationships etc.?
Affect	Happiness, anger, worry, etc.	2 Affect	Overall, how often did you feel happy / calm / worried / tired / angry / depressed / sad / stressed etc. these days?
Eudaimonic well-being	Meaning and purpose, autonomy, competence	3 Eudaimonia	To what extent do you feel: the things you do in your life are worthwhile / you are free to decide how to live your life / that you are optimistic about your future? etc.

Note: The list of sub-components and questions is illustrative rather than exhaustive.
Source: OECD Guidelines (2013a: 33, 253–262), authors' compilation.

INTEGRATED, MULTIDIMENSIONAL WELL-BEING FRAMEWORKS

The first multidimensional well-being concepts emerged in the 1970s, with the works of Allardt (1976), Andrews and Withey (1976), and Campbell et al. (1976). The upsurge of initiatives around an integrated, multidimensional framework started in the 1990s, although it was remarkably galvanised by the final report

of the Commission on the Measurement of Economic Performance and Social Progress (Stiglitz et al., 2009). Nowadays, there is a general consensus that an appropriate well-being framework should be multidimensional, integrated, well-structured, and assessed via a mixed-methods approach (McGregor et al., 2015).

The general OECD framework of well-being

In 2011, the OECD launched the so-called Better Life Initiative to explore what drives human well-being in general and to identify strategies to achieve greater progress for all in OECD countries. Among the various projects within this initiative, the elaboration of the Better Life Index and the comprehensive biennial *"How's life" reports* should be highlighted (OECD, 2011, 2013b, 2015, 2017).

In this general concept, well-being is measured in terms of outcomes achieved in two broad dimensions: "Material living conditions" and "Quality of life". Although the second pillar includes several human development indicators, the approach to subjective well-being remains at a very broad-brushed level. While most of the selected indicators came from official, internationally comparable data (e.g. employment rate, number of rooms per person in a dwelling), the report used two SWB variables from the World Gallup Poll survey: one question about life-satisfaction and one about affect balance.

This solution reflects both the purpose of the framework and the level at which it operates. The OECD framework was principally designed to measure aggregated well-being scores at the level of countries and global macro-regions by using existing data from national statistical systems and international agencies (McGregor et al., 2015).

The WeD framework

The objective of the MIGWELL project is to gain a better understanding of the drivers of well-being at the individual level. Designed with broadly similar foundations but rather for use at the micro level, the WeD framework takes account of the dynamic interplay of three main well-being dimensions (Gough and McGregor, 2007).[3]

[3] The concept was developed by the ESRC 'Well-being in Developing Countries' research group at the University of Bath.

In the WeD framework, *material* well-being encompasses the objective circumstances of life, including resources such as income or employment. However, since people's goals and actions are always shaped by the social contexts in which they are embedded, well-being has a *relational* dimension as well. This dimension refers to the social relationships that people must be able to enter into in order to meet human needs. It "links the framework from the individual to the social" (Britton and Coulthard, 2013: 32) by encapsulating essential, though less tangible, aspects of well-being, such as love, friendships, family ties, relationships with the community and the wider society, and the construction of identity, which is a situational and relational process (Tajfel and Turner, 1986). The third – *subjective* – dimension takes account of "what it is that people themselves regard as important for their quality of life and their assessment of their level of subjective satisfaction in their achievement" (McGregor and Pouw, 2017: 1135).

In contrast to the OECD How's Life framework and international surveys such as EU-SILC, European Quality of Life Survey or European Social Survey, which tend to focus on individual factors of subjective well-being and include very few questions about social relationships, the WeD approach places special emphasis on locally relevant social aspects. This is crucial for MIGWELL because migration decisions and post-move SWB evaluations are socially embedded.

RELEVANT MIGRATION THEORIES

Migration is driven by various complex factors, including the desire to earn a better living, find a safer and more agreeable environment to live in, improve one's career prospects, search for new experiences, or join one's family or ethnic network abroad. These factors have been extensively explored in extant literature. However, there is no general theory that explains the initiation and perpetuation of migration. Instead, as research on migration is intrinsically interdisciplinary and because each discipline considers different aspects of population mobility, a multitude of theories, explanatory models, and empirical approaches have emerged (e.g. Arango, 2000; Bretell and Hollifield, 2014). These concepts help us to understand why some people migrate from a certain country or region and others do not. Furthermore, they explain the individual and external factors that affect such decisions to move or stay, as well as the circumstances under which migration can be associated with benefits – or costs – for the migrants and their places of origin and destination. Each of these

models emphasises different aspects of the relationship. Therefore, determining which of the explanations are useful in the concrete research context "is an empirical and not only a logical task" (Massey et al., 1993: 455).

According to De Haas (2021), migration theories can be ordered into three main groups. The push–pull approach, the neoclassical models, and the migrant network theory, for instance, are situated within the *functionalist* paradigm, according to which migration is essentially an optimization strategy of individuals or families making cost–benefit calculations. The world systems theory and the dual labour-market theory, among others, belong to the *historical-structural paradigm*, which interprets migration "as being shaped by structural economic and power inequalities, both within and between societies, as well as the ways in which migration plays a key role in reproducing and reinforcing such inequalities" (De Haas, 2021: 4). More recent theories, such as transnational (Vertovec, 2009), diaspora (Safran, 1991), and creolisation (Cohen, 2007) theories – which focus on migrants' everyday experiences, perceptions, and identity – can all be situated within the *symbolic interactionist* perspective.

However, there are many other ways in which migration theories can be classified. One may ask, for instance, whether they focus on the initiation or the perpetuation of migration. Alternatively, one may consider the main discipline that they have originated from: sociology, economy, geography or demography (Castles et al., 2014; Faist, 2000; Massey et al., 1993). In this paper, we adopt a classification based on the level of analysis at which these migration theories operate. This entails the distinction between micro-, meso- and macro-level approaches. We will then analyse how they can be related to the problem of migration and well-being (*Table 2*).

Table 2: Classification of certain migration theories according to their level of focus

Micro	Meso	Macro
– Push-and-pull model	– New economics and sociology of labour migration	– Push-and-pull model
– Micro neo-classical theory	– Network theory	– Macro neo-classical theory
– Behavioural models	– Cumulative causation theory	– Dual labour market theory
– New economics and sociology of labour migration	– Institutional theory	– World systems theory
		– Migration cycles

Note: Some theories are listed twice because they cannot be clearly classified.
Sources: Massey et al. (1993), Wickramasinghe and Wimalaratana (2016).

In the following subsections, we will provide an overview of the migration theories relevant to the MIGWELL project. For each theory, we indicate whether the concept of well-being appears either implicitly or explicitly, and if so, how it relates to the given migration theory. Generally speaking, migration theories that focus on the micro-level are suitable for linking subjective well-being and migration. In particular, the "new economics and sociology of migration", the "network theory" and the "capabilities approach" offer the implicit or explicit possibility to do so.

PUSH-AND-PULL MODEL

Ernest Ravenstein's study, entitled *The Laws of Migration* (1889), is widely considered the earliest migration theory. His empirical observations from England and Wales provided evidence of a spatial gravity model: people tend to move from low-income to high-income areas, while the volume of migration decreases as physical distance increases. Ravenstein stated, among others, that economic factors are the primary drivers of migration, that population movements are bilateral (migration flows produce compensating counter-flows, although not in the same volume), that migration occurs mostly in stages instead of in one long haul, and that long-distance migrants tend to choose the industrial, commercial centres of a country as their destinations.

In 1966, Everest Lee reformulated Ravenstein's theory. In this landmark study, he pointed out that migration is driven by so-called *push* and *pull factors*. In general, unfavourable external conditions (e.g., low wages or high unemployment) motivate people to leave a place, while the target location is determined by favourable economic conditions, the pull factors. However, the decision to migrate is also affected by "intervening obstacles" (such as distance, physical barriers, immigration laws, etc.), as well as personal factors. Lee emphasised that the migration process is selective, because people's ability to overcome intervening obstacles depends on their personal characteristics, e.g., age, gender, social class, and education level. In the push-and-pull "parlance", migrants responding to positive factors at the destination are positively selected, while migrants responding to negative factors in the region of origin are negatively selected. Therefore, a migrant population is rarely representative of its country of origin. The characteristics of migrants tend to be intermediaries between the characteristics of populations at the places of origin and the place of destination.

The elements of subjective well-being in the decision-making processes play little or no role in the push-and-pull model.

NEOCLASSICAL MODELS

The neoclassical models are among the best-known theories of international migration. The macro and micro variations of this theory are not fully independent from the push-and-pull model, but they provide different ways of breaking down the complex subject of migration into analytically logical units. They are also related in that they pay little attention to the issue of well-being beyond the income factors.

According to the *neoclassical macro model*, the direction and volume of migration is principally determined by wage inequalities and labour market imbalances (e.g. Harris and Todaro, 1970; Todaro, 1976; Zimmermann, 1994). Although Harris and Todaro initially developed this model for explaining internal rural–urban migration, it can also be applied to international migration. In some countries, labour is scarce in relation to capital, with a high relative wage level, while in other countries the opposite obtains for the relative price of capital. The assumption is that migration results from the uneven geographical distribution of labour and capital, and that the differences in wages cause people from low-wage countries to move to high-wage countries. As a result, the supply of labour decreases and wages rise in the capital-poor countries, while the supply of labour increases and wages fall in the capital-rich countries. At the same time, capital moves in the opposite direction (Massey et al. 1993). In the long run, this process would theoretically result in wage convergence between sending and receiving areas, thereby eliminating the main motivation for migration. Therefore, the literature often describes this model as a "neo-classical equilibrium perspective" (De Haas, 2008: 4).

The *neoclassical micro model* is based on a similar conceptual pillar (differences in earnings and employment are responsible for international migration) but it focuses on individual choices, which might be of interest for linking well-being and migration (Sjaastad, 1962; Todaro, 1969, 1976; Todaro and Maruszko, 1987). According to this approach, people are rational actors who move if a cost-benefit calculation leads them to expect a positive net return from movement. This decision-making process can be analytically summarized by a mathematical equation. People estimate the difference between their expected incomes in their countries of origin and destination and place it in relation to migration costs. If the expected gains in income or well-being are

greater than the costs, and if they still have enough years before retirement, the rational choice is migration (Borjas, 1990; Fassmann et al., 2018). To summarize, international migration flows in the geographic space are the cumulative results of individuals' rational decisions based on calculations of expected benefits and costs.

The decision-making process is often interpreted within the *human capital* framework (Sjaastad, 1962; Poot et al., 2009), which can explain the selectivity of migration too. Given the diversity of individuals in terms of age, gender, education, experience, language skills, etc., there are also differences in the extent to which they might gain from migrating, "that is, they can expect diverging returns on their migration investment" (De Haas, 2008: 6). This implies that the probability of migration differs between individuals and certain social groups, depending on their human capital characteristics.

The *life course approach* is another prism through which micro-level decision-making is often viewed and which can be linked to well-being perspectives (Fassmann et al., 2018). Although each individual life follows its own course, similar patterns can be observed in the timing of events that are influenced by societal and biological factors (Wingens et al., 2011). Special attention has been paid to gender-specific differences, given that women's life course patterns may significantly differ due to factors such as childbirth and childcare (cf., e.g., Katz and Monk, 1993; Krüger and Baldus, 1999). Three main life-course transitions have been identified as potential triggers for migration: the transition from school or higher education to work, from unemployment to employment, and from living at home to living independently. The establishment of an own home is often connected with partnership formation or having children (King et al., 2016). According to the age-specific migration model of Bernard et al. (2014), the probability of migration is particularly high between the ages of 20 and 35.

In the past few decades, the Harris–Todaro model has been refined by several scholars (e.g. Borjas, 1990; Bauer and Zimmermann, 1998), who have included additional factors that influence the relationship. For instance, expected incomes do not depend only on earnings at the destination but also on the probability of getting an appropriate job. Similarly, expected costs include not only financial but also immaterial costs, e.g. psychological ones, which can be linked to well-being.

FURTHER CONTEMPORARY MIGRATION THEORIES

In the last quarter of the 20th century, international migration has undergone deep changes. While post-war global migration was mainly comprised of "large numbers moving from particular places to particular places" (from Algeria to France, from Turkey to Germany, from Mexico to the USA, etc.), we have witnessed even more people "moving from many places to many places" since the 1980s (Vertovec, 2010). The increasing complexity of international migration in terms of source and destination areas, migration channels, and the social characteristics of people who move has led to a growing interest in the topic from both the political and the scientific spheres, and to the development of a colourful *mosaic of contemporary theories*. In the next sub-sections, we will briefly review the most important concepts that are relevant to MIGWELL.

THE NEW ECONOMICS AND SOCIOLOGY OF MIGRATION: A MICRO-LEVEL APPROACH

In contrast to neoclassical models, the new economics and sociology of labour migration (NELM) underlines that migration decisions are usually made by *families and households*, rather than by isolated individuals. This perspective raises important questions concerning well-being (Stark and Bloom, 1985; Stark, 1991; Taylor, 1999; Szelényi, 2016). The theory is situated at the intersection of the micro and the meso-level and places greater emphasis on people's efforts to not only maximise their own gains but also to minimise risks to family income and to overcome capital constraints on family production activities (Stark and Levhari, 1982; Stark, 1984). In order to do this, households, particularly in developing countries, are interested in overcoming labour-market failures and diversifying their resources. This frequently results in transnational family formation. "While some family members can be assigned economic activities in the local economy, others may be sent to work in foreign labour markets where wages and employment conditions are negatively correlated or weakly correlated with those in the local area. In the event that local economic conditions deteriorate and activities there fail to bring in sufficient income, the household can rely on migrant remittances for support" (Massey et al., 1993: 436). Consequently, international migration and local employment are not mutually exclusive options.

The new economics and sociology of migration refutes the assumption that income is a homogeneous good that has the same effect on utility for everyone, regardless of their socio-economic status. The leading theorists of NELM pointed out that households do not only aim at increasing income in absolute terms but they also seek to improve their living standards and reduce their *relative deprivation* compared to other households and certain reference groups (Stark and Yitzhaki, 1988; Stark and Taylor, 1989; Stark, 1991). This implies that the probability of migration may grow or decline in response to changes in the incomes of other households (Massey et al., 1993: 438–439).

The wage or employment differences between two selected countries do not necessarily explain the direction and volume of migration flows per se. Thus, international movement would not stop when these gaps disappear. The likelihood of a positive migration decision depends mainly on the households' relative position within society. Even a decreasing average income gap between two countries may be coupled with intense emigration if relatively poor households are marginalised in the economic development of the sending country. Although households at the lower (not the lowest) end of the income distribution spectrum are more likely to migrate, this prediction does not hold for the most deprived households, because they cannot afford migration (Stark, 1991). Instead of individuals responding simply to the economic situation, we should rather see them as persons who are able and ready to act in order to improve the quality of life of their households.

The NELM approach presents several improvements in comparison with neoclassical models. However, there is a *debate* as to whether its ingredients constitute a distinct, coherent theory, or whether it should be seen only as a "critical, sophisticated variant of neoclassical theory" (Arango, 2000: 288). Faist (2000) identified further limitations of the NELM approach, such as its tendency of being biased towards the sending side and its limited applicability in less established migration contexts. Irregular migrants, refugees, and asylum seekers also challenge the general assumptions of the model. Furthermore, NELM does not adequately address household concerns and does not provide an adequate explanation for the movement of complete households (Arango, 2000).

Finally, it is important to acknowledge the close relationship between NELM and the theories of *household economics*. This field focuses on the internal structures, behavioural patterns, decision-making mechanisms and consumption patterns of households, as well as their interactions with the public and

private sectors of society.[4] The goal of enhancing well-being is an important part of these concepts, where the feeling of self-exploitation seems to be a guiding principle (Szelényi, 2016; Melegh et al., 2018).

MACRO-STRUCTURAL MODELS

Besides the neoclassical macro approach, more recent models also emphasise the *macro-structural factors* of migration. These concepts tend to pay much less attention to micro-level decision processes and focus on forces operating at higher levels of aggregation. For instance, the dual labour-market theory links immigration with the structural requirements of modern industrial economies, while the world-systems theory sees immigration as a natural consequence of economic globalization and market penetration across national boundaries.

Dual labour-market theory

The concept of dual economy has been *interpreted in different ways* in the literature over time. In its original sense, it described the system of relations between traditional peasant farms and modern industrial-service formations, applied to the cases of third-world economies (Wertheim, 1968). *In migration studies*, the term dual (or segmented) labour-market theory refers to the dualistic economies of developed countries, which are structured to require a certain level of immigration (Piore, 1979). In these economies, there is a primary sector for secure, well-paid and comfortable work, and a secondary sector for low or unskilled jobs involving relatively poor working conditions. While native inhabitants take up more attractive jobs, the secondary jobs are frequently occupied by immigrants. In addition to the ageing of the native population, the structural inflation is also responsible for the growing demand for an external

[4] There are two main streams of investigation. The unitary approach assumes that the household is acting as a single individual – i.e. as a consumption and production unit –, with a unique utility function and a common budget constraint. Typically, the head of the household controls the common resources and has altruistic preferences. The other household members aim to maximise their own preferences subject to their budget constraint set by the head of the household (Becker, 1979). In the collective household model, also known as the pluralistic decision-making model (e.g. Chiappory, 1992), each member has their own preferences and utility functions within the household. This model assumes that a household seeks to maximise the weighted average of each member's utilities, where the weights represent the members' ability to influence the decision-making process, also known as bargaining power. The total income is distributed among household members according to a sharing rule, and then each member strives to maximize their utility on their own.

labour force. This is coupled with the rise of proportional wages in the secondary sector, which makes these jobs unattractive for native workers.

Generally, the dual labour-market theory does not conflict with the neoclassical approaches and NELM. However, it presents a demand-driven concept in which the local populations' desire for maintaining a high standard of living can be easily identified. The theory suggests that the main driver of international immigration is, in fact, the developed economies' recruitment of a foreign labour force to fill jobs on the secondary labour market. The functioning of the overall economy (Jennissen, 2004) and, in a wider context, the maintenance or even increase in the level of well-being, are dependent on this pull factor. This factor has a stronger explanatory power than do international wage differentials or the wishes of individuals or households – as potential migrants – in the countries of origin (Massey et al., 1993).

This is the main source of *criticism*: the dual labour-market theory largely ignores the push factors in migration systems. Moreover, at the beginning of the 21st century, labour recruitment is less important than it used to be some decades earlier. Furthermore, the theory cannot explain different migration rates, i.e. "why different advanced industrial economies, which have similar economic structures, exhibit rates of immigration that may vary by a factor of ten, say between Denmark and Norway on the one hand and Switzerland or Canada on the other" (Arango, 2000: 290).

World-systems theory

The world-systems theory (Sassen, 1988, 1991) argues that international migration is a by-product of global capitalism, created by direct foreign investment in developing countries and the disruptions that such investment brings. On a global scale, most international migrants move from the periphery (poor countries) to the core (rich countries). This is due to factors associated with industrial development, which have generated structural economic problems (push factors) in the Third World. The routes of major international migration corridors are determined by former colonial relationships. As a *historical-structural paradigm*, world-systems theory mainly focuses on "how powerful elites oppress and exploit poor and vulnerable people, how capital seeks to recruit and exploit labour and how ideology and religion play a key role in justifying exploitation and injustice by making them appear as the normal and natural order of things" (De Haas, 2021: 4). The intrusion of capitalism into non- or semi-

capitalist systems is an important element in this framework. The world-systems theory does not consider the nation-state as the primary unit of analysis. Instead, it demonstrates a complex and nuanced model of global inequalities (Coccia, 2019).

Yet the theory has been *criticised* for presenting too many broad generalisations and for failing to present a falsifiable hypothesis (Massey et al., 1993). Given its broad scope, there is still a lack of empirically grounded studies justifying the hypotheses. However, macro-level modelling has successfully tested some of its elements (see e.g. Böröcz, 2014 on remittances; Melegh, 2023, chapter 3 on the role of foreign capital). Some critics have argued that the initial concept was overly reliant on economic causes of migration and paid insufficient attention to other, frequently meso-level factors (Frank and Gills, 1993). In fact, the world-system theory is a unified approach combining the spheres of economy, politics and society, and it can also provide a valid conceptual framework for understanding forced migration processes (e.g. Castles, 2003; Stepputat and Sørensen, 2014). At the same time, it assumes other factors, for instance social networks and socio-cultural moderators built into its ideas on developmental trajectories and historical migratory links. As Massey et al. (1993) underlined, to test the world-systems theory, one should also include indicators of prior colonial relationships, the prevalence of common languages, the intensity of trade relations, the existence of transportation and communication links, the relative frequency of communications and travel between countries, etc. Since the world-system theory focuses on structures without predicting behaviour, it is not directly related to the well-being issues, particularly its subjective components.

Migration transition model

In the migration transition model, Zelinsky (1971) has described how *migration patterns change* over time in response to changes in economic and political systems. This concept is the extension of the "classic" demographic transition model, which identifies five distinct phases. A pre-modern traditional society is characterised by high fertility and mortality rates and slow natural increase, while the extent of permanent migration is generally low. In an early transitional society, the growing concentration of employment in urban centres induces distinguishable rural-urban migration. Fertility rates remain high, but industrialisation is coupled with the improvement of public health and reduced mortality rates. In a late transitional society (stage three), population growth

slows considerably due to lowering fertility rates, while spatial mobility becomes more intense. New forms of spatial migration appear, such as circular migration patterns, commuting, retirement migration, etc. (Fassmann, 2011: 80). In general, urban-to-urban migration overtakes rural-to-urban migration.

According to Zelinsky's model, countries in the fourth or fifth phases are considered "advanced" or "super-advanced" societies. Stage four is characterised by the movement of people within metropolitan regions: from city to city and from city to suburbia. The rate of natural increase is close to zero. In phase five, the size of the post-industrial society decreases in absolute terms. In addition to the earlier movements of people within agglomerations, urban-to-rural migration becomes more important on account of better transportation and new telecommunication technologies (e.g., the Internet and home office).

The concept of subjective well-being may be incorporated into this theory by positing that the idea of mobility becomes a "normal" expectation as related to the advancement of individual social and economic well-being.

Migration cycles

As Fassmann et al. (2014) have underlined, international migration seems to follow partially overlapping and partially time-lagged migration cycles. The migration cycle theory can be considered a revised version of the transition model, which focuses on the process of the transformation of emigration countries into immigration countries and of the adaptation of their social and legal systems to the new conditions (Fassmann and Reeger, 2012: 66–68). The specific element of the model is the *gradual accommodation* to the new migratory circumstances, which are affected by changes in demography, economy, the labour market, etc. In the initial phase, the demographic situation remains relatively constant, and emigration is typically more important than immigration. In the transition stage, a former emigration country gradually becomes an immigration country, without the "official" acknowledgment of this transition in the political realm. In the adaptation stage, the legislative gap concerning migration and integration issues decreases, and immigration is acknowledged as a necessary supplement to economic growth and the demographically diminishing labour market. "A new political rationality emerges by integrating a means of controlling international migration into a differentiated legal system" (Fassmann et al., 2014: 24–25). This theory also pays little attention to subjective well-being.

NETWORK THEORY: A MESO-LEVEL APPROACH

In addition to macro-structural impacts and micro-level circumstances, the intermediate level has also gained increasing attention in the literature. Among the so-called meso-level factors, the response of *national and local policies* to macro-economic, macro-environmental and, more recently, global epidemiological processes (e.g. Guadagno, 2020), as well as certain intergovernmental organisations such as the International Organization for Migration (IOM) or the UN Refugee Agency (UNHCR) may also affect migration processes.

Social networks also play an essential role in stimulating migration by reducing the risks of migration, e.g. by providing information about opportunities to work or study in a foreign country. In this section we will focus on network theory, which focuses on explaining the "perpetuation" rather than the "initiation" of international migration (Massey et al., 1993).

According to this hypothesis, government policies and other macro-structural factors shape geographically bundled pathways, linking particular social groups and places across space. Once such initial patterns are set, migrant networks and feedback processes known as "cumulative causation" tend to give migration processes their own momentum and thereby reproduce such patterns (Massey, 1990; De Haas, 2021).Migration thus forges networks which then feed the very migration that created them. These networks can be interpreted as "sets of interpersonal ties that link migrants, former migrants, and non-migrants in origin and destination areas through the bonds of kinship, friendship, and shared community origin." (Massey, 1988). The network itself *emerges as an actor* in the migration process because it influences migrants' decisions regarding their migration destinations.

The concept of networks includes the assumption of a *risk-diversification model* and addresses the cumulative causes of migration as a result of reduced social, economic, and emotional costs, all of which are important for well-being. These provide support to both potential and newly arrived migrants. Such support could take the form of financial help, practical information to facilitate the migration process, job opportunities, etc. (Massey et al., 1993). According to this model, families allocate labour among their members within the constraints of their own needs and aspirations in a cost-efficient and risk-minimizing way. Given this choice, the reduced cost of migration increases the number of people who can and will choose to leave, thus increasing the volume of migration (Van Meeteren and Pereira, 2013). Therefore, whatever macro-societal

political or economic conditions may initially have caused migration, the expanding migration process becomes "progressively independent" of the original causal conditions.

By introducing a sociological dimension, network theory has improved the mechanical and economistic push-and-pull models as well as the world-systems concept (De Haas, 2010: 1587). However, although there is a general consensus that social networks play an important role in migration decisions, the exact nature of this role is still unclear. This *ambiguity* stems from the lack of reliable data on both migration and the structure of social networks (Blumenstock and Xu Tan, 2016). Existing research explains the expansion of established migrant networks, but generally fails to explain their initial, selective creation and different trajectories.

Van Meeteren and Pereira (2013) *criticise* the central argument of network theory as largely circular, assuming that migration continues *ad infinitum*. As such, it provides little insight into the feedback mechanisms that undermine migration and can lead to the breakdown of network systems over time (De Haas 2010: 1612). Other critiques of this approach have pointed to the relevance of ties beyond the community, such as employers, government officials, traffickers, and migration brokers (e.g. Krissman, 2005: 4ff.). Elrick and Lewandowska (2008: 718), for example, found that "agents" are significant actors in migrant networks who can be regarded as perpetuators of migration within these networks. Collyer (2005: 699ff) emphasised that social network theory cannot explain the migration flows of refugees and asylum seekers at all. The concept of well-being is also not an integral part of network theory.

ASPIRATIONS AND CAPABILITIES: A META-THEORETICAL FRAMEWORK

Based on his empirical observations in Morocco, De Haas (2021) points out that although local living conditions improve significantly, people's overall aspirations may increase even faster. Growing aspirations – and, in parallel, growing capabilities – to migrate seem to be responsible for an increasing number of emigrants "despite, or paradoxically rather because of, significant improvements in local living standards". This line of thought does not fit into mainstream migration models, but it is very important from a well-being perspective.

This meta-theoretical framework conceptualises different forms of migration as a function of *aspirations*[5] and *capabilities* to migrate. While "migration aspirations are a function of people's general life aspirations and perceived geographical opportunity structures", migration capabilities "are contingent on positive (freedom to) and negative (freedom from) liberties" (De Haas, 2021: 17). These are conceptually distinct but empirically interconnected notions. For instance, improved education and growing media exposure may increase migration aspirations by expanding pupils' awareness of alternative lifestyles and the relative nature of wealth. In other words, access to information per se tends to change people's ideas about the "good life". In this way, increasing capabilities can increase aspirations.

According to the aspirations–capabilities framework, migration should be seen as people's capability to choose where to live – including the option to stay – rather than as the act of moving itself. Therefore, moving and staying are in fact complementary manifestations of migratory agency. As De Haas (2021: 30–32) argues, focusing research on people's migratory aspirations and capabilities would help us better understand how processes of social transformation and development shape international migration patterns. In this meta-theoretical framework, the interconnection between migration and well-being is stronger than in any other migration theory to date.

WELL-BEING AND MIGRATION

RELATIONSHIP BETWEEN THE OBJECTIVE AND SUBJECTIVE DIMENSIONS OF WELL-BEING

The relationship between the material and subjective aspects of well-being is a relatively well-documented area of social sciences. This section will address this large body of literature only briefly, summarising the most influential theories on the link between individual financial situation and happiness and/or life satisfaction.

[5] As De Haas has emphasized, migratory aspirations have two broad dimensions: instrumental (means-to-an-end) and intrinsic (i.e. well-being-affecting).

Theories on the nexus of income and subjective well-being

In the early studies by Easterlin (1974) and Scitovsky (1976), income and welfare played the main role as a source of happiness. The *absolute income hypothesis* states that people in a better economic situation tend to report higher life satisfaction than those in the same society who are less well-off (Diener, 1984: 553). However, the positive association between income and happiness tends to disappear in the long run. Thus, increasing welfare is often coupled with stagnating SWB. The so-called *Easterlin paradox* is an extensively discussed phenomenon in the literature (see e.g. Easterlin, 1974, 1995; Clark et al., 2008; Stevenson and Wolfers, 2006). The assumption is that once a person's basic material needs are met, their sense of happiness and/or life satisfaction is affected by other, predominantly immaterial aspects of well-being (Caporale et al., 2009).

According to the *theory of diminishing marginal utility*, increasing income is less important for the subjective well-being of wealthy people (Frey and Stutzer, 2002). However, the selection of the appropriate indicator is especially crucial here. Peiró (2006) found a stronger link between individual financial situation and life satisfaction than between the former and happiness.

The *relative income hypothesis* (published in its early form by Duesenberry, 1949) suggests that the utility of one's own income is evaluated through the prism of a chosen reference group that serves as a benchmark for comparison. Neighbours, friends, colleagues, particular social groups, the abstract category "people like you" – in terms of educational level, employment status, age, gender etc. – or even all other citizens of the same country may compose a reference group (Clark and Oswald, 1996; Clark and Senik, 2010; Easterlin 1995). How individuals feel about their well-being depends on the distance between their own individual income level and the reference value. This hypothesis emphasises the negative and asymmetric impact of the reference income on individual utility; upward comparisons – from below-the-reference income – seem to have a stronger impact on SWB than downward comparisons (Boyce et al., 2010; Dumludag, 2014).(For a detailed review of the role of comparisons, see e.g. Clark et al., 2008; Dumludag, 2014; and the next section below).

The negative impact portrayed by the relative income hypothesis is in sharp contrast with the *tunnel effect* (Hirschman and Rothschild, 1973), which occurs when the success of a reference group creates a basis for optimistic expectations and contributes to a positive SWB change. (The authors used the metaphor of a traffic jam in a tunnel. When the traffic in one lane starts to move,

drivers in the other lanes take this as an indication of "light at the end of the tunnel".) Thus, as Caporale et al. (2009) point out, people may interpret any positive signals in adverse and uncertain situations to predict an improvement in their own situation sooner or later. The presence of the tunnel effect has been confirmed by, among others, Caporale et al. (2009) and Senik (2008).

The *income rank hypothesis* states that people's self-rated life satisfaction is primarily influenced by the relative rank position of their income within their social comparison group. "Income and utility are not directly linked: Increasing an individual's income will increase his or her utility only if ranked position also increases and will necessarily reduce the utility of others who will lose rank" (Boyce et al., 2010: 471). In other words, it is the ranked position of an individual's income, rather than income per se or its relation to a reference income, that is beneficial for well-being (Quispe-Torreblanca et al., 2021). Several studies support the income rank hypothesis, including Clark and Senik (2014), Quispe-Torreblanca et al. (2021) and Wood et al. (2012).

The role of reference groups and social comparisons

Reference groups seem to play a key role in evaluating subjective well-being. Since the term itself was coined by Herbert Hyman (1942), it has provided useful insights into social behaviour and has been used to explain various behaviour patterns. A reference group is a group against which an individual evaluates his or her situation or conduct. The membership group and reference group can be the same or different; they are not mutually exclusive. The term reference group has been used in two ways: either as a group to which the individual aspires, or as a group whose values, norms, and attitudes serve as points of reference for the individual. In both cases, the crucial feature is that the individual adapts his or her attitudes and behaviour to model those of the members of the reference group.

The current understanding of the reference group assumes that reference groups change over the course of an individual's life and that we select from a specific set of reference groups for comparison at a given time and in a given situation. A previously positive reference group may become negative over time (Newcomb, 1943). For some issues, a particular reference group will provide the basis for comparison, whereas for other issues, the reference group will be different. For example, our political attitudes are measured against a different group than our holiday habits.

THE SUBJECTIVE WELL-BEING – MIGRATION NEXUS: FURTHER LINKS AND PERSPECTIVES

Empirical studies and generalised conclusions

Although there is still no universal definition of happiness or life satisfaction, it is firmly believed that individuals usually act to improve their well-being and that this is the ultimate goal of their choices and actions (Selezneva, 2011: 140). From this perspective, voluntary migration can be considered a tool to reach the desired outcome of increasing well-being. However, while there is a vast amount of literature examining the nexus between material life conditions and migration as well as the material and subjective aspects of well-being separately, the third vertex of this theoretical triangle, namely *the SWB–migration nexus*, has only recently started gaining attention (e.g., IOM, 2013; OECD, 2017; Hendriks and Bartram, 2018).

Since very few international surveys are explicitly designed to measure migrants' well-being outcomes, yet little is known about the consequences *of migration for subjective well-being*, particularly about the effects of *SWB on migration intentions and/or decisions.*[6] Empirical results suggest that migrants experience lower levels of life satisfaction than natives do in general (Baltatescu, 2007; Bobowik, 2011; OECD, 2017). Furthermore, second-generation immigrants seem to be unhappier than their first-generation counterparts (Safi, 2010; Senik, 2011), and emigrants are usually less satisfied with their lives than stayers (Bartram, 2011; Knight and Gunatilaka, 2010). These conclusions and explanations, however, are far from consistent, and other studies even show opposite results (e.g. Lengyel, 2012; Erlinghagen, 2012; Ivlevs, 2015).

The *divergence of findings* is not only attributable to obviously different historical and geographic contexts but also to the lack of a standardised and coherent theoretical framework. The investigations have predominantly used cross-sectional data to compare immigrants and natives in host countries (Baltatescu, 2007; Bartram, 2010; Safi, 2010; Göncz et al., 2012) or emigrants from

[6] Previous studies have yielded diverge estimations of the degree to which migration intentions can be considered a good indicator of actual migration. Nevertheless, if migration is conceived as a selection process, then intentions and the actual act can be considered different phases of the whole process (Gödri and Feleky, 2013). There are not many longitudinal studies that can measure whether and to what extent intentions turn into the real act. A study conducted in the Netherlands between 2005 and 2007/2010 revealed that 24% of expressed intentions had turned into actual migration by 2007 and 34% by 2010 (Van Dalen and Henkens, 2013). Moreover, migration intention was found to be the main predictor of the actual act. A similar study in Hungary found that 20% of men and 12% of women had turned their migration intentions in 2003 into actual migration by 2007 (Hárs, 2008).

and stayers in the sending countries (Bartram, 2013; Erlinghagen, 2012). Although both approaches provide useful information, neither can adequately demonstrate a causal impact per se. On the one hand, simply comparing emigrants with similar people who remained in their country of origin can be misleading, since well-being gains may reflect unobserved differences in ability, risk tolerance, or motivation (McKenzie et al., 2010). On the other hand, neglecting pre-migration experiences obscures reverse causality, i.e., it does not rule out selectivity biases, whereby dissatisfied people may be more likely to migrate (Stillman et al., 2015). In the absence of longitudinal data, there are two alternatives:[7] to create a two-period synthetic panel with statistical matching (e.g., Nikolova and Graham, 2015) or to ask respondents to estimate their general life satisfaction retrospectively, prior to and after migration (e.g., Amit and Riss, 2014).

In spite of these methodological concerns and somewhat divergent conclusions, a growing number of academic papers have demonstrated that the separation of material and immaterial determinants and their subjective perceptions does make sense because they can influence migration decisions and the post-move evaluations in different ways (e.g. Graham and Markowitz, 2011). Two *directions of SWB alterations* can be identified in the literature: increased versus decreased post-move life satisfaction (De Jong et al., 2002). Even though migrants' absolute incomes may rise, their original expectations can be met with disappointment and their SWB may be reduced. The reasons for this phenomenon can include the physical distance from their safe social and family networks, the linguistic and cultural distance from the host society, or the unexpectedly emerging frustration that stems from finding themselves in a lower position compared to members of the native population (Bartram, 2010: 2; Stillman et al., 2015: 86).[8]

The *set-point theory* claims that individuals have their own set points of SWB, which they revert to once the psychological impact of major life events has dissipated. However, substantial and permanent *upward or downward changes* in life satisfaction are also observable in the context of migration (Headey, 2008). As Nowok et al. (2011) have summarised, migrants often experience frustration and dissatisfaction before their departure, whereas they

[7] For a unique exception see Stillman et al., 2015.

[8] Cultural and linguistic differences create barriers implying "costs that potential migrants likely consider in deciding whether to migrate and where to go" (Adserà, 2015). However, the existence of large immigrant communities may encourage further moves and decrease migration costs (Pedersen et al., 2008).

feel happiness and high expectations during the process of migration but reduced SWB in the post-move phase. It also means that not only people's own past income and the reference group's living standard but also their expectations for the future are important elements of SWB-related comparisons.

The dynamics of these changes causes the *temporal fluidity of well-being*, which presents a remarkable methodological challenge for empirical studies (McGregor, 2007). This phenomenon is consistent with the relative income hypothesis mentioned in the previous section and has "similar DNA" with Brickman and Campbell's (1971) "hedonic treadmill" hypothesis from the psychology literature as well as "preference drift" from the economics literature (Van Praag, 1971). As Headey et al. (2008: 68) pointed out, people tend to "change their preferences in response to what others have and want". Since aspirations and social relationships are in constant flux, what really matters in the assessment of one's quality of life may also change as a consequence of adaptation to the new external circumstances (Nussbaum, 2001; Quizilbash, 2006). In the context of migration, this process entails the change of the reference groups too – e.g., new neighbours, new colleagues, and a new host society, very often with higher average living standards. Thus, when immigrants change their reference group, the comparisons they make may become less favourable, resulting in a deterioration of their subjective well-being, despite an improvement in their objective situation.

Finally, researchers have to "find ways of assessing how well people are doing in their achievements in respect of the things that they regard as important for them to live well" (McGregor et al., 2015: 2). Therefore, besides simply measuring different SWB components, for instance satisfaction with income or social relationships, we also have to understand the relative importance of these areas of life for the respondents.

The theoretical background of the mechanisms mentioned in this section, including differences between the short-term and long-term dimensions of evaluation, is still not well grounded. Qualitative methods can provide important insight into the dynamics of the adaptive preferences, the changing reference groups, the relational dimension of well-being, etc.

Social connectedness and subjective well-being

The nexus between subjective well-being and the concepts of social capital (Bourdieu, 1986; Coleman, 1990; Putnam, 1995; Tzanakis, 2013; etc.) and social cohesion (e.g. Chan et al., 2006; Dragolov et al., 2016; Schiefer and Noll, 2017)

has been gaining increasing attention in the literature. These are closely interrelated concepts, but aggregated indicators of cohesion are more appropriate for macro analyses, whereas data on the individual level should be used to analyse the relationship between social capital and subjective well-being (Klein, 2013). Nevertheless, while studies have found positive links between social connectedness and life satisfaction in general (e.g. Anheier et al., 2004; Bjørnskov, 2003; Dragolov et al., 2018), relatively few have considered the impact of social networks on SWB within immigrant communities (e.g. Xu and Palmer, 2011; Tegegne and Glanville, 2018).

Familial relations definitely belong to the key factors that potentially shape migrants' subjective well-being and its relationship with their decisions to move or stay. Melegh (1999) pointed out that the life history perspective on migration is often influenced by whether family relationship broke down during migration or whether they developed further. Preliminary qualitative studies have also revealed that not only the way migrants narrate their life history is shaped by gender-specific differences, but their perceptions of subjective well-being is also often "gendered". Central European migrants tend to frame their own migration in terms of well-being, and the narrative of *familial well-being* is quite common, particularly among female respondents (Kovács and Melegh, 2001; Melegh and Kovács, 2008).

The success of *integration* might also be an important factor in migrants' SWB changes. In general, integration refers to the process by which migrants become accepted into society, both as individuals and as groups. It is a two-way process of adaptation – and in another aspect, a form of acculturation – that requires efforts both from migrants and from the host society. Ultimately, it is useless for a person to be ready to integrate if the host environment does not support him or her in this process. The changes that immigrants undergo involves at least six areas: language, cognitive styles, personality, identity, attitudes, and acculturative stress. The cause of problematic outcomes often stems from the different acculturation expectations of the host society and the acculturation orientation adopted by the immigrants (Bourish et al., 1997; Van Oudenhoven et al., 1998). Investigating the social connections between migrants and members of the host population (and the subjective perceptions of these relationships) is essential for a better understanding of the SWB–migration nexus.

Migratory aspirations, capabilities and subjective well-being

In the aspirations-capabilities framework, migration and subjective well-being are connected on two levels. Firstly, De Haas' concept is heavily inspired by Amartya Sen's (1999) *capabilities* approach to human well-being. De Haas emphasised that people could derive well-being from having potential access to mobility freedom, irrespective of whether they applied these freedoms. "The central idea is that the very awareness of having the freedom to move and migrate can add to people's life satisfaction, in the same way that freedom of speech and religion, the right to organise protest marches or to run for office can contribute to people's well-being, irrespective of whether or not they eventually use those freedoms. Conversely, if people do not enjoy such freedom, they are likely to experience this as a form of well-being-decreasing deprivation" (De Haas, 2021: 18). Regarding migratory *aspirations*, the other main pillar of the concept, De Haas expanded the notion of migratory agency into the subjective realm. Migration aspirations reflect people's general life preferences and their subjective perceptions of the quality of life in their current place of residence, as well as their subjective perceptions of opportunities elsewhere. This line of thought is consistent with many other well-being approaches and, to a certain extent, with the assumptions of the transition theory.

A POSSIBLE RESEARCH STRATEGY: THE CONCEPTUAL FRAMEWORK OF MIGWELL

MIGRATION THEORIES RELEVANT TO THE PROJECT

The migration theories that were previously summarised are not necessarily contradictory. The causal processes relevant to international migration might operate on multiple levels simultaneously. It is entirely possible that individuals engage in cost-benefit calculations to maximise income, households act to minimise risks, and the socioeconomic context within which these decisions are made is determined by structural forces operating at national and international levels (Papademetriou and Martin, 1991). As Castles et al. (2014) have stressed, each of these theories has their place, and a full understanding of migration requires contributions from a range of perspectives.

Thus, instead of building on a single migration theory, MIGWELL incorporates elements from various conceptual frameworks. For the purposes of this

project, *micro- and meso-level approaches* are especially relevant. Although the concept of well-being has long been absent from migration theories, the new economics and sociology of migration (NELM) have already highlighted the importance of perceived deprivation and some other subjective aspects of migration decision-making. According to NELM, migration might be an option for households towards obtaining a sustainable livelihood by avoiding deterioration of household poverty and improving capabilities and resilience. The push-and-pull concept is widely considered relatively outdated. Yet, push-and-pull factors might serve as useful tools. These notions might offer a meaningful and easy-to-understand way for people to evaluate and interpret their individual migration decisions in the context of subjective well-being. Since the existence of migrant networks can play a significant role in the decision-making process, as well as in post-move subjective well-being changes, people's connections with the expatriate community will also be surveyed. This endeavour requires the consideration of network theory as a meso-level approach.

Migration cycles provide a key *macro-level* concept to place the Hungary–Austria migration nexus into a wider context. Although European countries do not necessarily pass through these phases in this exact order or at the same pace, and although the model of migration cycles does not explicitly reflect the liquid forms of migration, the concept helps us to grasp the dynamics of international migration transition in Europe.[9] The dual labour market theory might also be relevant. People's labour-market positioning before and after migration, and their relationship with their income and subjective well-being is an important aspect of this project. Finally, the aspirations-capabilities approach is also important in assessing non-migration, emigration and return migration.

THE CONCEPT OF WELL-BEING

As the secondary data sources of the project principally follow the OECD Guidelines on Measuring Subjective Well-being, all of their SWB variables are necessary for a comparative analysis. As the recommended question modules suggest, "overall life evaluations should be assessed first, followed by eudai-

[9] Austria, for instance, is a typical immigration country where the socio-demographic challenges of the welfare state – such as population ageing leading to increased pressure on the healthcare and elderly care system (Katona and Melegh, 2020) – induce an increasing demand for immigrant workers. Hungary is in a transition phase where both directions of migration flow are similarly important, although its migration balance is negative in relation to Austria and other Western countries.

monic well-being, with more specific questions about recent affective experiences asked next and domain-specific questions last" (OECD, 2013a: 161–171) (*Table 2*).

As already indicated, these theoretical approaches grasp subjective well-being from different directions, and in fact all of them are necessary to measure it as accurately as possible. This is true at both the micro and macro levels. In other words, it is possible to construct a SWB profile for a single individual, but eventually the aggregated SWB profiles enable us to study the SWB patterns of different social groups or societies as a whole.

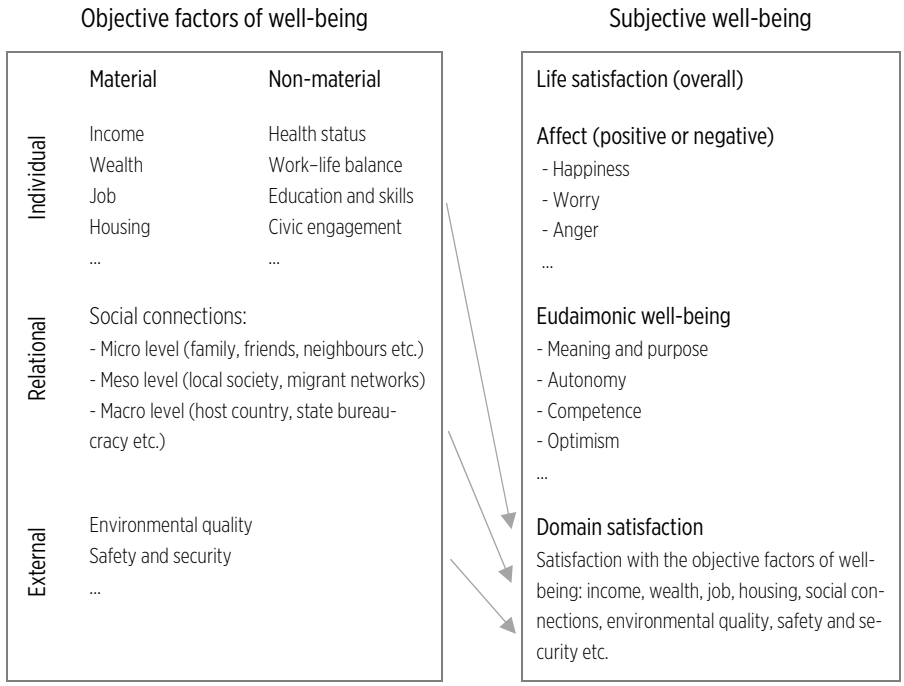
However, subjective well-being cannot be sufficiently measured in isolation, without considering the resources that people have and the relationships that influence their actions (McGregor, 2007). Therefore, subjective reflection on life satisfaction, affect, and eudaimonia will be our focal points – again, based on the pre-defined EU-SILC variables that are essential for a comparative analysis. Additional sets of questions on the material and relational dimensions are expected to provide deeper insight into the dynamics of the migration–SWB nexus. (Examples of methodological adaptations can be found, e.g., in Britton and Coulthard, 2013 and Te Lintelo et al., 2018.)

Therefore, we should apply a hybrid approach in conceiving well-being, inspired by both the OECD and the WeD concepts (*Figure 1*).

In practice, our goal is to identify some relevant, objective, and observable factors of well-being (household income, employment status, housing quality, etc.) and the social connections that people perceive as the most important in terms of the degree of their influence on migration behaviour and SWB. Respondents should identify, evaluate, and rank their relationships by importance. On the one hand, the strongest influence on migration decisions might be associated with macro-level (e.g., dissatisfaction with salary or state bureaucracy), meso-level (e.g., tensions within the community, dissatisfaction with the quality of local public services)[10] or even micro-level relationships such as familial relations.

[10] Migali and Scipioni (2019) pointed out that migration potential tends to increase significantly along with people's decreasing satisfaction with local public services, e.g., healthcare or educational institutions, and that the influence of this relationship can be stronger than that of income.

Figure 1: The relationship between the objective and subjective dimensions of well-being on a personal level



Conversely, connections with the expatriate community will also be surveyed because migrant networks can play a significant role in reducing migration costs and stimulating migration. Furthermore, since people's choices and actions are shaped by the social contexts in which they are embedded, this is where the role of the "reference group" – a prism through which one's own income and other well-being factors might be evaluated – will also be investigated. While the success of a reference group might create a basis for optimistic expectations, the change of the host society as a major reference group – i.e., higher living standards in Austria – might cause frustration and decreased SWB per se. Since the narrative of familial well-being is traditionally strong in the case of Central European migrants (Melegh and Kovács, 2008), we should also survey family relationships.

RESEARCH DESIGN

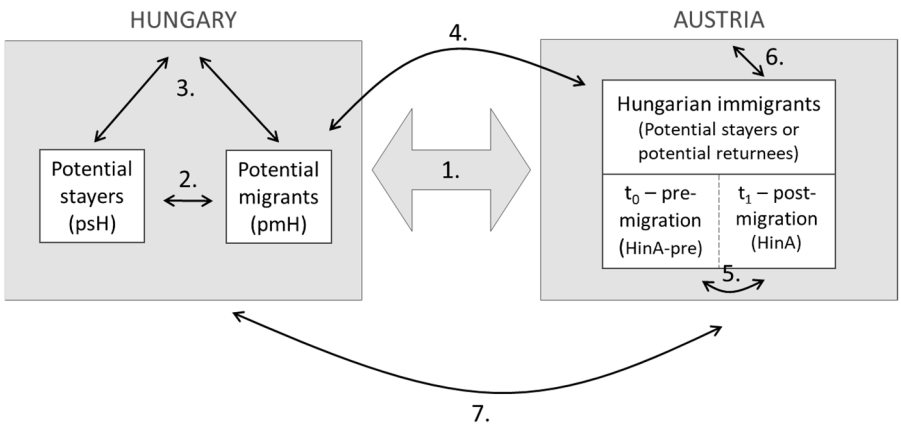
The causal relationship between migration and subjective well-being has only recently began to receive attention and this new literature still suffers from some pitfalls. For instance, the studies predominantly focus on the effects of migration on SWB, yet we know little about the effects of SWB on migration intentions and decisions. These investigations use mostly cross-sectional data concentrating on the host countries and neglecting the dynamic aspect, i.e., immigrants' SWB prior to their migration. A significant proportion of the existing literature has yet to empirically test the accumulated hypotheses regarding the mechanisms of SWB changes in the context of migration. The research mostly applies a rather narrow approach of overall life satisfaction and pays less attention to other measurement concepts. The studies do not regularly investigate the impact of uncertainty on migration potential and SWB, which might play an important role in the era of global "multicrises", including climate change, pandemic, wars, energy shortage, food crisis, etc.

The MIGWELL project aims at addressing the aforementioned neglected issues. Its *innovative approach* is not simply the strong linkage of subjective well-being and migration, but rather the attempt to understand their two-way relationship within one research framework. The aim of this project, in its simplest and shortest form, is to answer the following research questions.

- *Austria–Hungary SWB gap*. Which objective indicators are responsible for the vertical and horizontal inequalities and the country-level differences in subjective well-being?
- *SWB → migration nexus*. How does subjective well-being influence intentions and/or decisions either to stay or to migrate among the Hungarian population?
- *Migration → SWB nexus*. How does migration affect the subjective well-being of Hungarians after moving to Austria? Has the perception of their well-being improved in line with their material gains or has it failed to reach the expected level?

To approach the subject, we have elaborated a distinct research framework that highlights the relationships between the analytical groups (*Figure 2*). This analytical framework is project-specific and not intended to be a universal guideline applicable to all situations in all circumstances. However, the logical structure may help other researchers conduct research projects with the explicit aim of grasping the two-way relationship between migration and subjective well-being.

Figure 2: Logical structure of the project



Notes: The abbreviations make it easier to identify the target groups in the following sections.

Legend: psH: potential stayers in Hungary, pmH: potential migrants in Hungary, HinA-pre: pre-migration information about Hungarians living in Austria, HinA: current information about Hungarians living in Austria.

Based on this research framework, the following outcomes are expected:

1) Theoretical expansion of the main concepts

- After a series of adjustments, the proposed research structure is now suitable for integrating both directions of the relationship into one conceptual framework: the change of SWB as a consequence of migration and the effects of SWB on migration potential.
- Moving away from the traditional utilitarian approaches, the project will help us to adequately capture the underlying complexity of SWB and its relationship with objective material and social factors.
- Analysing macro trends of changing well-being scores, we will answer the question whether overall SWB tends to revert to a set point once the direct impacts of a shocking event (e.g. Covid-19) have dissipated, or whether life satisfaction permanently changes.
- The project will provide a dynamic perspective and allow for empirical tests of hypotheses regarding the mechanisms of SWB alterations in the context of migration (absolute or relative income hypotheses, income rank hypothesis etc.).

2) Explaining concrete migration processes by applying the concept of well-being

Applying a mixed-method approach, the project is expected to shed light on:

- The Austria–Hungary SWB gap
  We will examine the main differences in subjective well-being patterns and their objective drivers in Hungary and Austria, contextualize the subsequent research activities, and enable a better understanding of the drivers behind migration across the "iron curtain of unhappiness". The availability of secondary data from 2013 to 2022 enables a temporal analysis of the changing macro-structural conditions and the impacts of the pandemic on the migration flow and the SWB gap between Austria and Hungary (*relation 1* in *Figure 2*).
- The SWB → migration nexus
  - We will also shed light on the way in which material aspects and social relationships influence subjective well-being and how SWB affects migration intentions/decisions. Furthermore, we will capture the circumstances under which non-material factors may or may not counter-balance the importance of material aspects for potential stayers and migrants in Hungary (psH, pmH), along with the reasons for and means of being able to do so. *Relation 2* will be used to answer the question whether dissatisfied people are more likely to show a higher emigration intention or whether the opposite is true.
  - The direction of change in the mean values of key SWB variables in Hungary between 2013 and 2022, and the way in which this trend has influenced migration intentions, will be investigated. The comparative analysis will answer the question of whether the migration potential has increased or decreased in general (*relation 3*).
  - The next question is whether the pre-move SWB pattern for Hungarian emigrants (HinA-pre) was similar to or different from that of the Hungarian 'average'. The same question can also be asked about potential migrants and stayers at the time of conducting the survey. *Relation 4* will identify the permanent and strongest factors that have been playing a crucial role in the assessment of life satisfaction and migration decisions over a longer period and will shed light on how migration intentions are in fact realized.

- The migration → SWB nexus
  - The object of this survey is the dynamics of SWB change in relation to material gains and social relationships as a consequence of migrating to and living in Austria. Although there will be no opportunity to combine pre- and post-migration observations of the same persons within the time span of the project, the research framework allows for two indirect approaches towards studying this nexus: surveying respondents' retrospective evaluation prior to and after migration, and comparing sub-samples of similar socio-economic statuses at different stages of migration. These methods serve not only to confirm or reject Nowok's hypothesis of an inverted U-curve regarding chronology, but also to shed light on the differences between the short- and long-term dimensions of evaluation (for the duration of living in Austria) (*relation 5*).
  - We will furthermore enquire whether increased or decreased post-move satisfaction is a result of the mechanisms described by, e.g., the absolute or relative income hypotheses or whether people's perceptions of the constituents of well-being have also changed through migration (adaptation, temporal fluidity of well-being, changing reference group). Apart from the retrospective reports (HinA-pre), identifying the patterns of key SWB variables in the host country is also necessary to triangulate this comparative analysis (*relations 5* and *6*).
  - We will identify the similarities and differences between Hungarian immigrants' pre-move expectations toward and post-move experiences with migration-induced SWB change (HinA, HinA-pre), and compare these with the current expectations of potential emigrants from Hungary, who might have similar aspirations (pmH). If potential emigrants consider successful emigrants as a reference group, this analysis may justify the existence of the tunnel effect and furthermore highlight the importance of migrant networks (*relations 5* and *7*).
  - Retrospective evaluation will also be useful in the case of returnees, who constitute a subgroup within the main analytical groups in Hungary. Returnees' reflections on the material, social, and subjective dimensions of well-being – parallel to those of the Hungarians

who have remained in Austria – may provide valuable information about the mechanisms of individual and familial decision-making during the Covid-19 crisis. Besides the international macro statistics, narrative interviews will also enable micro-level estimations of the impact of the pandemic and its longer-term economic consequences for migration processes.

3) Facilitating effective policy through improved theory and empirical results

Although MIGWELL is first and foremost a research project, its target audience also includes policy makers. The project is expected to facilitate more effective policy interventions in both countries by improving the understanding of the SWB-migration nexus. In a later stage of the MIGWELL project, we will develop an open access policy recommendation paper, which we expect to publish in 2025.

SUMMARY

This study was not intended to provide a new migration theory. Instead, we sought to identify links between subjective well-being and migration by reviewing existing migration theories. Why?

We argue that subjective well-being should be a key concept in migration research because increasing subjective well-being is a universal human desire. If people have the possibility to make a decision, they make these choices – at the individual and/or household level – with the aim of being happier and more satisfied than before, and not the other way round. From this point of view, migration itself – or even the choice of staying – can be regarded as a strategic decision to increase subjective well-being.

Of course, the relative importance of material and non-material factors to happiness, satisfaction and eudaimonic well-being is an individual and situational matter. The use of a standardised measurement methodology enables the construction of an individual SWB profile for everyone, and a longitudinal study could detect even the temporal changes in this profile. Nevertheless, based on the aggregated SWB profiles, we can study and compare the SWB patterns of certain social groups; even in the context of migration.

This concept paper has provided an overview of the relevant theoretical frameworks of well-being and migration and the links between the two concepts. As we have underlined, an investigation into their causal relationship

would in fact require a longitudinal study. However, longitudinal studies are very rare in practice, due to the financial and technical difficulties involved in implementation. In this paper, we have proposed a research framework which may be suitable (with some limitations) to capture the two-way relationship between migration and subjective well-being.

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THE DIFFERENT FACES OF COHABITING UNIONS IN THE NEW MILLENNIUM[1]

Lívia Murinkó

ABSTRACT

The rise of unmarried cohabitation in the late 20th century has increased the diversity of couples' family situations and partnership trajectories, calling for a differentiated approach to this partnership form. This is one of the first studies to examine how the typology of cohabitation in a society has changed over time, using both subjective and objective criteria, and recognising the different role of cohabitation at different stages of family life, including situations characteristic of later life.

Based on data from the first (2001) and fifth (2016/17) waves of the Hungarian Generations and Gender Survey, this analysis aims to establish an empirical typology of the cohabiting population. Family trajectories, relationship commitment and attitudes towards marriage were included as grouping criteria in the latent class analysis. Four types were identified: trial marriage, alternative to marriage, stepfamily and post-marital cohabitation. Contrary to the international literature, we did not find any groups who do not marry because of their anti-marriage attitudes or poor financial situation, or who see their cohabitation as an alternative to being single. The findings are discussed in the light of theories of the changing meaning of unmarried cohabitation.

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Keywords: partnerships, unmarried cohabitation, latent class analysis, Generations and Gender Survey, Hungary

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INTRODUCTION

Recent decades have brought about profound transformation in the field of family life, partnerships, cohabitation and marriage in Hungary. The spread of cohabitation has become an important element of this transformation. More and more people are living together with their partner and for longer periods without getting married, with the majority choosing cohabitation as their first long-term union. The link between having children and getting married has been loosened and cohabitation before, after and even instead of marriage has become acceptable.

Research on cohabitation has been stimulated by changes that began in the 1980s and has become increasingly spectacular recently. Numerous studies have attempted to describe and interpret these changes (e.g. Somlai and Tóth 2002, Pongrácz and Spéder 2003, Bukodi 2004, Spéder 2005, Somlai 2013). Even though they identified different forms or meanings of cohabiting unions, the aim of these works has not been to develop typologies. Moreover, few studies have examined developments over the last decade. In the international literature, some analyses on the meaning of cohabitation include Hungarian data (Hiekel et al. 2012, 2014), but inevitably ignore Hungarian specificities when choosing grouping criteria.

Changes in partnership behaviour took an interesting turn when the number of marriages started to increase slightly from 2015 and then significantly from 2019, peaking in 2021 with a total female first marriage rate of 1.01. This 'marriage boom' was made possible by the fact that the importance of marriage remained intact in public opinion, which had become more tolerant of unmarried cohabitation. A large number of people in cohabiting relationships were able (and willing) to respond to the newly introduced policy measures

that made marriage financially or legally advantageous for them (Kapitány and Murinkó 2020, Murinkó 2020). Although the increase has stopped since 2022, it is important to gain more knowledge about cohabitation in the 2010s in order to better understand the marriage boom and its long-term effects.

Using data from the first (2001) and fifth (2016/17) waves of the *Turning Points of the Life Course* large-scale socio-demographic follow-up survey (the Hungarian Generations and Gender Survey), the aim of this study is to characterise the cohabiting population aged 22–69 by relationship type and to examine their social characteristics. A complex, multifaceted approach is used to develop a typology of people living with their partner outside marriage. The groups are not predefined but constructed using latent class analysis. Relationship types are characterized using multinomial logistic regression. Comparing the results for 2001 and 2016/17 helps us to understand how cohabitation has changed since the turn of the millennium.

In the next part of the paper, we will review the different typologies that have been developed to capture the meaning of cohabitation and then present the main features of the diffusion of cohabitation in Hungary. The aim of the analysis is then formulated and the database, variables and methods are presented. We then describe our typology and the identified groups and conclude the paper.

THE MEANINGS AND IDEAL TYPES OF COHABITATION

A number of theoretical approaches have addressed the possible causes of the dynamic spread of unmarried cohabitation (e.g. van de Kaa 1987, Lesthaeghe 1996, Macura et al. 2000, Perelli-Harris and Gerber 2011, Mills and Blossfeld 2013), the factors driving the choice between marriage and cohabitation, and the possible meanings of cohabitation (e.g. Bianchi and Casper 2000, Bukodi 2004, Heuveline and Timberlake 2004, Rindfuss and VandenHeuvel 1990). Recognizing the increasing diversity of family life trajectories and partnerships (Manning and Smock 2005, Vespa and Painter 2011, Sobotka and Toulemon 2008), the demographic literature has adopted increasingly sophisticated typologies that include more and more dimensions to capture the diversity of cohabiting unions. We now briefly summarise these.

Civil partnerships were first categorized according to their relationship to marriage. The most basic distinction is that cohabitation can be seen either as part of the marriage process or as an alternative to marriage. This is complemented by the 'alternative to being single' type, in which couples live together

not necessarily with the long-term aim of marriage or as a test of compatibility, but for emotional and practical reasons. The relationship allows the parties to maintain their independence and is more akin to dating. A higher level of commitment develops only if the relationship is maintained for a sufficient period of time (Rindfuss and VandenHeuvel 1990, Sassler 2004).

In one of the earliest typologies, Rindfuss and VandenHeuvel (1990) distinguished four types of cohabitation. The first two types view the partnership as part of the marriage process. A trial marriage, in the early stages of a long-term relationship, allows the parties to get to know each other better and to decide on the future of the relationship on the basis of their experiences during the cohabitation period. If the couple is planning to get married, the cohabitation period can be seen as a prelude to marriage. A civil partnership can also be an alternative to marriage if the couple does not plan to marry but has a high level of commitment. Finally, the fourth type is the alternative to being single, as mentioned above.

Villeneuve-Gokalp (1991), Manning (1993) and Raley (2001) have also considered the differential effect of parenthood. Villeneuve-Gokalp (1991), for example, distinguished five cohabitation profiles based on marriage, childbearing and union dissolution within three years: brief premarital cohabitation of up to one year (prelude to marriage) or longer (trial marriage); temporary unions that dissolve within three years or less; long-term stable cohabitations without strong commitment; and long-term cohabiting couples with children ('free union'). Casper and Bianchi (2002) created groups very similar to the above based on the expected length and outcome of the relationship (marriage or separation).

Kiernan (2001) has developed a four-stage model of the spread of cohabitation based on levels of acceptance, in which a marginal phenomenon first becomes a precursor to marriage, then an accepted form of long-term union and childbearing (an alternative to marriage), and finally a relationship indistinguishable from marriage. Heuveline and Timberlake (2004) have distinguished six groups on the basis of length of cohabitation, likelihood of marriage and childbearing, complementing Kiernan's (2001) model with the type of 'alternative to being single' and distinguishing between partners who marry before (prelude to marriage) and after (part of the marriage process) having children.

More recent typologies now include subjective elements: they take into account marital and childbearing intentions and attitudes towards marriage (e.g. Rault and Letrait 2005, Hiekel et al. 2014, Hiekel and Castro-Martin 2014). They

also consider a separate group of cohabiting couples who want to marry but are unable to do so due to financial difficulties or low earning potential (Hiekel and Castro-Martin 2014, Hiekel et al. 2012, 2014).

The novelty of the latter approach is the inclusion of the objective socio-economic situation of individuals in the grouping criteria. It assumes that economically disadvantaged people cannot afford marriage and childbearing within marriage and are therefore more likely to cohabit or live without a partner (Perelli-Harris and Gerber 2011). The objective lack of resources is exacerbated by the social expectation that those who marry should be financially secure, and wedding costs further limit the marriage options of the economically disadvantaged (Oppenheimer 1988, Kravdal 1999).

Hiekel and colleagues (2012) empirically tested a theoretically motivated typology based on short-term marriage intentions, educational attainment, activity status, relationship satisfaction and agreement with the statement that marriage is an outdated institution. They looked for six ideal types of cohabitation: prelude to marriage, trial marriage, cohabitation for economic reasons, refusal of marriage, indifference to marriage, and alternative to singlehood.

In addition to the deductive typologies above, some analyses have identified cohabitation types on an empirical basis, using statistical methods. For example, Di Giulio and colleagues (2019) examined life events within five years of women entering cohabitation as their first partnership. Using sequential analysis, they identified five cohabitation patterns: a precursor to rapid marriage and childbearing, an alternative to marriage, a temporary relationship, a precursor to childless marriage, and stable cohabitation. In their comparative analysis, they also looked at the proportions of the different types at different levels of cohabitation prevalence. They found decreasing rates of premarital cohabitation and increasing rates of cohabitation as an alternative to marriage.

The above typologies are mainly relevant to the situation of young people about to start a family and their first relationships. They do not take into account the fact that some people choose to cohabit after divorce, widowhood or separation, and that middle-aged and older people may also live with a partner outside marriage. An exception is the analysis by Buchler and co-authors (2009), who include marital status (as an indicator of relationship experience) in their typology. They distinguish four types: among the never-married, those who intend to marry (premarital cohabitation) and those who do not (long-term cohabitation), and among the divorced and widowed, those who plan to marry (idealising marriage) and those who do not (renouncing marriage).

COHABITATION IN HUNGARY IN THE NEW MILLENNIUM

The emergence and spread of unmarried cohabitation has been one of the defining relationship trends of recent decades. In Hungary, the proportion of the population living in a cohabiting union increased from 3% in 1990 to 13% in 2016, and from 5% to 23% among those with a partner (Murinkó and Spéder 2021b). However, the proportion of people who have ever cohabited is much higher than the proportion currently cohabiting.

Until the 1970s, cohabitation was usually chosen only after divorce or widowhood as an alternative to remarriage; few young people lived with their partners before or instead of marriage (Csernák 1991). This practice began to change in the second half of the 1980s: premarital cohabitation became more common and then universal, the first wedding was postponed, and more and more children were born in cohabiting relationships (Murinkó and Spéder 2021a, 2021b). The exclusivity of marriage as the only acceptable way to live with a partner and to have and raise children has been challenged (Perelli-Harris et al. 2012). Meanwhile, the composition of cohabiting couples has also changed, with a significant increase in the proportion of the never married and people in their 30s and 40s (Murinkó and Rohr 2018). The share of short-lived cohabiting relationships has decreased, while the proportion of those lasting at least ten years has stabilised at around 30% (Murinkó and Spéder 2021b). Although cohabitation still does not offer the same legal rights as marriage (Szeibert 2017), more and more people are choosing cohabitation as an alternative to marriage.[2]

Not only relationship behaviour but also public opinion has gradually changed over the past decades. The spread of cohabitation was not seen as a negative phenomenon even at the turn of the millennium (S. Molnár 2001), and since then its acceptance has become almost universal (Rohr 2017). Cohabitation is most accepted by the cohabiters themselves and younger people, but the majority of married and single people also find it acceptable.

Perceptions of marriage have changed less and remained mostly positive (Spéder 2023). Nine-tenths of respondents in both 2001 and 2016 still recommend marriage for young people (with or without prior cohabitation). However, the proportion of those who consider marriage after cohabitation to be

[2] This trend is likely to have been broken by the marriage boom of the late 2010s and early 2020s. Data from the 2022 Population Census may provide new information on the proportion and main characteristics of cohabiting couples, but at the time of writing, these data are not yet available.

the most appropriate, i.e. prefer cohabitation as a trial marriage or as a precursor to marriage, has increased from 58% to 79%. Long-term cohabitation is favoured mainly by those who are in it. However, there has been an increase in public acceptance of couples who choose not to marry, even if they have children. In 2001, two-thirds of respondents thought it was important to get married when pregnant, but by 2016, just over half thought so (Murinkó and Rohr 2018).

Cohabitation has not only become more widespread but has also gradually differentiated: it has become common at different stages of the family life course and has developed different meanings (cf. Somlai 1999, Somlai and Tóth 2002, Pongrácz and Spéder 2003, Bukodi 2004, Spéder 2005, Somlai 2013, Murinkó and Spéder 2021b). While for many people cohabitation serves as a trial marriage, it is also increasingly common for partners not to marry or to marry several years after starting cohabitation and even after the birth of child(ren) (Spéder 2005, Murinkó and Rohr 2018, Kapitány and Murinkó 2020).

Similarly to international examples, analyses of cohabitation in Hungary initially focused on the temporal relationship between cohabitation and (first) marriage: they distinguished between couples living together before the first marriage and those living together after the dissolution of the marriage (Carlson and Klinger 1987). The same distinction was used by Pongrácz and Spéder (2003) when they divided cohabitants into two groups according to their marital status. Never-married cohabitants were called the 'new type' and divorced and widowed ones the 'old type'.

Another criterion often used in many studies is the length of cohabitation, which tends to be shorter for premarital cohabitation than for cohabitation as an alternative to marriage. Childbearing is also a common factor: the partnership context in which the child is conceived, born and raised. Although these analyses recognise that cohabiters are not a homogeneous group, they do not create typologies.

While we are not aware of any analyses that have examined the existence, prevalence or socio-demographic background of cohabitation types in Hungary, two comparative analyses using international survey data include the country in question.[3]

According to an international comparative study by Hiekel et al. (2014), cohabitation is a precursor to marriage for couples who intend to marry within three years and do not consider marriage an outdated institution (24%). Those

[3] Both used data from the Generations and Gender Survey, with the Hungarian data coming from the second wave (2004) of the Turning Points of the Life Course Panel Survey.

in a trial marriage also do not consider marriage to be outdated, but do not plan to marry in three years' time because they have not yet decided whether to turn their relationship into a marriage (13%). People who are struggling to make ends meet may abandon their marriage plans because of financial difficulties, even though they consider marriage to be an important institution (3%). Conformists are a special group: they plan to get married but have a negative or neutral view of the institution of marriage (28%). They may be planning to marry because of social pressure or the financial or legal benefits they expect from marriage, rather than because of personal convictions. Some of those who do not plan to marry have negative (19%) and neutral (13%) attitudes towards the institution of marriage and see cohabitation as an alternative to marriage.

In another analysis, Hiekel et al. (2012) identified four types of cohabitation in Hungary: prelude to marriage (23%), trial marriage (37%), "poor man's marriage" (24%) and refusal of marriage (17%). The "poor man's marriage" type is characterised by low education and low employment rates, while the other types tend to have a more advantaged social status. Those in the prelude to marriage type are more satisfied with their relationship than those in a trial marriage or those who do not marry for financial reasons. A relatively high proportion of those who refuse marriage still intend to get married, which the authors believe can be explained by strong social pressure or financial and legal advantages.

AIM OF THE ANALYSIS

In our study, we create a typology of cohabiting unions and examine the changing proportion and social background of the different types in 2001 and 2016/17 in Hungary.

In the first part of the analysis, we develop a multidimensional typology of cohabiting unions that takes into account international research findings and local characteristics. The grouping criteria include aspects of relationship commitment, family life trajectories and perceptions of marriage. We then explore the main differences between cohabitation types in terms of socio-economic status, religiosity and relationship quality. We examine how the social background of different cohabiting groups has changed since the turn of the millennium.

The important question of our research is whether the ideal types of cohabitation developed in the international literature can be found in Hungary

and whether the mass increase in cohabitation has led to a shift from cohabitation as part of the marriage process to cohabitation as an alternative to marriage. At the same time, we consider it important not to simply adopt the typology developed in literature but to develop a grouping that takes into account local conditions.

A number of related issues are not addressed due to space constraints. For example, a separate analysis could be made of how different types of cohabitation develop over time. The panel data used in the analysis would allow us to follow the life course of respondents who lived in an unmarried union in the first wave: for example, whether they have married, separated, had (more) children, or how many other aspects of their life have evolved, such as satisfaction, health or financial situation. Although we draw partly on the life course approach, we do not analyse entire family life trajectories but take a snapshot. We consider the main family life course events of the respondents but not their timing, and we look at life courses that have not been completed. We also do not look at the functioning of relationships, such as the division of housework or childcare, income differences within the couple, money management, or decision-making mechanisms. Nor do we analyse the selectivity of cohabitants, i.e. how they differ from married or single respondents.

DATA AND METHODS

DATABASE AND SAMPLE SELECTION

We use data from the *Turning Points of the Life Course* socio-demographic panel survey of the Hungarian Demographic Research Institute, which is the Hungarian version of the Generations and Gender Survey. The survey started in 2001 (n = 16,363) and the last, fifth wave (n = 9,295) took place at the turn of 2016 and 2017 (see Murinkó and Spéder 2016). The partnership and fertility histories can be used to trace the family life course of all respondents. In addition, each wave provides detailed cross-sectional information on respondents' socio-economic status, characteristics of their partners, attitudes towards family, personal plans and expectations. The relatively large number of cases allows for detailed analysis.

In 2012, in wave four, it became necessary to include an additional sample (aged 18–49) to ensure that younger age groups were also represented in the survey. In wave five, conducted in late 2016 and early 2017, members of both the original and the supplementary sample were revisited.

When selecting the sample, it was important to ensure comparability between the results of the first (2001) and the last (2016/17) wave. Therefore, the same age criterion is used for both waves. In wave five, only respondents aged 22 and over are included, so respondents younger than 22 were excluded from our wave one sample. The upper age limit is set at 69, as there is very little variation in relationship type among respondents aged 70 and over, few are in cohabiting relationships, and selection by widowhood is already high. The analysis therefore includes respondents who were aged 22–69 at the time of wave one or five.

Relationship status was also taken into account: respondents living with a partner of the opposite sex were included in the sample. Irrespective of their official marital status, all those who reported living with a partner outside marriage were included. After excluding respondents with an incomplete relationship history (65) and those living with a same-sex partner (22), a total of 2,262 cases remained in the working sample (1,108 in the first wave and 1,154 in the fifth wave).

Respondents from both the original and the supplementary sample are included in the analysis. Due to the longitudinal nature of the data collection, about half of our wave one respondents (529 persons) also participated in wave five, i.e. they are included twice in the database. Due to the partial overlap between respondents from wave one and five, the total number of 2,262 cases represent 1,733 respondents. As the aim is to compare two cross-sectional data sets rather than to examine changes between two points in time at the individual level, the two waves are considered independent of each other. Data are analysed separately for each wave. Weighted results are reported.[4]

It is important to note that we are not looking at people who started cohabiting in a particular year but people who were currently living with a partner, so our data also reflect partnership behaviour in the years and decades before the surveys. Some of those cohabiting in 2001 may have moved in together before the regime change in 1989, others in the 1990s. The end of 2016 and the beginning of 2017 coincide with the first period of the 'marriage boom,' when the number of marriages began to significantly increase. The advantage of studying people who were currently cohabiting is that we had information on their actual living conditions, values, attitudes and subjective well-being at

[4] The analysis raises the question of whether panel attrition has led to any meaningful differences between the original sample members who joined in wave one and the supplementary sample that was added in wave four. The different age range of these two groups hiders their comparison (at wave five, members of the original sample were aged 33–69 and members of the new sample were aged 22–53). Additional analysis showed that respondents from the two different samples in the common age range (33–53) did not differ significantly according to the grouping criteria.

the time of the interviews. This would not be possible, for example, in a retrospective analysis of partnership cohorts.

GROUPING VARIABLES

In selecting the grouping variables, we took into account previous typologies and local research experience. We included not only cross-sectional information but also retrospective data on partnership and fertility histories (Buchler et al. 2009, Thomson 2023).

Information on family life history includes *previous unions* and childbearing. Official marital status tells us whether the respondent has ever been married, and another variable indicates whether the respondent had cohabited before. We took into account whether the respondent had children with a partner other than their current partner. As an indicator of the level of commitment to the current partnership, we take into account the length of cohabitation, the intention to marry, and having or planning to have children together.

Only the respondent's biological *children* are taken into account (the partner's children from a previous partner are not). The age of the children and the household structure are not considered, so co-residence with children is irrelevant for grouping.

Intention questions differed between wave one and five. The question on *marriage plans* in the first wave was "Are you planning to marry each other? 1 – Yes, 2 – perhaps, have not yet decided, 3 – no, 4 –don't know." And the fifth wave question was: "Do you intend to get married with your partner in the coming three years? 1 – Definitely not, 2 – rather not, 3 – rather yes, 4 –definitely yes." In wave one, those who answered "yes" to the above question were classified as intending to marry, and wave five, those who chose the options "rather yes" or "definitely yes" were classified as intending to marry.

The *fertility intention* question in the first wave was: "Would you like to have (additional) children? 1 – Yes, 2 – yes, expecting a baby right now, 3 – no, do not want to, 4 – cannot have more children, 9 – do not know." The fifth wave had two questions on childbearing intentions: "Do you intend to have a(nother) child in the coming three years? 1 – Definitely yes, 2– rather yes, 3 – rather not, 4– definitely not." "Assuming that you won't have a child in the coming three years, do you want to have a child at some point later? 1 – Yes, 2 – no." For pregnant women or their partners, the questions were about having another child in addition to the one they were about to have. The dummy variable for childbearing intention took the value 1 for those who wanted to have

a child in three years or later. In the first wave, those who were expecting a child (or their partners) were not asked if they wanted to have another child, so they were placed in the "do not want/not applicable/no answer" group. This group also includes those who were not asked about their fertility intentions because of their age.[5]

Two variables related to *perceptions of marriage* were also included.[6] The first question asked about agreement with the statement that "marriage is an outdated institution." The response options ranged from 1 (strongly disagree) to 5 (strongly agree). Those who chose 4 or 5 were selected as agreeing with the statement. The second question was: "In your view how important is it to get married if a woman becomes pregnant in a cohabitation and the parents would like to keep the child? 4 – Very important, 3 – quite important, 2 – not particularly, or 1 – not at all important for them to marry?" In the analysis, answers 1–2 and 3–4 were combined.

The grouping variables and their distribution are shown in *Table 1*. More than half of the cohabiting respondents aged 22–69 have been living with their partner for a long time, at least five years. One in four had lived with their partner for 2–5 years and one in five for two years or less. For the majority (84% and 79% respectively), this is their first cohabiting relationship. The breakdown by marital status reflects the changing nature of partnerships: the proportion of the never married has significantly increased over a decade and a half, from 56% to 72%. Intention to marry increased from 28% to 45%.

An increasing proportion of cohabiting couples (29%, then 44%) have a child together, while the share of couples with no common children has decreased (in line with the decreasing proportion of divorced or widowed partners). At both points in time, one-third of the sample is childless. Around two-fifths of cohabitants would like to have children (38–39% of childless respondents and 10–11% of parents).

One in four respondents agree with the statement that marriage is an outdated institution. A decreasing proportion of respondents (41% and 28% respectively) think that marriage is important for having children.

Several variables were not included in the grouping variables (e.g. income status and partnership quality) because they did not define groups, i.e. no

[5] This question was asked in the first wave to women aged 45 and under and men aged 50 and under, and in the fifth wave to women aged 50 and under and men with a female partner of the same age or men aged 60 and under with no cohabiting partner or spouse.

[6] A more detailed quantitative or qualitative analysis, involving more attitudinal questions, would allow a deeper exploration of the role of family values in cohabiting couples' relationship decisions and plans, how partnership trajectories and attitudes influence each other, and the role of other factors such as perceived social expectations.

groups were identified that differed only in the values of these variables. Similarly, partner characteristics (e.g. age, marital or parental status) were not included because the respondent's perspective was most relevant. Including partner characteristics would have resulted in overly detailed subgroups. Some factors not included as grouping variables are incorporated as independent variables in the second part of the analysis.

Table 1: Distribution of grouping variables by survey wave (%)

		Wave 1	Wave 5
Length of cohabitation with current partner	less than 2 years	20.3	19.7
	2–5 years	25.8	26.2
	more than 5 years	53.9	54.1
Ever cohabited before	yes	15.6	21.5
	no	84.4	78.5
Official marital status	never married	55.9	71.5
	divorced, separated	36.1	25.4
	widowed	8.0	3.1
Intention to get married	yes	27.7	44.7
	no/ don't know, unsure	72.3	55.3
Biological child(ren) with the current partner	yes	29.3	44.0
	no	70.7	56.0
Biological child(ren) with someone else	yes	44.0	29.8
	no	56.0	70.2
Intention to have children	yes	42.5	40.0
	no/ not applicable/ no answer	57.5	60.0
Marriage is an outdated institution	agree	24.7	25.2
	disagree	75.3	74.8
Getting married in case of a pregnancy	important	40.5	27.8
	not important	59.5	72.2
Total		100.0	100.0

Source: Wave 1 (2001, n=1108) and Wave 5 (2016/17, n=1154) of the Turning Points of the Life Course Panel Survey, respondents aged 22–69 living in a cohabiting union, author's calculation.

INDEPENDENT VARIABLES

The distribution of the independent variables is shown in *Table 2*.

The basic demographic and social factors include the sex, age and nationality of the respondent and the marital status of the partner. The mean age was 38–39, but the relatively unchanged mean value masks a change in the distribution, with the share of the middle-aged group (35–49) increasing mainly at the 'expense' of those under 35. 9.5% of the sample were Roma in the first

wave and 6% in the fifth wave.[7] The proportion of never-married partners increased from 54% to 69%.

The socio-economic status of the respondent was measured by several variables. At both points in time, the majority had completed secondary education – either a general secondary or a vocational school. As a result of the expansion of higher education, the proportion of college or university graduates increased from 13% to 22% and the share of those with only primary education decreased from 30% to 18%.[8]

To measure the financial situation, we used the household income assessment: "What would you say, how do you manage with this income? 1 – Have to go without, 2 – financial problems from month to month, 3 – can just make ends meet by budgeting carefully, 4 – live acceptably, or 5 – live without problems?". The self-perceived income situation of our sample improved between 2001 and 2016/17.

In terms of labour market status, we only distinguish those who are employed (or self-employed) from those who are not in paid work for whatever reason.[9] The majority of the two samples (64 and 75%, respectively) are employed or self-employed. The type of settlement distinguishes between those living in the capital (Budapest), in other cities, in towns and in villages.

Around 60% of respondents consider themselves to be religious in some way: the majority (50–53%) are religious in their own way, while the proportion of those who follow the teachings of the church is much lower (8–9%).

Relationship quality was measured in terms of relationship satisfaction and consideration of dissolution. The question on the latter was: "Over the past year, have you thought of divorce or breaking up the relationship? 1 – No, 2 – yes, I have thought of it, 3 – yes, we have both thought of it, 4 – yes, we are seriously considering the possibility of divorce or breaking up, 5 – we are already divorcing." Those who chose a value higher than 1 were considered to be thinking about separation. Their share was 14–15%.

Satisfaction with the relationship was measured on a scale of 0 to 10, with higher scores indicating greater satisfaction. The average level of satisfaction is high in both waves (8.3 and 8.7, respectively). Thus, scores of 8 and 9 were

[7] Respondents are considered to be of Roma origin if, in answering the question on nationality, they identified as Gypsy/Roma or Hungarian of Gypsy origin, or if the interviewer considered them to be Gypsies.

[8] Additional analysis suggests that there are few substantive differences between those with vocational and general secondary education in terms of the factors examined, and therefore they are not treated separately.

[9] The non-working population is very heterogeneous: it includes pensioners, the unemployed, parents on childcare leave, students, and other inactive persons. These situations are not independent of age and parental status and are therefore not distinguished in this analysis.

considered average, a score of 10 was considered high and a score between 0 and 7 was considered low. Based on this breakdown, only 24% and 16% have low relationship satisfaction, just over a third have average satisfaction, and 37% and 47% have high relationship satisfaction.

Table 2: Distribution of independent variables by survey wave (%)

		Wave 1	Wave 5
Sex	Female	47.2	50.5
	Male	52.8	49.5
Age group	22–34	49.1	38.8
	35–49	29.6	43.5
	50–69	21.3	17.7
Roma origin		9.5	6.0
Marital status of partner	Never married	53.7	69.4
	Divorced, separated, widowed	46.3	30.6
Highest level of education	Primary	29.6	17.8
	Secondary or vocational	57.8	60.0
	Tertiary	12.6	22.2
Subjective income situation	Living without	4.9	2.0
	Financial problems from month to month	20.0	9.6
	Barely making ends meet	46.2	36.0
	Living acceptably	26.6	40.0
	Living without problems	2.3	12.4
Labour market status	(Self-)employed	64.2	74.6
	Not (self-)employed	35.8	25.4
Type of settlement	Budapest	21.6	16.1
	City	22.5	18.4
	Town	24.6	32.8
	Village	31.3	32.7
Religiosity	Follows the teaching of the church	8.0	8.6
	Religious in his/her own way	53.4	49.9
	Not religious/ doesn't know	38.6	41.5
Thoughts of breaking up over the past year		14.9	13.6
Satisfaction with the relationship	Below average	24.4	15.7
	Average	38.6	37.8
	Above average	37.0	46.5
	Average (on a scale of 0–10)	8.33	8.74

Source: Wave 1 (2001, n=1108) and Wave 5 (2016/17, n=1154) of the Turning Points of the Life Course Panel Survey, respondents aged 22–69 living in a cohabiting union, author's calculation.

METHODS OF ANALYSIS

In the first part of the analysis, we use latent class analysis (LCA) to develop a typology of cohabitation (see Collins and Lanza 2010). The analysis is conducted using the LCA Stata plug-in 1.2.1 (Lanza et al. 2018). LCA has also been

used to construct a cohabitation typology by Willoughby et al. (2012), Hiekel et al. (2012) and Covre-Sussai et al. (2015).

LCA classifies individuals into latent, unobservable groups based on categorical observed variables. The procedure estimates the probabilities of respondents belonging to a class and the conditional probability of each (observed) variable value for each class.

The interpretation of latent classes is based on conditional probabilities of variable values. These indicate the probability of observing a given response option for a variable, assuming that the respondent belongs to the class in question. For each latent class, the sum of the conditional probabilities associated with each variable value is 1. Classes are well separated if these probabilities are high for one value of the variable and low for the others.

Modelling aims to maximise the likelihood function (i.e. to minimise the log likelihood value). The best-fitting model (essentially the number of classes) is selected using absolute and relative fit indicators. Absolute fit indicates whether our model is a good representation of the data – this is done by comparing the value of the likelihood ratio statistic (G2) with the reference chi-squared distribution. A *p* value greater than 0.05 is acceptable. Relative goodness-of-fit indicators help in choosing between models. Examples include the Akaike (AIC) and the Bayesian Information Criterion (BIC), where a lower value indicates a better fit. The entropy value is an indicator of class separation, with a higher value being preferred. LCA model statistics are shown in *Table A1* in the Appendix.

In the second part of the analysis, cohabitation types are characterised using the independent variables presented in the previous subsection. This is done by assigning respondents to the class to which they are most likely to belong based on the estimation. In a well-defined model, the classes are sharply separated and as homogeneous as possible, and there will be few respondents who are almost equally likely to be classified in more than one class.[10]

[10] In the literature on LCA, much attention has been paid to how to analyse the association of the resulting groups with background factors and outcomes (Nylund-Gibson and Choi 2018). The simplest approach is to assign each respondent to the group to which he or she is most likely to belong, and then use multinomial logistic regression to examine the factors that make group membership likely. This involves some information loss because it ignores the uncertainty of grouping. Simulation analyses show that this is particularly problematic when groups are not sharply separated. One indicator of uncertainty in grouping is entropy, and probabilistic grouping is recommended for values above 0.8 (Clark and Muthén 2009). In our analysis, the entropy is 0.835 (*Table A1*), i.e. the uncertainty of the classification is low. The probability-based grouping was unambiguous for 97.7% of the respondents. Only 53 respondents could be classified into two different groups with almost equal probability. Excluding these respondents with uncertain class membership from the multinomial logistic regression models did not change the results.

Multinomial logistic regression models are used to show how background variables relate to the probability of belonging to different cohabitation types. To facilitate the interpretation and comparison of the results, average marginal effects are reported (see Bartus 2003) and raw coefficients (relative risk ratios) are given in the Appendices.

RESULTS

A TYPOLOGY OF COHABITATIONS

Based on the model statistics of the latent class analysis (see *Table A1*), the typology with the best model fit distinguished four groups of cohabiting respondents aged 22–69: trial marriage, alternative to marriage, stepfamily and post-marital cohabitation (*Table 3*). Essentially the same four types were identified at both points in time, but the conditional probabilities of the variables were not exactly the same (partly due to differences in the marginal distributions) and the proportions of the groups also changed.

Around a third (29–30%) of our sample have never been married, are typically in their first cohabiting union and do not (yet) have children but would like to. They have a relatively short relationship duration of five years or less. The intention to marry is highest in this group (56% and 79% respectively), but there is still a large number of people who do not plan to marry or are not sure. This is called the *trial marriage* group.

The value preferences of the trial marriage group are the most traditional and, amid a general liberalisation of attitudes, their pro-marriage attitudes have persisted and even increased between 2001 and 2016. Few see marriage as an outdated institution (16 and 10% respectively) and more than half think it is important to get married in case of pregnancy (54 and 53% respectively).

The next group can be called *alternative to marriage*. They have usually lived together for at least five years, and most of them do not intend to marry. Their commitment to each other is demonstrated by the fact that they have or plan to have children together. They are likely to have never been married and to be in their first civil partnership. This group is the most likely to consider marriage outdated and the least likely to think that it is important to get married for having children. The proportion of this group has increased from 25% to 39% in a decade and a half.

Table 3: Types of cohabiting unions (conditional probabilities and latent class probabilities for each variable)

	Wave 1				Wave 5			
	1 Trial marriage	2 Alternative to marriage	3 Stepfamily	4 Post-marital cohabitation	1 Trial marriage	2 Alternative to marriage	3 Stepfamily	4 Post-marital cohabitation
Length of cohabitation with current partner								
Less than 2 years	0.427	0.001	**0.632**	0.079	0.423	0.009	0.421	0.126
2–5 years	0.405	0.183	0.337	0.182	0.385	0.149	**0.555**	0.172
More than 5 years	0.168	**0.816**	0.031	**0.739**	0.192	**0.842**	0.024	**0.702**
Not cohabited before	**0.827**	**0.864**	**0.535**	**0.909**	**0.800**	**0.856**	0.364	**0.818**
Marital status								
Never married	**0.997**	**0.912**	0.360	0.038	**0.973**	**0.894**	**0.630**	0.092
Divorced, separated	0.003	0.088	**0.640**	**0.751**	0.025	0.105	0.356	**0.779**
Widowed	0.000	0.000	0.000	**0.211**	0.002	0.001	0.014	**0.129**
Intention to get married	**0.559**	0.180	0.420	0.100	**0.793**	0.321	0.486	0.184
Biological child(ren) with current partner	0.060	**0.746**	0.179	0.190	0.114	**0.882**	0.166	0.218
Biological child(ren) with someone else	0.001	0.108	**0.788**	**0.916**	0.001	0.079	**0.633**	**0.941**
Intention to have children	**0.905**	0.382	**0.675**	0.041	**0.928**	0.176	**0.577**	0.008
Agree that marriage is an outdated institution	0.160	**0.400**	0.089	0.244	0.101	**0.329**	**0.328**	0.289
Important to get married in case of a pregnancy	**0.537**	0.129	0.392	0.492	**0.525**	0.099	0.198	0.292
Estimated frequency (%)	*28.5*	*25.4*	*8.0*	*38.1*	*29.8*	*38.8*	*9.3*	*22.1*

Source: Wave 1 (2001, n=1108) and Wave 5 (2016/17, n=1154) of the Turning Points of the Life Course Panel Survey, respondents aged 22–69 living in a cohabiting union, author's calculation.
Note: Models are constructed using the survey wave as the grouping variable and assuming measurement variance across classes. Bold emphasis indicates probabilities greater than 0.5 or values significantly above row mean to aid interpretation.

Cohabitants in the *stepfamily* type have already been in a cohabiting or marital relationship with a previous partner and often have children who are not in common with their current partner.[11] 8–9% belong to this group. Due to changes in the marital status of the cohabiting population (an increase in the proportion of the never-married), there is a shift in this group from divorced to separated respondents. Members of this group have a 17–18% probability of having children together and the majority are planning childbearing. The

[11] Here we use the term "stepfamily" to refer to the high probability that the respondent has a non-shared child with their partner, but this does not refer to the household structure, i.e. we do not examine whether the non-shared child lives with the couple. We use a broad definition of stepfamily that may include family members living outside the household.

shortest periods of cohabitation are found in this group, with almost one in two planning to marry. While the proportion of respondents with marital intentions has increased overall, it has hardly changed for this group, so their above-average intention to marry has become average over a decade and a half. There has been a significant change in attitudes, with an increase in the proportion of people who think marriage is an outdated institution and a decrease in the proportion who consider it important to marry when having children.

Finally, *post-marital* cohabitations include relatively long-term unions where the respondent is usually divorced or widowed, this is their first cohabitation and they do not want to remarry. Almost all people in post-marital cohabitation are parents, and about 20% of them have children with their current partner (as well): They do not plan to have any more children. Their views on marriage are average. The proportion of post-marital cohabitation has fallen significantly in a decade and a half, from 38% to 22%.

Changes in the marginal distributions are also reflected in the characteristics of the cohabitation types. The intention to marry increased significantly, from 28% to 45% (i.e. by 61%). The proportion planning to marry increased in all groups, but not equally: least in the stepfamily and alternative to marriage types, most in the trial marriage and post-marital types. The types with the largest increase in marital intentions were the ones that also had the most favourable attitudes towards marriage.

CHARACTERISTICS OF COHABITATION TYPES

We now examine how individuals' demographic and socio-economic characteristics and relationship quality are related to the type of cohabitation they live in.

The most significant differences are along age lines (*Figure 1*), with trial marriages being the cohabitation type of young people under 35 and post-marital cohabitation being the cohabitation of people in their 50s and 60s. People in different age groups are almost equally likely to live in a stepfamily, with those aged 50 and over only slightly less likely to do so.

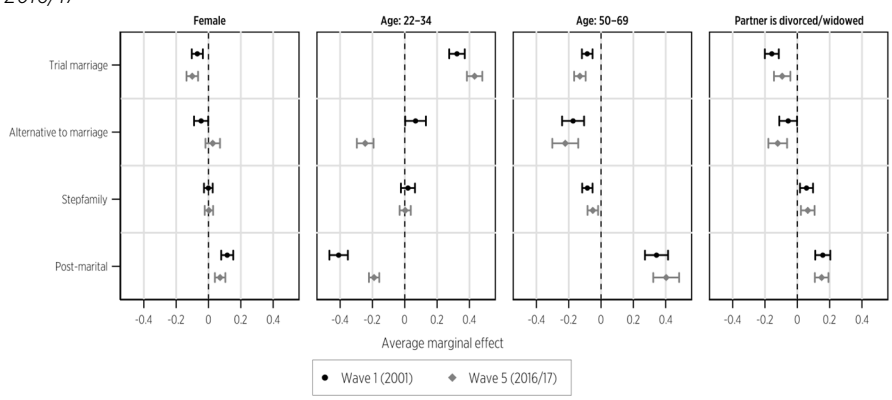
The relationship between cohabiting as an alternative to marriage and age was negative in the first wave and inverted U-shaped in the fifth wave. The change affected young people: over a decade and a half, the marginal effect for 22–34-year-olds (compared to 35–49-year-olds) decreased from +7 percentage points to –25 percentage points. In other words, the youngest age group was much less likely to be in a cohabiting relationship as an alternative

to marriage than 35–49-year-olds in 2016. Among the young (controlling for other independent variables), the probabilities of living in a trial marriage or a post-marital cohabitation increased.

Gender differences are moderate. Female respondents are less likely than men to be in a trial marriage and more likely to be in post-marital cohabitation (*Figure 1*). In 2001, slightly fewer women than men cohabited as an alternative to marriage.

The type of cohabitation and the marital status of the respondent's partner are related (*Figure 1*). Compared with the never-married, divorced or widowed partners are more likely to live in a post-marital (+15–16 percentage points) or in a stepfamily cohabitation (+6 percentage points), where the respondent is also more likely to be divorced, widowed or have previously cohabited. In the trial marriage and the alternative to marriage types, it is more common for the partner to have never been married.

Figure 1: Relationship between type of cohabitation with respondent's sex (ref: male), age group (ref: 35–49 years old) and marital status of partner (ref: never married), 2001 and 2016/17



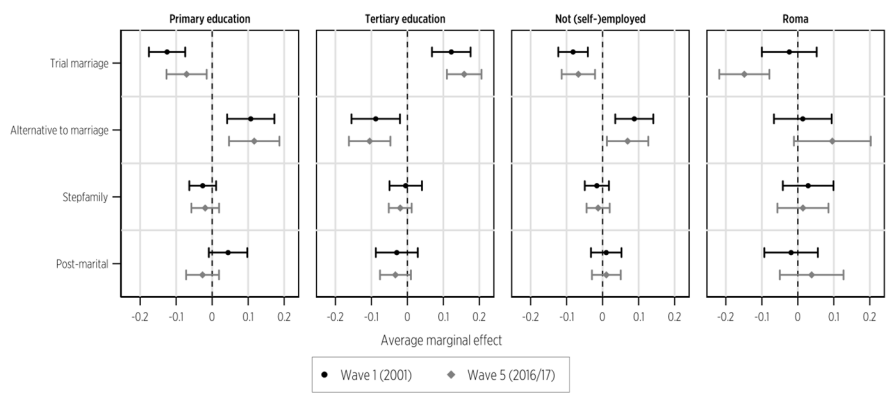
Source: Wave 1 (2001, n=1108) and Wave 5 (2016/17, n=1154) of the Turning Points of the Life Course Panel Survey, respondents aged 22–69 living in a cohabiting union, author's calculation.
Note: Average marginal effects and 95% confidence intervals calculated from the results of the multinomial logistic regression model (see *Table A2*).

Educational attainment and cohabitation type are only related in the case of trial marriage and alternative to marriage (*Figure 2*). People with primary education are less likely (–13 and –7 percentage points) and those with tertiary

education are more likely (+12 and +16 percentage points) to live in a trial marriage than those with vocational or secondary education. The relationship is the opposite for the alternative to marriage type.

Those in a trial marriage are less likely (–8 and –7 percentage points) and those in an alternative to marriage type are more likely to be inactive (+9 and +7 percentage points) (*Figure 2*). Detailed results (not shown here) suggest that the difference in activity status is mainly found among women and is probably partly explained by their parental status. The socio-economic advantage of trial marriage and the disadvantage of the alternative to marriage is also reflected in the fact that Roma respondents in wave 5 are less likely to be in the former group (–15 percentage points) and more likely to be in the latter group (+10 percentage points).[12] Cohabitation in a stepfamily or after marriage are not related to respondents' educational attainment, labour market status or ethnicity.

Figure 2: Relationship between type of cohabitation and respondent's educational attainment (ref.: secondary), labour market status (ref.: employed or self-employed) and ethnicity (ref.: non-Roma), 2001 and 2016/17



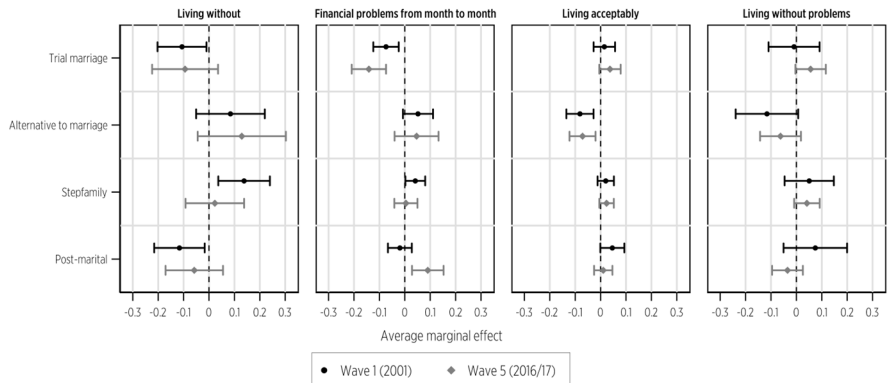
Source: Wave 1 (2001, n=1108) and Wave 5 (2016/17, n=1154) of the Turning Points of the Life Course Panel Survey, respondents aged 22–69 living in a cohabiting union, author's calculation.
Note: Average marginal effects and 95% confidence intervals calculated from the results of the multinomial logistic regression model (see *Table A2*).

The differences in educational attainment and activity status of those in the trial marriage and alternative to marriage types are also reflected in their subjective income situation (*Figure 3*). Younger, better-educated respondents in the trial marriage group tend to perceive their household income situation as

[12] There are few Roma respondents in our sample, which may explain some of the uncertainty in the estimates.

fair or good, while those living together as an alternative to marriage tend to have a worse financial situation. Those in the stepfamily type tended to be more characterised by deprivation and financial difficulties in the first wave, but this was no longer evident in the fifth wave. Those living together after marriage tended to perceive their financial situation as better in 2001, but by 2016 those with financial problems were more likely to be in this group.

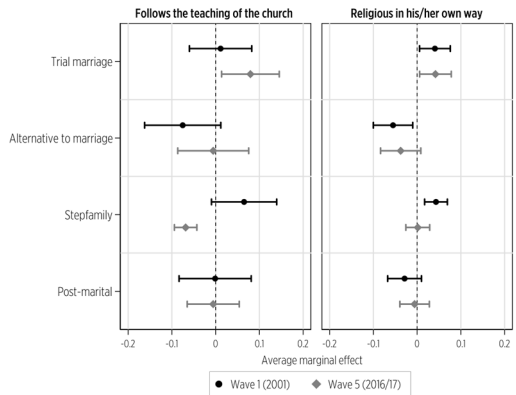
Figure 3: Relationship between type of cohabitation and perception of household income status (ref.: just making ends meet), 2001 and 2016/17



Source: Wave 1 (2001, n=1108) and Wave 5 (2016/17, n=1154) of the Turning Points of the Life Course Panel Survey, respondents aged 22–69 living in a cohabiting union, author's calculation.
Note: Average marginal effects and 95% confidence intervals calculated from the results of the multinomial logistic regression model (see *Table A2).*

Relatively small differences – less than 10 percentage points – can be seen in religiosity (*Figure 4*). In 2001, only two groups stood out: those in a stepfamily and those in a trial marriage. By 2016, those in a trial marriage had become slightly more religious, while those in a stepfamily had become less religious. The data suggest that those cohabiting as an alternative to marriage tend to be less religious. Those who cohabit after marriage are no different from the average in terms of religiosity.

Figure 4: Relationship between type of cohabitation with respondent's religiosity (ref.: not religious/ doesn't know), 2001 and 2016/17

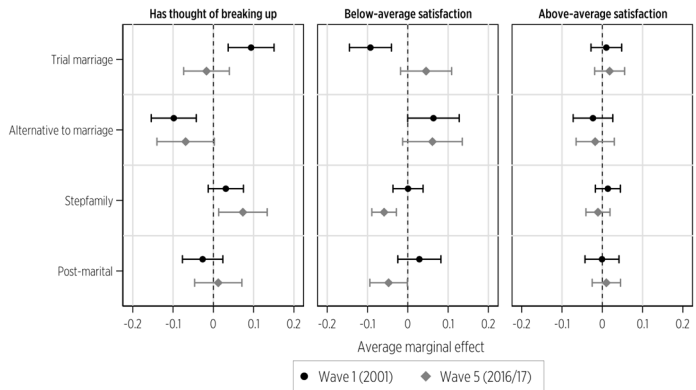


Source: Wave 1 (2001, n=1108) and Wave 5 (2016/17, n=1154) of the Turning Points of the Life Course Panel Survey, respondents aged 22–69 living in a cohabiting union, author's calculation.
Note: Average marginal effects and 95% confidence intervals calculated from the results of the multinomial logistic regression model (see *Table A2*).

Only the 'alternative to marriage' group has lower than average relationship satisfaction (*Figure 5*). Below-average satisfaction is less common among the trial marriage group in 2001 and the stepfamily and post-marital types in 2016. There is no relationship between above-average satisfaction and cohabitation type. Thinking about breaking up is least likely in the alternative to marriage group and most likely in the trial marriage (in 2001) and stepfamily (in 2016) types.

It seems that the idea of union dissolution is not associated with dissatisfaction with the relationship. This may be explained by the fact that the idea of breaking up can also be seen as an indicator of commitment rather than just relationship quality. Relatively new cohabitations, especially trial marriages, can often raise questions about whether the partners are compatible, whether the relationship is working and whether they see a future together (Rhoades et al. 2009). Those in a trial marriage were more likely to be thinking about ending the relationship in 2001 – when the proportion intending to marry was also lower. A change may have occurred over a decade and a half, with an increase in the proportion of those in trial marriage who consider cohabitation as a precursor to marriage.

Figure 5: Relationship between type of cohabitation and thoughts of break-up (ref: not thought about it in the past year) and relationship satisfaction (ref: average), 2001 and 2016/17



Source: Wave 1 (2001, n=1108) and Wave 5 (2016/17, n=1154) of the Turning Points of the Life Course Panel Survey, respondents aged 22–69 living in a cohabiting union, author's calculation.
Note: Average marginal effects and 95% confidence intervals calculated from the results of the multinomial logistic regression model (see *Table A2*).

CONCLUSIONS

In contemporary Hungary, the cohabiting population aged 22–69 can be divided into four types based on family trajectories, relationship commitment and perceptions of marriage: trial marriage, alternative to marriage, stepfamily and post-marital cohabitation. Members of the first two groups are typically in their first relationship, while members of the last two groups have previously been married or cohabiting. Those in a trial marriage have relatively high marital and childbearing intentions, tend to be young, have short union duration and are the most pro-marriage. In the international literature, a distinction is often made between cohabitation as a trial marriage and a prelude to marriage for young people about to marry for the first time. In our analysis, we have not distinguished between these two groups – presumably, we can find representatives of both in the 'trial marriage' type.

Our findings on the favourable socio-economic status, pro-marriage attitudes and increasing religiosity of those in trial marriages are consistent with research on the determinants of marriage in Hungary (e.g. S. Molnár 2001, Szalma 2009, Bukodi 2004, Murinkó and Spéder 2021b, Pusztai et al. 2022).

These studies show that couples with higher education and stable employment are more likely to marry and that the role of religiosity in determining whether cohabiting couples marry has increased.

The cohabitation as an alternative to marriage group consists mainly of couples who have lived together for a long time, who often have children together and who reject marriage or consider it irrelevant. This corresponds to the ideal type of the same name in the literature. An interesting change is that the intention to marry of those who cohabit as an alternative to marriage increased by 2016, bringing them closer to the type described in the literature as 'conformists' (Hiekel et al. 2014), who plan to marry despite their beliefs.

The increase in marriage intentions among couples cohabiting as an alternative to marriage may reflect the impact of measures introduced in 2015 to support marriage (e.g. tax relief for first-time married couples, family housing allowance; see Murinkó 2020). A contributing factor to the Hungarian marriage boom between 2015 and 2022 may have been the large number of cohabiting unions and the increase in the share of couples cohabiting as an alternative to marriage, among whom many – but still a minority – consider marriage to be an outdated institution.

The next type is the stepfamily, where cohabiting partners often have children from previous relationships, tend to plan to have children together and also plan to get married in about half of the cases. Their views on marriage were quite positive in 2001 but less supportive in 2016. This suggests that living together as a stepfamily was seen more as part of the marriage process in 2001 and shifted to being an alternative to marriage by 2016. In the international literature, only Buchler et al. (2009) mention a similar type, which they call marriage idealisers.

People who cohabit after divorce or widowhood are typically older and their high level of commitment is evidenced by the long duration of the relationship. They usually do not have children together and do not plan to marry or have any more children. They have been described by Pongrácz and Spéder (2003) as the old type of cohabiters and by Buchler and colleagues (2009) as "marriage abandoners."

In addition to the four identified groups, there are several types of cohabitation mentioned in the literature that could not be detected in our analysis. One of these is the alternative to being single type (Hiekel et al. 2014 did not find such a group in Hungary either). Few people may live in this type of relationship and for a short time, making it difficult to capture in a survey. In any

case, cohabiting relationships that last only a short time, break up or turn into marriage quickly may be underrepresented in our sample.

We did not include income status or education among our grouping variables, so we could not identify cohabiters who did not plan to marry due to their poor financial situation (Hiekel 2012, 2014). One reason for our decision is that in 2016, less than a tenth of cohabiting respondents who did not plan to marry reported a financial or family reason for their lack of marital intention (Murinkó and Rohr 2018). Although those who "cannot afford" to marry do not constitute a distinct type of cohabitation, the socio-economic situation of those living together as an alternative to marriage is less favourable than that of those in a trial marriage.

Among re-partnered respondents, there is little difference in the socio-economic characteristics of the different cohabitation types. One possible explanation is that selection by social status may operate at other (earlier) transitions of the family life course. Previous research has reported in detail how social status determines who finds a partner and who remains single (Murinkó 2019), who marries and who does not (S. Molnár 2001, Szalma 2009, Bukodi 2004, Murinkó and Spéder 2021b, Pusztai et al. 2022), who has and raises children out of wedlock (Kamarás 2001, Monostori and Szabó 2021, Murinkó and Spéder 2021a) or who breaks up a relationship (Bukodi 2001, Makay and Murinkó 2021).

A question often raised in the literature is how the proportion of cohabiting unions that are part of the marriage process and an alternative to marriage is changing. The conclusion depend on which relationships are considered. Between 2001 and 2016, the proportion of couples cohabiting as an alternative to marriage increased (from 25% to 39%) and the proportion of couples choosing cohabitation after marriage decreased (from 38% to 22%), while the proportion of trial marriages (29–30%) and stepfamily cohabitations (8–9%) remained virtually unchanged. In other words, looking only at people living in their first relationship, the proportion of people in a trial marriage fell from 53% to 43% (due to the increase in the size of the alternative to marriage group). However, when post-marital cohabitation is also considered as an alternative to marriage, the relative proportions of cohabiting partners considered as part of the marriage process and as an alternative to marriage have remained essentially unchanged.

As Kreidl and Reimerová (2024) have pointed out, theories that propose a unidirectional and universal evolution of cohabitation from marginal to indis-

tinguishable from marriage (e.g. Kiernan 2001) operate within the 'developmental paradigm' (Thornton 2001). They place countries on a continuum from traditional to modern, with countries such as Sweden or Norway being the "most developed". Some of the changes observed in Hungary seem to be in line with this general paradigm, if we consider the growing general prevalence of unmarried unions and the increasing proportion of never-married couples living together as an alternative to marriage. However, cohabitation is not limited to the never-married – until the 1980s it was primarily a post-marital arrangement in Hungary (Carlson and Klinger 1987). As such, it already functioned as an alternative to (re-)marriage decades ago.

Moreover, the recent Hungarian marriage boom shows how quickly marriage and cohabitation trends can change direction and that factors other than the diffusion of cohabitation also shape trends. Many cohabiting couples married when financial incentives encouraged them to tie the knot, suggesting that the line between cohabitation and marriage has become easy to cross. As Jan Hoem noted about a brief upsurge of marriages in 1989, "the marriage peak in December clearly confirms how lightly Swedes in general have taken the choice between cohabitation and marriage. Many cohabiting couples cannot have paid particularly great attention to the legal form of their life together. In an era where norms are weak and sanctions virtually non-existent, moderately strong impulses and fashionable trends can have considerable influence on changes in behaviour" (Hoem 1991, 132–133). If we take this message seriously, we should turn to studies of family attitudes and decision-making processes to better understand the choices people make throughout their life courses.

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APPENDICES

Table A1: LCA model statistics

Number of latent classes	*Number of estimated parameters*	*G^2*	*Degree of freedom*	*p*	*BIC*	*aBIC*	*CAIC*	*Log-likeli-hood*	*Entropy R^2*
1	24	5 596.1	3431	0.000	5 781.5	5 705.3	5 805.5	-14 287.0	1.000
2	50	3 181.2	3405	<0.000	3 567.4	3 408.6	3 617.4	-13 079.5	0.860
3	76	1 977.8	3379	<0.000	2 564.8	2 323.4	2 640.8	-12 477.8	0.843
4	**102**	**1 739.7**	**3353**	**0.125**	**2 527.6**	**2 203.5**	**2 629.6**	**-12 358.8**	**0.835**
5	128	1 624.7	3327	0.689	2 613.4	2 206.7	2 741.4	-12 301.3	0.800
6	154	1 521.4	3301	0.887	2 710.9	2 221.6	2 864.9	-12 249.6	0.814
7	180	1 442.9	3275	0.966	2 833.2	2 261.3	3 013.2	-12 210.3	0.789

Source: Wave 1 (2001, n=1108) and Wave 5 (2016/17, n=1154) of the Turning Points of the Life Course Panel Survey, respondents aged 22–69 living in a cohabiting union, author's calculation.
Notes: BIC = Bayesian Information Criterion, aBIC = adjusted BIC, CAIC = Consistent Akaike Information Criterion. Models constructed using the survey wave as a clustering variable and assuming interclass measurement variance. The selected model is indicated by bold.

Table A2: Multinomial regression models of cohabitation types by survey wave

a) Wave 1

	Alternative to marriage		*Stepfamily*		*Post-marital*	
Female	1.549*	(0.343)	1.830*	(0.552)	4.263***	(1.191)
Age group						
22–34	0.147***	(0.046)	0.150***	(0.057)	0.018***	(0.006)
35–49 (ref.)	1		1		1	
50–69	6.580†	(7.323)	1.464	(2.160)	32.987**	(35.993)
Roma ethnicity	1.203	(0.547)	1.620	(0.995)	1.045	(0.603)
Marital status of partner						
Never married (ref.)	1		1		1	
Divorced, separated or widowed	2.629***	(0.711)	5.613***	(1.937)	8.298***	(2.444)
Highest level of education						
Primary	3.506***	(1.071)	1.640	(0.701)	3.647***	(1.337)
Secondary or vocational (ref.)	1		1		1	
Tertiary	0.314**	(0.112)	0.467†	(0.196)	0.341**	(0.137)
Subjective income situation						
Living without	2.286	(1.429)	6.535**	(4.302)	0.907	(0.696)
Financial problems from month to month	1.894*	(0.555)	2.803*	(1.126)	1.551	(0.556)
Barely making ends meet (ref.)	1		1		1	
Living acceptably	0.665	(0.176)	1.379	(0.500)	1.267	(0.401)
Living without problems	0.638	(0.443)	2.362	(1.865)	1.856	(1.479)
Not (self-)employed	2.458***	(0.611)	1.371	(0.510)	2.074*	(0.622)
Type of settlement						
Budapest (ref.)	1		1		1	
City	1.114	(0.374)	1.268	(0.594)	1.954†	(0.748)
Town	1.035	(0.318)	1.757	(0.761)	1.568	(0.576)
Village	0.957	(0.300)	1.337	(0.621)	1.399	(0.546)
Religiosity						
Follows the teaching of the church	0.659	(0.312)	2.240	(1.282)	0.889	(0.496)
Religious in his/her own way	0.576*	(0.129)	1.426	(0.450)	0.572*	(0.157)
Not religious/ doesn't know (ref.)	1		1		1	
Thought of breaking up over the past year	0.320**	(0.116)	0.787	(0.328)	0.382*	(0.157)
Satisfaction with the relationship						
Below average	2.528**	(0.820)	1.955	(0.866)	2.658*	(1.040)
Average (ref.)	1		1		1	
Above average	0.843	(0.200)	1.136	(0.364)	0.917	(0.264)
Constant	2.589*	(1.115)	0.176**	(0.101)	1.047	(0.492)
Model fit indicators						
McFadden pseudo R^2	0.368					
McFadden adjusted R^2	0.282					
Cox-Snell /Maximum likelihood R^2	0.633					
Cragg and Uhler / Nagelkerke R^2	0.678					
Count R^2 (classification accuracy)	0.419					
Adjusted count R^2	0.166					
Area under the ROC curve (AUC)	0.846					

b) Wave 5

	Alternative to marriage		*Stepfamily*		*Post-marital*	
Female	2.169***	(0.419)	1.957*	(0.553)	3.933***	(1.015)
Age group						
22–34	0.084***	(0.017)	0.176***	(0.053)	0.011***	(0.005)
35–49 (ref.)	1		1		1	
50–69	4.919*	(3.537)	3.502	(2.926)	30.017***	(21.627)
Roma ethnicity	3.748**	(1.645)	3.265†	(2.202)	4.651*	(2.929)
Marital status of partner						
Never married (ref.)	1		1		1	
Divorced, separated or widowed	1.446	(0.388)	3.659***	(1.230)	5.469***	(1.664)
Highest level of education						
Primary	2.037*	(0.605)	1.137	(0.520)	1.384	(0.535)
Secondary or vocational (ref.)	1		1		1	
Tertiary	0.305***	(0.072)	0.339**	(0.120)	0.268***	(0.088)
Subjective income situation						
Living without	2.300	(1.662)	2.369	(2.700)	1.166	(1.215)
Financial problems from month to month	3.419**	(1.476)	3.066†	(1.857)	6.726***	(3.469)
Barely making ends meet (ref.)	1		1		1	
Living acceptably	0.668†	(0.138)	1.170	(0.371)	0.840	(0.233)
Living without problems	0.582†	(0.169)	1.233	(0.532)	0.481	(0.219)
Not (self-)employed	1.862*	(0.457)	1.241	(0.462)	1.823†	(0.583)
Type of settlement						
Budapest (ref.)	1		1		1	
City	1.312	(0.394)	1.184	(0.527)	1.232	(0.502)
Town	1.103	(0.309)	1.177	(0.490)	1.100	(0.415)
Village	1.296	(0.373)	1.400	(0.599)	1.384	(0.547)
Religiosity						
Follows the teaching of the church	0.636	(0.207)	0.073*	(0.087)	0.567	(0.259)
Religious in his/her own way	0.693†	(0.130)	0.804	(0.217)	0.700	(0.179)
Not religious/ doesn't know (ref.)	1		1		1	
Thought of breaking up over the past year	0.882	(0.264)	2.385*	(0.942)	1.203	(0.509)
Satisfaction with the relationship						
Below average	0.869	(0.274)	0.248**	(0.128)	0.475†	(0.197)
Average (ref.)	1		1		1	
Above average	0.866	(0.167)	0.802	(0.224)	0.963	(0.253)
Constant	3.925***	(1.304)	0.415†	(0.208)	0.612	(0.279)
Model fit indicators						
McFadden pseudo R^2	0.364					
McFadden adjusted R^2	0.283					
Cox-Snell /Maximum likelihood R^2	0.631					
Cragg and Uhler / Nagelkerke R^2	0.674					
Count R^2 (classification accuracy)	0.545					
Adjusted count R^2	0.225					
Area under the ROC curve (AUC)	0.862					

Source: Wave 1 (2001, n=1108) and Wave 5 (2016/17, n=1154) of the Turning Points of the Life Course Panel Survey, respondents aged 22–69 living in a cohabiting union, author's calculation.
Notes: The reference category of the dependent variable is trial marriage. Values reported are relative risk ratios and standard errors (in brackets). *** p<0.001; ** p<0.01; * p<0.05; † p<0.1. For a discussion of model fit indicators, see Long 1997 and Hand and Till 2001.

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