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Identity and marriage: A bidirectional approach based on evidence from Finland

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Abstract

Psychological factors, such as personality traits or skills, have increasingly been studied with regards to family formation processes, such as marital behavior, in previous demographic research. Identity has received less attention as a predictor of important partnership outcomes, although identity formation belongs to the crucial developmental processes of adolescence. We aim to address this gap by examining the bidirectional association between identity and marriage using longitudinal survey data from Finland. We apply event-history analyses in order to study the prospective power of both identity dimensions (variable-centered approach) and identity clusters (person-oriented approach) on marriage risks. Furthermore, we conduct fixed effects linear regression models for examining identity development over time based on marital status. Findings suggest that identity uncertainty is negatively, and identity certainty is positively associated with marriage risks over time. Results based on cluster analyses support these findings, i.e. committers are more likely to get married than explorers. Mixed findings with regards to identity development have emerged. Whereas identity certainty remains stable over time among married individuals, it decreases among singles. Identity uncertainty, however, has not shown different developments over time according to marital status.

Introduction

Psychological factors have been increasingly studied in previous demographic research. Personality traits have been shown to shape fertility (Jokela et al., 2009; Peters, 2023), marital behavior (Jokela et al., 2011; Lundberg, 2012), and dissolution processes (Boertien et al., 2017; Lundberg, 2012). Additionally, leadership skills are linked with family formation processes (Jokela & Keltikangas-Järvinen, 2009; Peters & Barclay, 2022). Another psychological concept is identity, which has increasingly gained attention in social sciences since the mid-20th century (Côté, 2006), based on Erikson's work (Erikson, 1950, 1968). Nevertheless, the role of identity for demographic outcomes is less explored.

According to Erikson (1968), identity formation is a crucial developmental task for individuals in adolescence. Identity is shaped by the extent to which individuals think about their future (e.g. career or family goals) and enter commitments (e.g. onset of romantic relationships, entering the labor market). These processes are important for the transition to adulthood that comes along with different challenges and responsibilities. In the past, identity formation was considered to start and proceed in adolescence but in contemporary societies, prolongations to higher ages (i.e. late twenties/early thirties) have regularly been observed (Côté, 2016).

Individuals in liberal societies may choose whether and when to enter cohabitation or marriage. Romantic relationships are positively linked with a number of positive life outcomes such as happiness (Kohler et al., 2005) and mental health (Braithwaite & Holt-Lunstad, 2017). As Erikson (1968) argues, intimacy can only be developed at well-advanced stages of identity formation, i.e. a person who is uncertain about the own identity will probably avoid intimacy with other people, or not be able to start a serious relationship (Erikson, 1968). Consequently, identity formation is conditional for the

development of serious romantic relationships such as marriage. However, little is known about the relationship between identity and the formation of such serious relationships.

The present study addresses this gap by examining the two-way relationship between identity (expressed as future life plans) and marriage. We make use of the longitudinal Finnish Educational Transitions (FinEdu) Studies, which has followed young Finns over time. We approach our research question by examining 1) the effect that identity takes on marriage risks over time, and 2) identity development by marital status.

Theoretical Background

Identity

Identity is complex and includes various dimensions describing *sameness* and *continuity* of individuals across time and space (Erikson, 1950, 1968). Subsequent researchers have built upon Erikson's work and distinguished more carefully between personal (e.g. values, future plans) and social life domains (e.g. gender, nationality) of identity (Côté, 2006; Marcia, 1993; Meeus, 2011). Therefore, one may speak of social and personal identity (Côté, 2006) that form identity, and may overlap each other.

Based on Erikson's theory, the identity status model has been developed (Marcia, 1966, 1993), which consists of four statuses along the two processes "exploration of alternatives" (exploring options) and "commitment" (committing to one option) (Marcia, 1993). These identity processes may relate to any life domain (e.g. career, partnering, hobbies) and may occur simultaneously. For instance, a person may be committed to a job but apply for other ones (exploring alternatives). Regarding partner markets, individuals may explore options by dating and commit to a partner by cohabitation or

marriage. The identity status model considers the extent to which exploration and commitment exist, resulting in four statuses: 1) identity diffusion (neither exploration nor commitment, e.g. singles who do not commit to a partnership and do not look for a partner); 2) foreclosure (commitment without exploration, e.g. when parents choose the spouse of the child); 3) moratorium (exploration with little commitment, e.g. dating followed by an unmarried partnership without moving together); and 4) identity achievement (exploration and commitment, e.g. marriage after selecting the best fit on the partner market) (Marcia, 1993). A person may be in different statuses in different life dimensions. For instance, one may commit to a partner (e.g. identity achievement) but explore options on the labor market (e.g. moratorium) at the same time. No identity status is more desirable than the other, in general. However, statuses with high commitment (foreclosure, achievement) may allow individuals to follow and realize certain life plans to a greater extent than statuses with low commitment. For instance, cohabiting with a partner (commitment) enables individuals to test daily life routines with a partner in preparation for a potential marriage, whereas staying single (exploration) does not provide this opportunity. Consequently, marriage may be considered as planned behavior, for which prior commitment processes may be good predictors. For this reason, commitment-related processes and statuses will be called 'goal-oriented' or 'plan-based' identity dimensions, which does not indicate that these dimensions are more desirable than others.

Several adaptations of this status model were proposed. For instance, different dimensions of exploration and commitment have been explored (Luyckx, Goossens, & Soenens, 2006), addressing the dynamic component of identity. Exploration can be subdivided into *exploration in breadth* (exploring alternatives before commitment) and *exploration in depth* (assessing the option after commitment), and commitment can be

subdivided into *commitment making* (commitment process or presence) and *identification with commitment* (identifying oneself with the chosen option) (Luyckx, Goossens, Soenens, et al., 2006). Luyckx and colleagues (2008) have extended this identity model further by adding a third exploration dimension. They argue that explorations in breadth and depth are positively connected with openness, curiosity, or other identity formation outcomes (e.g. self-reflection) (Luyckx et al., 2008). However, exploration is also linked to higher psychological distress and self-rumination, which is captured by the third exploration dimension called "ruminative exploration" (psychological distress; uncertainty about one's own goals, plans, or commitments) (Luyckx et al., 2008).

Variable- vs. person-oriented approach

Identity may be operationalized through a variable- or person-oriented approach. The variable-oriented approach considers individuals as additive contributions from different psychological dimensions that can be separated from each other, which typically demands for linear statistical models, and identity measures are separate included (Bergman & Trost, 2006). Conversely, person-oriented approaches understand individuals as a whole, and as a complex system with different facets (Bergman & Trost, 2006). Consequently, person-oriented approaches usually use some kind of latent class analyses (Bergman & Trost, 2006), such as K-means clustering procedure or latent profile analyses.

The number of potential identity clusters may vary between studies (Waterman, 2015), but is typically derived from the four-cluster model (Claes et al., 2018), which is in line with Marcia's (1993) identity status model. However, Marcia's model is based on the

two general dimensions (exploration, commitment), which are present or absent, i.e. no more than four different statuses may be obtained. However, more recent research has specified the identity dimensions in a more detailed way (three exploration and two commitment dimensions) (Luyckx et al., 2008; Luyckx, Goossens, Soenens, et al., 2006). Therefore, recent studies have found at least five different clusters (Mannerström et al., 2018, 2021) although the 4-cluster structure continues to be used (Claes et al., 2018). The present study focuses on the 5-cluster solution, which may also be more comprehensible than more complex structures with seven or eight clusters. It needs to be kept in mind, though, that no cluster solution has been established as the dominant one across studies. Therefore, other solutions (2-8 clusters) are shown in the appendix.

Previous research has discussed to apply combinations between the variable- and the person-oriented approach (Bergman & Trost, 2006). For instance, one may argue theoretically from a person-oriented perspective, but conduct analyses according to the variable-oriented approach, or combine both approaches (Bergman & Trost, 2006). This study follows the latter option since it may provide a more complete picture of the nexus between identity and marital behavior. Both approaches may be considered as complements, which also address different research questions (Bergman & Trost, 2006). Using a person-oriented approach, for instance, may represent the uniqueness of individuals well (Crocetti & Meeus, 2014) but cannot show potential associations that relate to specific identity dimensions such as the variable-centered approach does.

Identity in the Life Course Perspective

According to Erikson, identity formation is a slow development of ego starting when tentative identifications from childhood appear useless (Erikson, 1968). Thus, previous research has particularly examined identity status changes in young ages (Kroger et al., 2010), including throwbacks leading to several cycles of identity formation (Luyckx et al., 2014). Previous experiences and identity levels, in turn, may determine identity formation processes in later ages, too (Côté, 2016).

According to the identity status model by Marcia (1993), identity formation typically starts with diffusion or foreclosure, and develops towards moratorium or achievement (Kroger et al., 2010). However, certain processes or life events may change this identity configuration and a new identity formation process may start. For instance, individuals may explore academic disciplines (in breadth) before specific choices can be made (commitment) and evaluated (exploration in depth) (Luyckx et al., 2014). If the chosen academic discipline is not satisfying, the entire process may start again in order to find a more appropriate field (Luyckx et al., 2014). This may be easily translated to partnering processes; romantic relationships may turn to cohabitation/marriage, remain in this status, or get dissolved and a new process may start.

Previous research has examined several periods of identity development over the life course, ranging from childhood to late adulthood, and all of them are linked with different life events and transitions (Colarusso, 1992; Havighurst, 1948). Most of these events relate to love or work, indicating a great role in various theoretical perspectives (Erikson, 1968; Havighurst, 1948; Mayseless & Keren, 2014). Identity formation in adolescence and young adulthood has received particular attention (Erikson, 1956) since several transitions typically happen during these periods, e.g. from school to work/university, to parenthood, or to cohabitation/marriage (Graber & Brooks-Gunn,

1996; Settersten Jr., 2012). Completing these transitions is positively linked with life satisfaction (Howard et al., 2010) and wellbeing (Schoon et al., 2012). These experiences and identity levels in young ages may also shape identity in later ages (Côté, 2016). For instance, individuals who have followed the goal to get married since adolescence may be more likely to do so, compared to those who never intended to marry.

Identity and Marriage

To the best of our knowledge, the association between identity or, more specifically, future life plans and marriage has not been explored extensively in previous research although early studies have suggested that future life plans may predict marital behavior (Bayer, 1969). Regarding the impact of identity on partnering processes, only a few studies have been published to date. Beyers and Seiffge-Krenke (2010) found that early identity development (age 15) is positively linked with partnership intimacy in young adulthood (age 25). Additionally, identity achievement – measured at age 24 – predicts higher intimacy within the partnership at age 25 (Beyers & Seiffge-Krenke, 2010). In line with this, identity in young and mid-adulthood (age 20, 31, 42, 54) is positively linked with intimacy of the same and higher ages (Sneed et al., 2012). Furthermore, identity consolidation (investment in new responsibilities and evaluating these) is positively linked with the probability of getting married in young adulthood, even if this correlation appears to be rather weak (Pals, 1999). On the other hand, evidence from a sample of young Dutch adults suggests that friendship-related identity measures (friend commitment, friend exploration, friend reconsideration) from adolescence are not linked with relationship status in emerging adulthood (21-25 years) (Branje et al., 2014). In general, however, there is stronger evidence indicating

that more plan-based stages of identity (commitment, achievement) are positively associated with romantic relationships, which is reflected in our first hypothesis:

Hypothesis 1

More plan-based identity (commitment making, identification with commitment, achievement cluster) is positively linked with the transition into marriage in young adulthood.

Identity formation and stability

Previous research has demonstrated changes in identity statuses over age and time (Kroger et al., 2010). This may also be based on different challenges that emerge in different stages of the life course (Havighurst, 1948; Mayseless & Keren, 2014) such as the transition from education to work entry in young/mid-adulthood vs. the transition into retirement in late adulthood. This leads to some fluctuation in identity processes, which may also partially explain why research on identity and family formation is scarce.

Several studies, based on both longitudinal and cross-sectional data, have examined stability of personal identity over adolescence and young adulthood (Kroger et al., 2010). Most often, goal-oriented developments (towards achievement) have emerged (Meeus, 2011). However, a non-negligible proportion of individuals does not change in personal identity over time in adolescence (Kroger et al., 2010; Meeus, 2011). For instance, a meta-analysis has shown that, among longitudinal studies, 36% of the adolescents experience plan-oriented trends in identity over time, 15% reversed trends, and 49% show no changes (Kroger et al., 2010). Furthermore, goal-oriented developments have been found to be fairly slow, i.e. increases in the identity status

'achievement' could be detected among young adults after 15 years (Meeus, 2011). However, identity trajectories vary across cultural contexts (Fadjukoff & Kroger, 2016). For instance, developments towards plan-based identity have been found in mid-adulthood in Finland (Fadjukoff et al., 2016), whereas not much change in identity statuses has been found in Japan (Shirai et al., 2016). Additionally, previous research has suggested high identity status stability over four years within individuals who are in a romantic relationship in Sweden (Wängqvist et al., 2016).

Previous research using longitudinal data from Finland has examined identity formation and development among young adults (Mannerström et al., 2019) and within (mid-)adulthood (Fadjukoff et al., 2016). Since we are examining identity in young adulthood in our study, the work by Mannerström and colleagues (2019) is of particular interest for us. Their study uses a variable-centered approach, i.e. identity dimensions are treated separately. According to the authors, Finns in young adulthood show decreases in commitment making, identification with commitment, and exploration in breadth whereas no changes are observed for ruminative exploration and exploration in depth (Mannerström et al., 2019). Evidence from Finns in mid-adulthood, however, indicates identity developments towards achievement and increasing commitment over time (Fadjukoff et al., 2016). Given that we use the same data as Mannerström and colleagues (Finnish Educational Transitions Studies), we expect to find decreases in commitment dimensions and exploration in breadth but also hypothesize increases in achievement and commitment processes in the most recent wave (2020) based on the work by Fadjukoff and colleagues (2016).

Marital status is expected to moderate identity development since marriage belongs to the essential life events, as suggested above. Marriage is a partnership-specific

commitment, and, therefore, commitment scores are expected to be higher among married individuals compared to singles.

Hypothesis 2

Identity scores fluctuate in young adulthood, i.e. commitment and exploration are expected to decrease among young adults, but to increase in mid-adulthood. Married individuals are expected to show lower exploration and higher commitment scores than singles.

Although Mannerström and colleagues (2019) have already examined identity development according to the completion of life event transitions (such as into marriage), we extend this existing research by a) one additional observation point four years later (which may be a considerable amount of time in young adulthood), and b) addressing not only the variable-centered approach but also the person-oriented approach using identity clusters. Potential gender differences shall not be extensively examined in our study for two reasons. First, previous studies have not found large differences between men and women in identity development (Beyers & Seiffge-Krenke, 2010; Fadjukoff et al., 2010; Kroger, 1997), and second, the data that we use have not shown gender differences in identity development in previous research either (Mannerström et al., 2019).

Potential mediators and confounders

The relationship between identity and marriage may be mediated by indicators of socio-economic status (SES) such as education or income. Previous research has

shown that adolescents choose courses at school that prepare them for educational or career paths (Akos et al., 2007), suggesting that strategic planning in school age may shape future educational and occupational trajectories. Similarly, young individuals may plan their future in detail regarding employment, from which they hope to get chances for further self-development as well as resources in terms of status and income (Devadason, 2008). SES indicators, in turn, have been observed to correlate with marital behavior in the Nordic countries (Duvander & Kridahl, 2020; Sandström & Stanfors, 2020). For example, among males there is a positive association between higher education and the inclination to marry (Wiik et al., 2010). However, the relationship between income and marital behavior appears less straightforward. While evidence from Sweden suggests that income might not significantly impact marriage intentions (Duvander & Kridahl, 2020), another study indicates a positive connection between income and marriage intentions among males in Nordic countries (Wiik et al., 2010).

Furthermore, parenthood often plays an important role in future life plans (Bass, 2015; Hammarberg & De Silva, 2022). Although research on the association between future life plans and childbearing is scarce, it may be argued that individuals with future life plans may specifically act in a way to realize these plans, independent of whether they include children or not. Therefore, these individual plans may predict childbearing well, even if a number of other factors are also important, such as the opportunity to enter parenthood through having a partner. Consequently, the analyses of the present study control for income, education, and parental status as potential mediators. Additionally, the mediation effects of these factors for the identity-marriage association are examined.

Moreover, the association between future life plans and marriage may further be confounded by different factors. One of these potential confounders relates to parental background. Parents have been found to play an important role in individual life plans in terms of education, career, and family formation (Tucker et al., 2001). Previous research has shown that parents are an important source for getting information on various future life facets such as educational and occupational choice (Griffin et al., 2011). Similar mechanisms may emerge regarding marital behavior. For instance, parents' marital behavior shapes one's own future marriage expectations (Chitsaz, 2021). Additionally, higher parental SES is typically linked with postponed transition into marriage (Brons et al., 2021). Furthermore, the current life situation, e.g. whether a person lives in a cohabiting relationship, predicts marriage plans (Cho et al., 2018). Therefore, the analyses of the present study control for parental SES as a potential confounder of the identity-marriage association. Additionally, analyses of the present study control for demographic factors, such as birth cohort, gender, and life situation (single, cohabitation), which may also shape marital behavior. Moreover, analyses of this study also control for fixed family background information, such as parental education or genetics, by conducting individual fixed effects models.

Context in Finland

Finland shows similar patterns as other high-income countries regarding the timing of several life events in young adulthood. For instance, the first-time graduation age in upper secondary education in Finland is very similar to other OECD countries (OECD, 2022). Furthermore, the average age of first-time entrants into tertiary education in Finland (23 years) is only slightly above OECD average (22 years) (OECD, 2022). Similar conclusions can be drawn with regards to the first-time graduation age in

tertiary education, which is approximately 27 years in Finland (OECD, 2017). However, many students in Finland work during their studies, so the transition from education to work entry is blurred (Mary, 2012).

Fertility and marriage have been postponed in Finland in the past. The total fertility rate of Finland dropped in the last decade from 1.87 (2010) to an all-time low of 1.35 in 2019 (Human Fertility Database (HFD), 2022; Official Statistics Finland, 2023b), and age at first childbirth has continuously increased for both genders (Official Statistics Finland, 2021). In line with fertility postponement, average age at first marriage has increased in recent decades in Finland (Official Statistics Finland, 2018). The average age at first marriage was 32 years for women and 34 years for men in 2019, which was slightly above OECD average (OECD Family Database, 2021).

These developments may be based on trends on educational paths and the labor market. The transition from completing education to the entry into the labor market may be postponed, such as evidence from Germany has suggested (Brückner & Mayer, 2005). Young people may face difficult labor market conditions, as shown by high youth unemployment rates in Southern Europe (Eurostat, 2022a) or high graduate unemployment in the UK (MacDonald, 2011; UK Government, 2022). Young adults may desire an economically stable situation before family formation and may postpone fertility and marriage as long as socio-economic uncertainties persist (Mary, 2012; Settersten Jr., 2012). Postponements in life transitions may be an indicator of the de-standardization thesis, which claims more diversity in life trajectories, in particular in Northern and Northwestern Europe (Brückner & Mayer, 2005; Buchmann & Kriesi, 2011).

On the other hand, young Finns distinguish from their international peers regarding other transitions in life course. For instance, Finns leave the parental home at an

average age of 21.2 years, which is more than five years below the EU average (Eurostat, 2022b). In their 20s, a greater proportion of Finns live in cohabitation (31%) (Eurostat, 2016), compared to the OECD average (OECD Family Database, 2016). Furthermore, Finland has the highest average graduation age of students from post-secondary non-tertiary programs (42 years) among all OECD countries (average: 31 years) (OECD, 2022). Compared to other Nordic countries such as Sweden, the population of Finland is relatively homogeneous (Fadjukoff & Kroger, 2016). For instance, the proportion of foreign-borns in Finland is comparatively low among OECD countries (OECD, 2023); only approximately 7% of registered individuals in Finland were born in a foreign country (Official Statistics Finland, 2023a).

Data and Measures

Longitudinal data stem from the Finnish Educational Transitions (FinEdu) Studies and were collected between 2004 and 2020. Among others, key topics of this survey are personal aims, education, and career. Secondary school students from Kuopio (Eastern Finland), Espoo and Vantaa (Helsinki region) were followed. Younger respondents were born around 1988 (707 participants at wave 1), participating in nine waves. Older students were born around 1986 (614 participants at wave 1), and interviewed in eight waves. In the most recent wave from 2020/21, 456 (cohort 1988) and 398 (cohort 1986) individuals aged 32-34 years participated.

The bidirectional association between identity and marriage is examined as 1) identity effect on marriage risks over time, and 2) identity development according to marital status. The analytical sample of research question 1) includes all never married individuals in 2011 when identity was measured for the first time (866 respondents).

These were followed until a) the most recent wave (2020), b) they got married, or c) drop-out from the study. Regarding research sample 2), the sample size reduces to 845 respondents in 2011 based on missing information on birth year. Both analytical samples are relatively similar in their compositions (except marital status).

Identity measure and marital status

Personal identity was measured in 2011, 2016 and 2020 by eleven items of the Dimensions of Identity Development Scale (DIDS), representing five identity dimensions based on future life plans: 1) *ruminative exploration* (e.g. 'I worry about what I want to do with my life'), 2) *exploration in breadth* (e.g. 'I think about different things I might do in the future'), 3) *exploration in depth* (e.g. 'I think about whether my future plans match with what I really want'), 4) *commitment making* (e.g. 'I know which direction I am going to follow in my life'), and 5) *identification with commitment* (e.g. 'My future plans give me self-confidence'). Standardized mean values for each identity dimension were used. Internal consistency checks revealed high Cronbach's Alpha values for each time point: 0.83 (ruminative exploration), 0.76 (exploration in breadth), 0.88 (exploration in depth), 0.88 (commitment making), and 0.89 (identification with commitment) in 2011. Corresponding values for 2016 were: 0.80, 0.77, 0.76, 0.89, 0.86, and for 2020: 0.83, 0.82, 0.76, 0.89, 0.89. Exploration in depth needs to be considered with caution, though, as previous research suggests low internal consistency (Mannerström et al., 2017).

Marital status is based on individuals' life situation (1 "Single", 2 "Cohabitation", 3 "Married", 4 "Divorced"). A dichotomized indicator is used for research question 1) (0 "Never married", 1 "Married"). Regarding research question 2) – identity development

– the more specific information about the life situation above is used. Analyses focus on marriage as (in legal terms) intuitively strongest commitment between two partners. However, additional checks on cohabitation risks are run.

Covariates

Our analyses include a set of covariates. First, *sex* provides information about the gender of the respondent (1 "Female", 2 "Male"). Additionally, we control for the *cohort* (0 "1986", 1 "1988") since participants are at slightly different stages of identity development, depending on their age. Parental occupation is represented in the covariate *collar_parents* (0 "Both Parents White Collar", 1 "Mother White Collar, Father Blue Collar", 2 "Mother Blue Collar, Father White Collar", 3 "Both Parents Blue Collar", 4 "Unknown"). Additionally, we control for the current educational level (1 "Secondary", 2 "Post-Secondary/Tertiary", 3 "Unknown"), income groups (in quintiles), and the life situation at baseline (1 "Single", 2 "Cohabitation", 3 "Married", 4 "Divorced"). Parenthood is included as dummy variable (0 "No Children", 1 "Children").

Methods

We apply a mixture of statistical methods. First, identity effects on marriage risks over time were examined using piecewise-constant hazard models. The data do not provide detailed information on marriage timing, i.e. constant hazard risks of getting married between observations are assumed. The analyses start in the first wave with identity information (2011), and the risk population includes all respondents who had never been married by then. Individuals are followed until they get married, leave the study,

or the study ended in 2020. The first model explores the association between each identity dimension separately and marriage, without any control variable:

$$h_{ij}(t|x_i) = h_{0j}(t)exp\{\beta_0 + \beta_1 id\_dimension_{i,t}\} \tag{1}$$

Model (2) includes the other covariates and parallel versions were run for all identity dimensions:

$$h_{ij}(t|x_i) = h_{0j}(t)exp\{\beta_0 + \beta_1 id\_dimension_{i,t} + \beta_2 gender_i + \beta_3 cohort_i +$$

$$\beta_4 education_{i,t} + \beta_5 income\_group_{i,t} + \beta_6 lifesit\_baseline_i + \beta_7 collar\_parents_i +$$

$$\beta_8 parent_i\} \tag{2}$$

Model (3) includes the other identity dimensions:

$$h_{ij}(t|x_i) = h_{0j}(t)exp\{\beta_0 + \beta_1 id\_dimension_{i,t} + \beta_2 gender_i + \beta_3 cohort_i +$$

$$\beta_4 education_{i,t} + \beta_5 income\_group_{i,t} + \beta_6 lifesit\_baseline_i + \beta_7 collar\_parents_i +$$

$$+\beta_8 parent_{i,t} + \beta_9 id\_dimension2_{i,t} + \beta_{10} id\_dimension3_{i,t} + \beta_{11} id\_dimension4_{i,t} +$$

$$\beta_{12} id\_dimension5_{i,t}\} \tag{3}$$

Equations (1), (2), and (3) represent piecewise-constant hazard models with the hazard *h* on each time point *t* that depends on the vector of explanatories *x* of each individual *i* in time interval *j*. The baseline hazard h_0 is time-varying and depends on the respective interval *j*. The model intercept is β_0, and respective coefficients are β_{1-12}. Identity dimensions are represented by *id_dimension*. G*ender* and *cohort* (the birth cohort of the respondent) are constant over time. *Education* relates to the educational level, and *income_group* to the income level (measured as quintiles) – both time-varying. Further controls are civil status at baseline (*lifesit_base*), parental occupation (*collar_parents*), and parenthood (*parent*). Model (3) includes all explanatories from equation (2) and the other identity dimensions.

Regarding the person-oriented approach, K-means cluster analyses with two to eight cluster solutions were applied. K-means cluster analyses are faster and easier to conduct than more complex analyses. The new variable is included in the following model:

$$h_{ij}(t|x_i) = h_{0j}(t)exp\{\beta_0 + \beta_1 id\_cluster_{i,t} + \beta_2 gender_i + \beta_3 cohort_i + \beta_4 education_{i,t} +$$

$$\beta_5 income\_group_{i,t} + \beta_6 lifesit\_baseline_i + \beta_7 collar\_parents_i + +\beta_8 parent_{i,t}\} \quad (4)$$

The underlying time scale of all event-history models is calendar time. Additionally, mediation analyses using two strategies were conducted. First, linear probability models including identity indicators from 2011 and potential mediators from 2016 (income, education, parenthood) on marriage (between 2016 and 2020) were applied. The same variables were used for the second mediation approach – the Karlson-Holm-Breen (KHB) method –, through which conditional and unconditional estimates from nonlinear models can be compared (Breen et al., 2021).

Research question 2) copes with identity development over time based on marital status. Generalized least squares fixed effects models on standardized mean values of identity dimensions were run. Comparing fixed to random effects models, the Hausman test suggests a better fit using fixed effects, which control for unobserved and time-constant heterogeneity such as parental background or childhood experiences. Estimates from random effects models are shown in the appendix. Models on identity development can be written as:

$$y_i = \beta_0 + \beta_1 education_{i,t} + \beta_2 income\_group_{i,t} + \beta_3 lifesit_{i,t} + \beta_4 parent_{i,t} + \beta_5 wave_{i,t} +$$

$$\alpha_i \quad (5)$$

In equation (5), the outcome y for each individual i depicts the respective identity dimension, which depends on time-varying variables: educational level, income group,

life situation, parental status, and wave. The estimated model intercept is β_0 and the coefficients are β_1- β_5. The unobserved and time-constant factors are included in α_i.

Latent profile analyses based on standardized mean values of all five identity dimensions were conducted as person-oriented approach. The model can be written as:

$$\sigma_i^2 = \sum_{k=1}^{K} \pi_k \left(\mu_{i,k} - \mu_i \right)^2 + \sum_{k=1}^{K} \pi_k \sigma_{i,k}^2 \tag{6}$$

Equation (6) addresses the mean values (μ) and variances σ^2 for each individual i and each latent profile k. The proportion of all individuals in the profile is represented by π_k and K stands for the total number of profiles (two to five). Additionally, we include age in the analyses in order to identify identity developments over age.

Results

Descriptive Statistics

Except identity measures, Table 1 below shows univariate statistics of all included variables in the event-history analyses – research question 1) – across waves. The sample started with 866 participants in 2011, 449 were followed until 2020 – the others left the study for various reasons (e.g. no-participation or getting married). Approximately 60% of the sample are female, and 54.16% belong to the younger birth cohort (1988). Since secondary school students have been followed since 2004, the education of the sample has been relatively high (73.72% with post-secondary or tertiary education by 2020). Parents most often belong to white collar workers (43.53% in wave 2011). The majority of the sample did not live with a partner at the first wave in 2011 (56.81%), which is included as time-constant variable in the analyses. In the

original sample, however, more people live in cohabitation or marriage over time (Figure A1). The vast majority had not yet entered parenthood by 2011 (95.61%), while 71.71% of the never married respondents had at least one child by 2020. Additionally, income levels have increased over time. Descriptive statistics of the sample on identity development are similar and shown in Table A1.

[Table 1 here]

Figure 1 below depicts the trajectories of the mean scores from all five identity process dimensions among individuals who had never been married by 2011. Whereas ruminative exploration and exploration in depth remain stable at comparatively low levels (approximately 2.6 and 2.8, respectively), decreases in the other dimensions can be detected. Mean scores of exploration in breadth decline from 3.89 (2011) to 3.69 (2016), and do not change much in 2020 (3.71). Decreases in the commitment dimensions appear to be more continuous throughout observation time. Average commitment making scores decline from 3.68 in 2011 to 3.41 in 2020, and identification with commitment shows similar trends (3.51 in 2011; 3.24 in 2020). Corresponding values are shown in more detail in Table A2 in the appendix. In the wave of 2013, personal identity was not collected so scores were assumed to remain constant throughout wave 2013. Descriptive trajectories using the sample 2) (identity development, including married and divorced individuals in 2011) show similar patterns (see Figure A2).

[Figure 1 here]

Table 2 below contains descriptive information of marriage risks by identity processes (here categorized according to average scores in 1 '1-below 2', '2-below 3', '3-below 4', and '4 and higher'). In general, Table 2 shows that marriage risks decrease with higher exploration and lower commitment. Both ruminative exploration and exploration in depth show similar patterns: marriage risks decrease with higher scores but the highest groups (3 and 4) do not differ much in terms of their marriage risks. Exploration in breadth appears to follow a different trend: marriage risks increase from category 1 to 2 but then remain relatively stable across higher scores. The relatively low marriage risk in group 1 may also be based on the very low number of events over time in that group (1). Commitment processes, however, are positively associated with marriage risks. Both commitment making and identification with commitment show increasing risks with higher scores.

[Table 2 here]

Referring to the person-oriented approach in our analyses, we run factor analyses with different cluster solutions (2-8 clusters). For simplification purposes, we only focus on one solution (five clusters, in line with previous studies), but other cluster solutions also seem reasonable and are shown in the appendix (Figures A3-A8).

Figure 2 depicts mean values of all standardized identity dimensions in five different clusters, which are named as follows: diffusion (661 observations; 25.15% of all observations), achievement (697; 26.52%), moratorium (290; 11.04%), weak moratorium (440; 16.74%), and searching moratorium (540; 20.55%). Diffusion is

characterized by low exploration and commitment, which is represented by lower-than-average scores on all identity dimensions in Figure 2. More than one fifth of the participants at baseline belongs to this cluster (22.52%), and it includes the largest proportion of the youngest participants (24.95%) (Table A3). The diffusion cluster contains 20.57% of all women at baseline, and 25.60% of the men. Proportions regarding life situation and parenthood in this cluster are very similar (22.36% of all singles, 22.73% of cohabiting individuals, 22.46% of non-parents, and 23.68% of parents).

Individuals from the cluster 'achievement' report relatively low scores on ruminative exploration and exploration in depth, but high commitment (commitment making and identification with commitment) (Figure 2). This cluster could also be named 'foreclosure', according to the theory. However, individuals may have formed their future life plans in young adulthood (exploration completed) and started to follow them (commit with them), which may instead indicate 'achievement'. The achievement cluster is the largest one, capturing almost one third of all participants at the baseline (28.64%), 29.43% of the women, 27.38% of the men, 33.25% from the older birth cohort, 33.16% of cohabiting people, and 36.84% of the parents (Table A3).

Participants belonging to the cluster 'moratorium' show comparatively high scores on exploration, and low scores on commitment (Figure 2). The smallest fraction of respondents from the baseline is assigned to this cluster (8.78%); 13.25% of all participants with post-secondary degree, 10.66% from the younger birth cohort, 10.57% of the singles, but only 2.63% of the parents are part of this cluster at the baseline (Table A3). The cluster of 'weak moratorium' is similarly structured in terms of exploration and commitment as moratorium (but with higher commitment). Weak moratorium captures 16.74% of all respondents (with no strong differences between

genders or birth cohort), 18.70% of all singles, and 8.43% of individuals with post-secondary education from the baseline (Table A3). Searching moratorium is characterized by higher scores on all dimensions (compared to the averages) (Figure 2), and 23.33% of all participants belong to it on baseline, whereas there is not much variation in the proportions across most subgroups (Table A3). In the second wave (2016), a shift towards diffusion has been observed (Table A4); 30.12% of the respondents belong to this cluster whereas the proportion of individuals assigned to achievement has reduced to 21.66%. Regarding the data collection in 2020, no large changes have emerged for the two biggest clusters (29.40% in diffusion, 24.50% in achievement) (Table A5). Further details can be seen in Tables A4 and A5.

This 5-cluster solution is used as a predictor for marriage in piecewise-constant hazard models, as shown in the main results on the person-oriented approach.

[Figure 2 here]

Marriage risks (variable-oriented approach)

Figure 3 shows hazard ratios (HR) and 95% confidence intervals from piecewise-constant hazard models on marriage risks. Estimates come from models (1), (2), and (3). Blue lines represent ruminative exploration, red lines denote exploration in breadth, and green lines exploration in depth. Commitment processes are shown by yellow (commitment making) and black lines (identification with commitment). Short-dashed lines belong to estimates from model (1), i.e. with the respective identity dimension as the only explanatory. Solid lines represent findings from model (2) (identity dimension + further covariates, but without other identity dimensions). Long-dashed lines

represent model (3), i.e. all considered variables are included. Model (2) may be considered as the most valuable one since it controls for important characteristics (as compared to equation (1)) but excludes the other identity dimensions avoiding multicollinearity (as compared to model (3)).

Ruminative exploration is negatively associated with marriage risks over time. The HR from model (1) is 0.74 (95% confidence interval (CI): 0.66;0.84), i.e. one additional standard deviation above the average score of ruminative exploration is linked with 0.74 times the risk of getting married. This association persist with further covariates in the model (equation (2), HR: 0.80, CI: 0.70; 0.90). Including other identity dimensions, model (3), can partly explain this relationship (HR: 0.86, CI: 0.71; 1.03).

Exploration in breadth does not show distinct patterns. The weak positive correlation (HR: 1.07, CI: 0.96; 1.20) disappears when further covariates from model (2) are included (HR: 1.03, CI: 0.92; 1.16). Taking the other identity dimensions into account (model (3)) reduces the HR to 0.95 (CI: 0.84; 1.09), but statistical uncertainty is large for all point estimates. Exploration in depth is negatively related to marriage since HR are below 1 (0.85, CI: 0.75; 0.95 in model (1), and 0.87, CI: 0.78; 0.99 in model (2)). However, this association vanishes once other identity dimensions are included (equation (3), HR: 1.03, CI: 0.88; 1.21).

Commitment processes are positively linked with marriage risks over time. With each additional standard deviation of commitment making, individuals show 1.33 times higher risks (CI: 1.18; 1.50) of getting married (equation (1)). This magnitude declines to 1.27 (CI: 1.12; 1.44) if further explanatories are included (model (2)) but remains clearly positive. Including the other identity dimensions (model (3)) results in a weaker but still positive association (HR: 1.19, CI: 1.00; 1.43). Identification with commitment

shows similar patterns, but on a slightly lower level. However, in model (3), no association can be found.

[Figure 3 here]

Marriage risks (person-oriented approach)

Figure 4 below depicts identity estimates on marriage risks over time using the 5-cluster solution (person-oriented approach). The reference group is the cluster 'moratorium' (high on exploration, low on commitment) in all models. This group was chosen as reference since it is – except 'achievement' (low on exploration, high on commitment) – the only cluster that emerges in all cluster solutions.

Figure 4 demonstrates that all clusters show higher marriage risks than the reference category (moratorium). Individuals from 'diffusion' (HR: 1.92, CI: 1.18; 3.14) and 'achievement' (HR: 1.94, CI: 1.19; 3.18) show almost two times greater marriage risks; the HR of the cluster 'searching moratorium' is 1.62 but statistical uncertainty is high (CI: 0.96; 2.72). Marriage risks between 'moratorium' and 'weak moratorium' are comparatively similar (HR: 1.26, CI: 0.73; 2.20). Similar patterns can be detected for the 2- to 8-cluster solutions (Figures A9-A14).

[Figure 4 here]

Identity development (variable-oriented approach)

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Analyses regarding research question 2) (identity development over time by marital status) using the variable-centered approach do not reveal distinct trends for the exploration dimensions – slight increases between 2011 and 2016, and slight decreases (ruminative exploration and exploration in depth), or opposite trends (exploration breadth) afterwards (Figure A15-A17). Conversely, commitment processes (commitment making, identification with commitment) decrease in scores between 2011 and 2016, and remain relatively stable by 2020. Predictive margins of singles and married individuals are very similar in 2011 and 2016. However, differences appear by 2020. Predictive margins of singles decrease, whereas estimates from married respondents remain stable. Developments are shown in Figure 5 (commitment making) below and Figure A18 (identification with commitment).

[Figure 5 here]

Identity development (person-oriented approach)

Latent profile analyses on identity development using two to five different classes (person-oriented approach). Higher numbers of profiles led to computational restrictions. Scores of the Akaike and Bayesian information criterion scores (AIC, BIC) are robust across models, i.e. no number of profiles is preferred over others. We stay with five identity profiles, in line with previous research. Figure A19 visualizes predicted averages of all identity dimensions in each profile (diffusion, weak achievement, achievement, moratorium, searching moratorium). Profiles are similar to clusters from the factor analyses as shown in Figure 2 above. Distributions of identity dimensions within the 3- and 4-cluster solution are shown in Figures A20 and A21 in the appendix.

Figure 6 below shows the predicted probabilities of belonging to the five latent profiles over age in young adulthood. The predicted probability for 'diffusion' is approximately 0.10 (CI: 0.07; 0.13) in the youngest ages (22 years) and increases steadily to 0.22 (CI: 0.16; 0.28) at age 35. The proportion of 'weak achievement' is 0.43 (CI: 0.39; 0.48) at age 22 but declines to 0.31 (CI: 0.25; 0.37) at age 35. The profile 'achievement' shows a similar trend as 'diffusion' but the increase is less steep (0.14 (CI: 0.10; 0.17) at age 22 to 0.20 (CI: 0.15; 0.25) at age 35). Similarly, predicted probabilities of belonging to 'moratorium' increase from 0.07 (CI: 0.05; 0.09) (age 22) to 0.15 (CI: 0.11; 0.19) (age 35). Predicted probabilities for 'weak moratorium' decline over age from 0.26 (CI: 0.21; 0.30) (age 22) to 0.12 (CI: 0.08; 0.16) (age 35). Trajectories using three and four profiles can be seen in Figures A22 and A23.

[Figure 6 here]

Additional Checks

Further analyses on the association between identity and stable relationships were conducted. First, identity takes a similar impact on cohabitation risks as on marriage risks using the variable- (Figure A24) and the person-oriented approach (Figure A25). Only the cluster 'diffusion' shows a negative association with cohabitation risks, which is contrary to the analyses on marriage. Second, random effects analyses on identity development have been run, albeit rejected by the Hausman test, supporting findings from fixed effects approaches (Figures A26-A30).

Additional analyses on marriage risks by gender do not suggest meaningful differences in both the variable-oriented (Figures A31-A35) and the person-oriented approach

(Figures A36-A39). Additionally, no gender-specific differences in identity development using the variable-centered approach emerge (Figures A40-A44, based on random effects). Mediation analyses using linear probability models and the KHB method have not suggested large mediation effects of income, education and parenthood on the identity-marriage link (Figures A45-A48).

Discussion

Conclusion

This study has examined the bidirectional association between identity and marriage in young adulthood using both a variable- and a person-oriented approach based on longitudinal Finnish survey data. For these purposes, different statistical models were applied, such as piecewise-constant hazard models, generalized least squares fixed effects models, cluster analyses, and latent profile analyses.

The findings support the expectations based on previous research partly. Evidence suggests a positive association between plan-based identity (high on commitment, achievement) and partnership outcomes (Beyers & Seiffge-Krenke, 2010). Therefore, hypothesis 1 assumes more goal-oriented identity to show higher marriage risks in young adulthood, which is supported by the present study. Exploration dimensions are negatively – and commitment processes positively – associated with marriage in younger ages. Moreover, the 'moratorium' cluster (high exploration, low commitment) shows lowest marriage risks, and 'achievement' (high commitment) is linked with higher marriage risks. However, the cluster 'diffusion' is also associated with higher marriage risks, albeit low on commitment. This cluster is characterized by higher commitment and lower ruminative exploration scores compared to the cluster

'moratorium'. Thus, individuals in 'diffusion' do not strongly commit to life plans but they tend to worry less about this uncertainty than respondents from 'moratorium'. Furthermore, ruminative exploration is lower in 'diffusion' than in 'moratorium', which may result in advantages of 'diffusion'-members on the partner market. Mediation effects of income, education, and parenthood are fairly minor.

Additionally, this study has examined identity development by marital status. Hypothesis 2 was based on previous research suggesting decreasing trends over all measured identity dimensions (Mannerström et al., 2019), with potential reversals towards more goal-oriented stages, i.e. decreasing exploration, increasing commitment, and towards the status 'achievement' (Fadjukoff et al., 2016). Findings demonstrate increases in ruminative exploration and exploration in depth between the first two waves (2011-2016), with minor decreases by 2020. Contrary, exploration in breadth, commitment making, and identification with commitment show decreases by 2016, and slight increases by 2020. Declining commitment scores between 2011 and 2016 may result from postponement of several transitions in young adulthood (parenthood, marriage, completion of education) in Finland. Furthermore, the meaning of life plans may change over age in young adulthood. Young adults may think of educational paths, whereas job opportunities or family formation may be more relevant some years later. In general, however, statistical uncertainty is large, so we do not observe strong evidence for a turnaround of identity dimensions in the Finnish sample. Further research is required to answer this question.

Marital status is partly linked with trends in identity scores. No differences in identity trajectories by marital status were found for the first two waves (2011, 2016), which is in line with previous research (Mannerström et al., 2019). However, married individuals score higher on commitment in 2020 than singles do, indicating a marital status effect

in mid-adulthood, e.g. when individuals are in their 30s. During our study period, age at first marriage increased steadily to 32.1 years of age (women), and 34.2 (men) in 2019 (Official Statistics Finland, 2019). Therefore, individuals who have not been married by their early 30s may become more confused about their identity and question their own life plans, resulting in lower commitment scores. Latent profile analyses support the finding of volatile identity dimensions. Whereas probabilities regarding 'weak achievement' and 'searching moratorium' decrease with age, probabilities of 'diffusion', 'achievement' and 'moratorium' increase in young adulthood.

This study lines up with an increasing number of studies on the association between psychological factors and family formation processes. Identity, as one psychological concept, has received little attention for demographic outcomes, though. The present study fills this gap and contributes to a better understanding of marital behavior in Finland.

Strengths and limitations

This study reveals some limitations. First, the sample consists of former secondary school students in mid-adulthood, which is a selective group. Therefore, no conclusions for lower-educated or older population groups can be drawn. Whether those individuals would show similar or different associations between identity and marriage remains speculative. Previous research has suggested that education is positively correlated with identity measures (Fadjukoff et al., 2010). Therefore, lower-educated individuals may report higher exploration and lower commitment scores, but trends over time are hard to predict. Additional analyses on the present sample have revealed that estimates do not differ much across educational groups (secondary vs.

post-secondary) (Figures A49-A62). However, statistical uncertainty is large, which is also true for other stratified analyses.

Furthermore, civil status has been available for each wave but year and month of a potential marriage are unknown, i.e. the exact marriage timing remains unknown. Another conceptional weakness relates to identity itself. Identity combines many different facets (personality, skills, attitudes etc.), making it impossible to find a precise measure for this complicated concept. Future life plans often relate to career rather than marriage (Keldal & Şeker, 2022), indicating essential relevance of work for many people, which may provide resources for the family and help individuals to remain independent from others (Berkman, 2014). However, identity is a multifaceted concept that includes work, family, and social tasks (Berkman, 2014). In general, though, it remains unclear what exactly participants considered as 'future life plans', and how much value they put on common life events such as marriage, childbearing, or career. However, these are challenges faced by all identity studies.

This study also shows some strengths. We examine the bidirectional association between identity and marriage using both a variable- and a person-oriented approach. As far as is known, this is the first study of its kind. Another advantage is the use of longitudinal data (FinEdu), following individuals over young adulthood (age 22-34). Therefore, important changes such as income development could have been adjusted for. Despite the lack of precision, future life plans may be considered as accurate indicator for personal identity as it includes all relevant life domains.

More research on identity as determinant for family formation is needed. Previous research has suggested that non-cognitive abilities have become more relevant over time to explain the transition into fatherhood in Sweden (Aldén et al., 2022). In particular, the role of identity for relationship and marriage outcomes is underexplored

and deserves more attention in future studies. For instance, the marriage probability, or the role of other identity facets (e.g. social or work identity) may be explored. Additionally, future research might examine which factors drive the associations between identity and marriage or cohabitation, e.g. whether differences emerge by SES, gender, or age. Sample sizes of the analytical sample for this study were not large enough to conduct further detailed analyses on these questions. For these purposes, more studies based on longitudinal data are needed.

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Tables

Variable	2011		2013		2016		2020	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Sex								
Female	530	61.20	448	62.05	363	61.42	267	59.47
Male	336	38.80	274	37.95	228	38.58	182	40.53
Cohort								
1986	397	45.84	326	45.15	258	43.65	192	42.76
1988	469	54.16	396	54.85	333	56.35	257	57.24
Education								
Secondary	764	88.22	379	52.49	176	29.78	110	24.50
Post-Secondary	83	9.58	282	39.06	397	67.17	331	73.72
Unknown	19	2.19	61	8.45	18	3.05	8	1.78
Life Situation (2011)								
Single	492	56.81	413	57.20	368	62.27	294	65.48
Cohabitation	374	43.19	309	42.80	223	37.73	155	34.52
Parental Background								
Both Parents White Collar	377	43.53	315	43.63	264	44.67	202	44.99
Only Mother White Collar	170	19.63	139	19.25	115	19.46	86	19.15
Only Father White Collar	31	3.58	29	4.02	23	3.89	18	4.01
Both Parents Blue Collar	64	7.39	61	8.45	48	8.12	33	7.35
Missing	224	25.87	178	24.65	141	23.86	110	24.50
Parenthood								
No	828	95.61	634	87.81	480	81.22	127	28.29
Yes	38	4.39	88	12.19	111	18.78	322	71.71
Total	866	100	722	100	591	100	449	100

	Mean	Std. dev.	Min	Max
Income (2011)	1,049.08	626.42	10	5,570
Income (2013)	1,430.71	810.04	2	6,500
Income (2016)	2,781.95	3290.45	50	48,000
Income (2020)	3,272.53	2242.58	50	27,000

Table 1: Descriptive Statistics of all used variables (except identity variables) over observation time (2011-2020, marriage analyses)

	Person-time	Events	Rate		Person-time	Events	Rate
Rum				*Commit*			
1	1,339	104	0.078	1	286	6	0.021
2	1,785	103	0.058	2	692	22	0.032
3	1,347	52	0.039	3	1,600	79	0.049
4	858	33	0.038	4	2,751	185	0.067
Breadth				*Idcom*			
1	88	1	0.011	1	271	2	0.007
2	540	26	0.048	2	967	40	0.041
3	1,644	92	0.056	3	1,886	111	0.059
4	3,057	173	0.057	4	2,205	139	0.063
Depth							
1	982	73	0.074				
2	1,601	89	0.056				
3	1,635	79	0.048				
4	1,111	51	0.046				
Total	5,329	292	0.055				

Table 2: Descriptive Statistics for event-history analyses on marriage risks

Figures
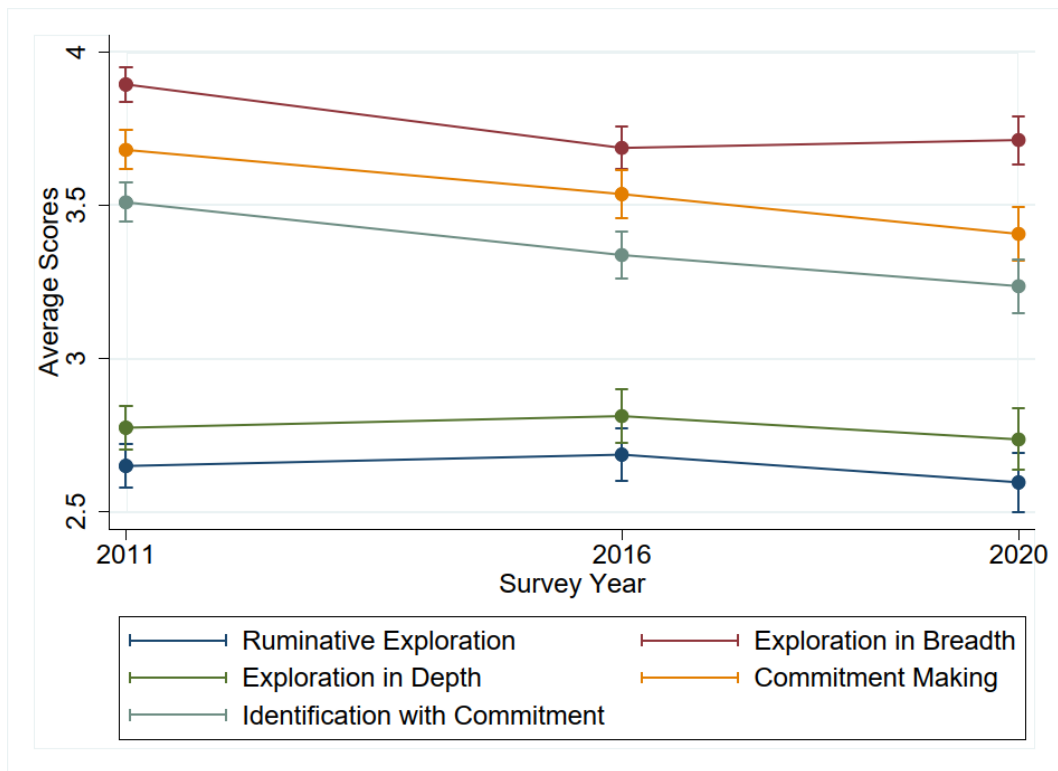
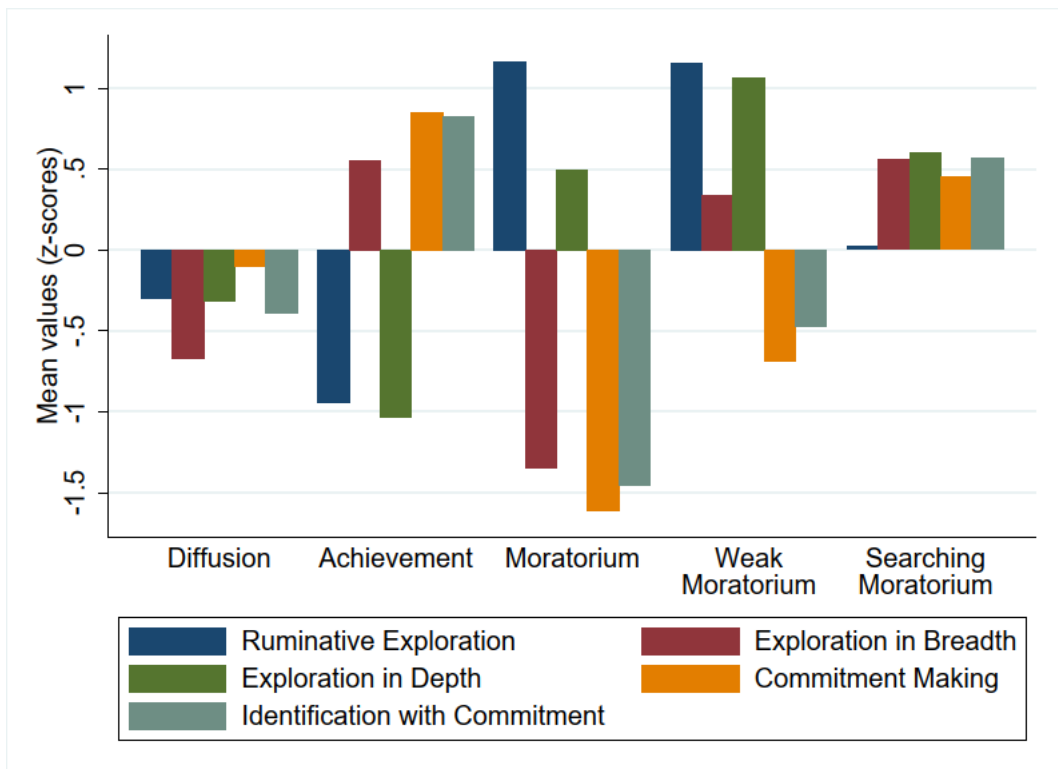*Figure 1: Development of identity dimensions over observation time (2011-2020)*

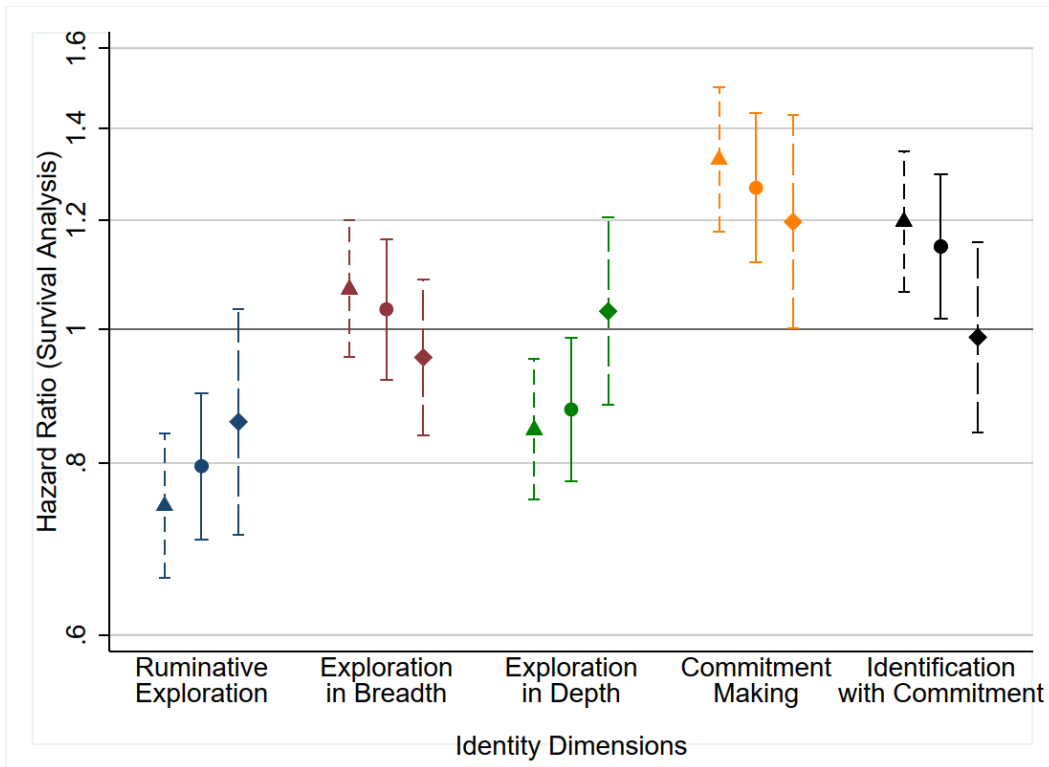*Figure 2: Identity dimension means (5-cluster-solution)*

Figure 3: Hazard ratios from piecewise-constant hazard models of identity dimensions on marriage risks over time.

Note: Estimates from different models are shown as follows: dashed lines – identity dimension as only explanatory; solid lines – identity dimension and control variables (gender, cohort, education, income, life situation, parental background, parenthood); long-dashed lines – identity dimension, control variables and other identity dimensions.
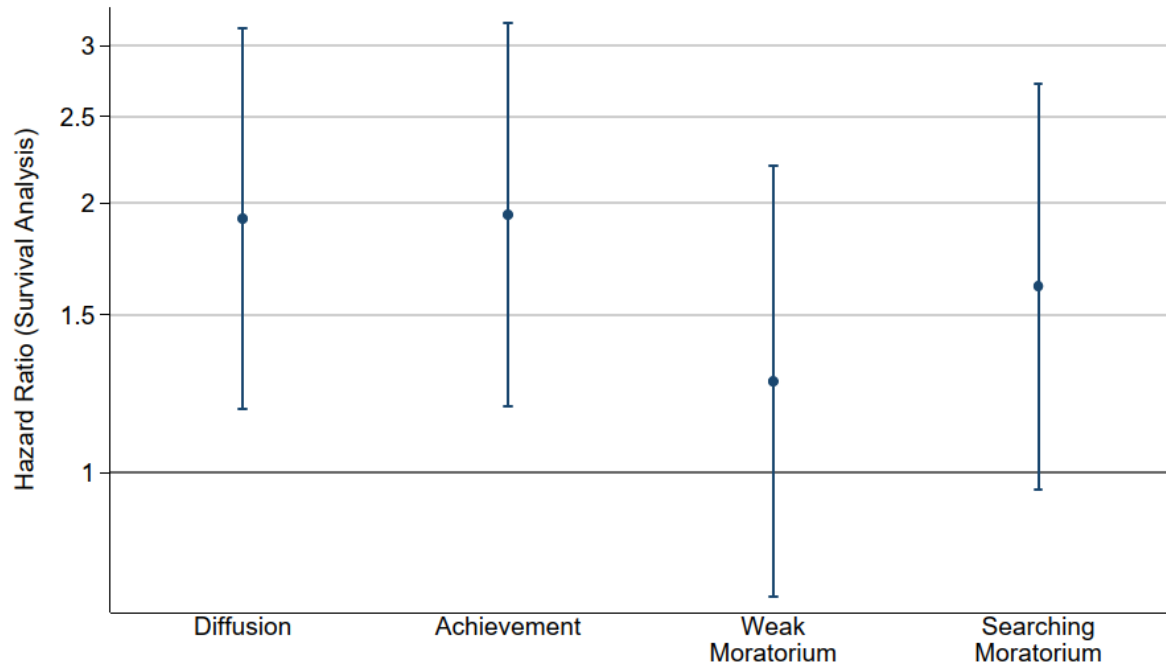
Figure 4: Hazard ratios from piecewise-constant hazard models of identity clusters on marriage risks over time (ref.: moratorium, 5-cluster-solution).
Note: Estimates controlled for gender, cohort, education, income, life situation, parental background, parenthood.
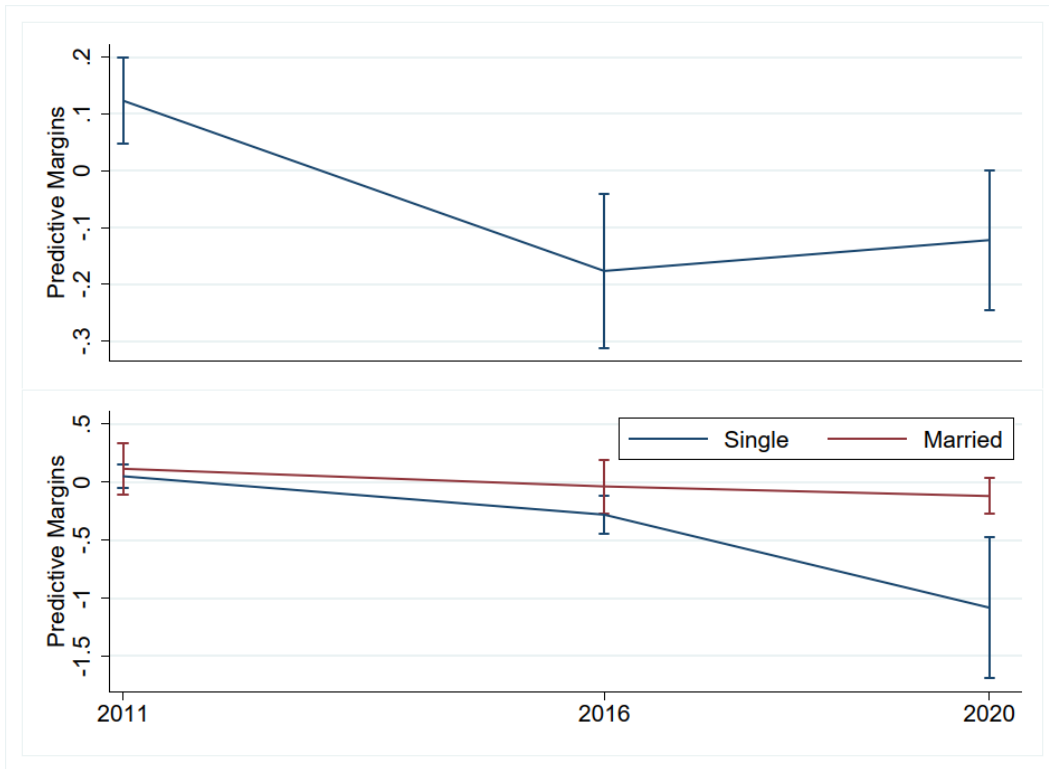
Figure 5: Estimates from generalized least squares fixed effects models on commitment making over observation time (2011-2020) for the total sample (upper graph), and stratified by marital status (lower graph).
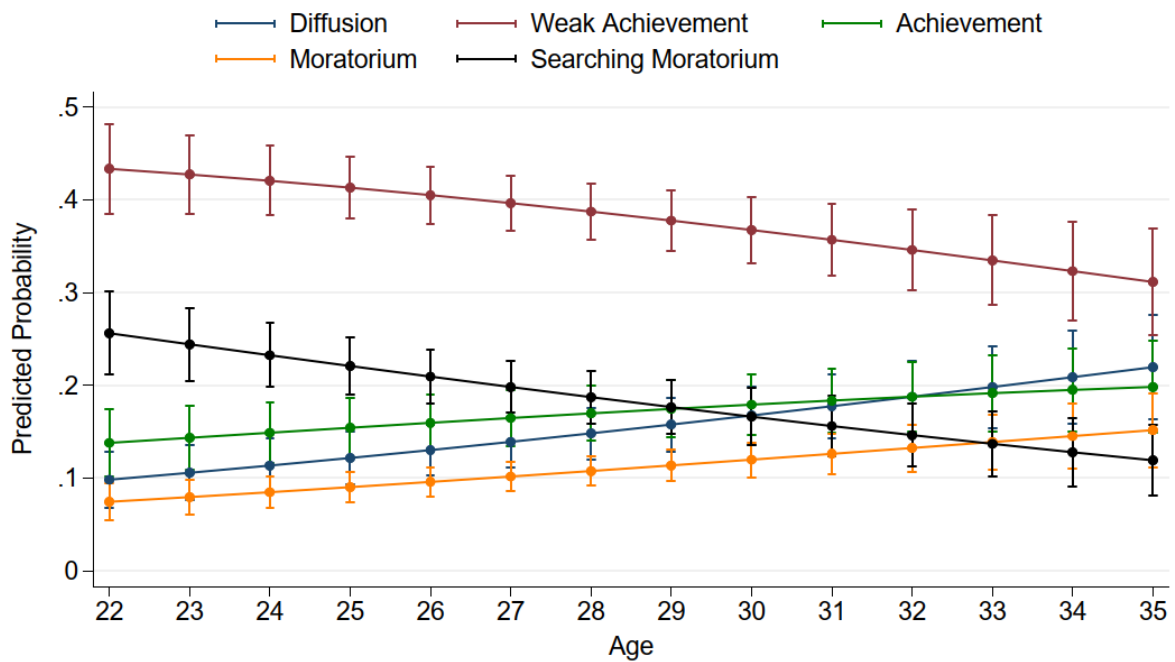*Note: Estimates controlled for education, income, life situation, parenthood.*

Figure 6: Estimates from latent profile analyses over age, 5-cluster-solution.
Note: Estimates controlled for gender.