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The link between young adults' intentions and first exit from the parental home

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Abstract

Adding to a relatively small comparative literature and using comparable survey data from the Generations and Gender Survey (GGS) for five European countries (N = 4,598), I examine the link between young adults' leaving home intentions and behavior according to a framework provided by the Theory of Planned Behavior (TPB). Results from probit and OLS regression models and a KHB decomposition show that: (1) Attitudes, subjective norms, and perceived behavioral control are simultaneous but not complete determinants of leaving home intentions for men and women across the five countries, when controlled for background factors; (2) Intention to leave home is both a precursor to leaving home behavior and a mediator for attitudes and subjective norms; (3) A complex set of background factors, chiefly among them age, family and partnership status, and education are related to attitudes, subjective norms, and perceived behavioral control. These factors are also directly influencing leaving home intentions and behavior. The findings add important insights into how leaving home decisions are taken and, overall, comparatively underscore the TPB's effectiveness for understanding young adults' leaving home intention formation and subsequent realization.

Keywords

Leaving home intentions; Theory of Planned Behavior; GGS

1. Introduction

For some time now, there has been a growing recognition of the importance of how people make life course decisions in family demographic research. A burgeoning literature has focused on the intention-behavior nexus in the realms of partnership and family formation (Ajzen & Klobas, 2013; Billari, Philipov, & Testa, 2009; Dommermuth, Klobas, & Lappegård, 2011; Mencarini, Vignoli, & Gottard, 2015; Wiik & Bernhardt, 2019), employment (Gauthier, Emery, & Bartova, 2016), or migration (Coulter & Scott, 2015; de Groot, Mulder, & Manting, 2011; Dommermuth & Klüsener, 2018; Kley, 2011; Kley & Mulder, 2010; Lu, 1998), for example. A much smaller crop of studies has researched young adults' leaving home intentions and subsequent first moves from the parental home (Billari, Hiekel, & Liefbroer, 2019; Billari & Liefbroer, 2007; Ferrari, Rosina, & Sironi, 2014; Tosi, 2017). Yet, just as other life course events, leaving the parental home for the first time likely is the outcome of a decision-making process, where possible alternatives to living with the parents are evaluated and the consequences of staying versus leaving are weighed against each other (Baanders, 1996). Different to other life course events, essentially residential mobility and migration, leaving the parental home for the first time is an important step in the transition to adulthood that not only coincides with household formation but also with taking up major adult roles (Furstenberg, 2010; Mulder & Hooimeijer, 1999).

Against the backdrop of this gap in knowledge about young adults' decision-making process vis-a-vis the first exit move from the parental home, the objective of this study is to examine longitudinally how young adults' leaving home intentions are tied to the realization of these intentions according to a framework provided by the Theory of Planned Behavior (TPB; Ajzen, 1991). I draw on data from the Generations and Gender Survey (GGS) from two waves and for five countries (Austria, Bulgaria, Georgia, Italy, and Russia) and ask the following research questions: Do attitudes, subjective norms and perceived behavioral control simultaneously influence young adults' leaving home intentions? And does this influence

hold once background factors are controlled for? (Q1) If attitudes, subjective norms and perceived behavioral control are proximate determinants of leaving home intentions, on which background factors do they depend? (Q2) Are young adults' leaving home intentions good precursors of first moves from the parental home? (Q3)

A joint, multi-country perspective is an improvement to our knowledge on the intention-behavior link for leaving the parental home for the first time because it sheds light on how leaving home decisions are taken across countries. To date, and to the best of my knowledge, no study based on cross-country data has tested the TPB framework in its full complexity and evaluated how leaving home intentions are associated with subsequent moves from the parental home. We thus cannot determine with any confidence whether the TPB holds across different contexts or whether all its elements are important in the context of leaving home for the first time. Developing a more thorough understanding of what motivates young adults to leave home for the first time may also have relevance for tailor-made policy measures and intervention pinpointing social inequalities in young adults' ability to make a successful transition to adulthood.

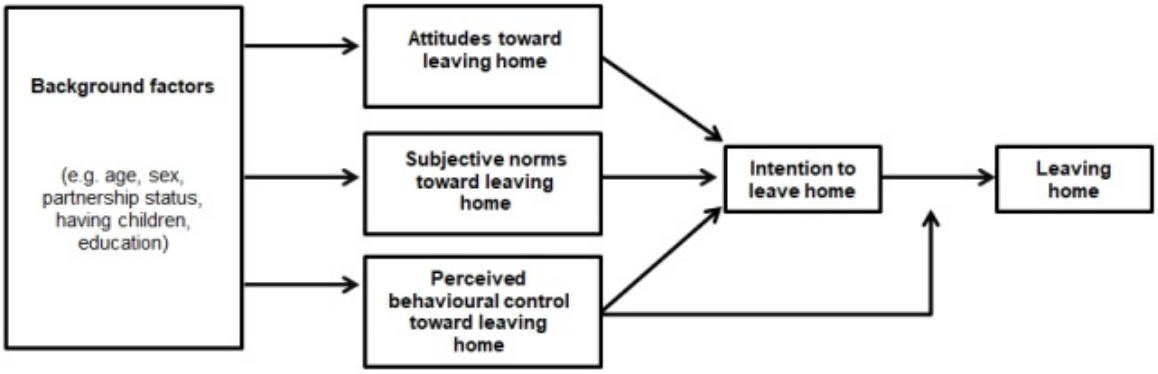
2. Theoretical background

2.1 The Theory of Planned Behavior

The Theory of Planned Behavior (TPB; Ajzen, 1991) – formulated as an extension of the theory of reasoned action (Ajzen & Fishbein, 1973) – is a social–psychological model predicting human behavior. It has been employed in a wide variety of settings to explain behaviors ranging from energy saving to internet use to smoking to cohabiting and childbearing. (An extensive, trans-disciplinary bibliography can be found online: http://people.umass.edu/aizen/tpbrefs.html.) The TPB is a very useful tool to aid our understanding of the decisional process vis-à-vis leaving home, because it conceptualizes intention formation and then links intentions to behavior. Specifically, the TPB posits that proximate determinants predict intentions, and intentions predict behavior (Ajzen, 1991,

2011; Ajzen & Fishbein, 1973). In the TPB model proximate determinants are further defined as attitudes (i.e. one's positive or negative evaluations of the anticipated outcomes), subjective norms (i.e. one's perceived social pressure from significant others like family, friends, and peers) and perceived behavioral control (i.e. one's perceived capability to actually perform a behavior). In the case of residential decision-making, young adults would be expected to both reflect on their attitudes about and to consider subjective norms for leaving home for the first time – always given their own situational context – before forming their leaving home intentions. Finally, young adults would be expected to assess their chances to actually leave home, i.e. to have formed beliefs about the ease or difficulty of leaving home, given the availability of resources and potential barriers in their own situational context.

Figure 1 A TPB model of the decision to leave the parental home



Source: Adapted from Ajzen (1991).

Figure 1 gives a schematic illustration of the TPB model; it shows that the TPB model predicts several direct and indirect processes: (1) Intention to leave home is directly linked to behavior. Because the TPB also acknowledges that different situational constraints may prevent individuals to act in line with their intentions (Ajzen, 1991, 2011; Ajzen & Fishbein, 1973), intentions should generally be understood as an individuals' plan to perform a specific behavior. It also follows then, that leaving home intentions may not always result in leaving

home behavior, as they can be frustrated by a perceived lack of resources and opportunities, for example; (2) Intention to leave home mediates the effects of attitudes, subjective norms, and perceived behavioral control on leaving home; (3) Perceived behavioral control is not only indirectly linked to leaving home – through shaping leaving home intentions – but also moderates the effect of intention on behavior. As described above, the realization of leaving home intentions is (partly) attributable to how much control young adults actually have over their behavior. As Ajzen and Klobas (2013; p.6) note, empirical applications typically assume perceptions of control to reflect actual control reasonably well and consequently also use them as a proxy for actual control; (4) Background factors (e.g., sex, partnership status, having children, or education) influence behavior only indirectly. The TPB model presumes that background factors are already implicitly reflected in the evaluations and beliefs giving rise to attitude, subjective norm, and perceived behavioral control.

2.2 Previous empirical findings: Intentions' proximate determinants

Past research tells us relatively little about proximate determinants of leaving home intentions – attitudes, subjective norms, and perceived behavioral control (Billari & Liefbroer, 2007; Ferrari et al., 2014; Tosi, 2017). Many of the empirical studies explicitly using a TPB framework opt for reduced models which either link the proximate determinants directly to behavior (Billari & Liefbroer, 2007) or do not simultaneously account for intentions' proximate determinants (Billari et al., 2019; Tosi, 2017). Such studies – with a focus on realized behavior rather than on intention formation – unfortunately do not tell us whether or not all elements of the TPB play a role in explaining leaving home intentions.

There is of course a large research body – both in family demography (e.g., Billari, Philipov, & Testa, 2009; Dommermuth, Klobas, & Lappegård, 2011; Dommermuth & Klüsener, 2018; Gauthier, Emery, & Bartova, 2016; Mencarini, Vignoli, & Gottard, 2015) and other disciplines (for a review see Fishbein & Ajzen, 2010) – that overall makes a strong case for the link between all three proximate determinants and intentions. Nevertheless,

Ferrari, Rosina, and Sironi (2014) show for Italy that leaving home intention formation mainly relates to attitudes and social norms, but not to perceived behavioral control. It is important to recall that the TPB model does not make assumptions about the relative importance of each of the proximate determinants. Ajzen and Fishbein (2004) elaborated on their earlier model that the relative importance of proximate determinants as predictors of intention may very well vary from behavior to behavior.

Based on these considerations – and following the TPB framework (Figure 1) – I hypothesize that the more favorable attitudes and subjective norms, and the greater the perceived control, the more likely the intention to leave home (H1). Moreover, I hypothesize that among young adults with an intention to leave home, those with greater perceived control will be more likely to leave home (H2). Novel to prior research, I comparatively assess the proximate determinants of leaving home for the first time and the interaction between intention and perceived behavioral control.

2.3 Previous empirical findings: The intention – behavior link

Existing research generally supports a correlation between intentions and behavior as posited by the TPB for different demographic behaviors (e.g., Ajzen & Klobas, 2013; Billari et al., 2009; de Groot et al., 2011; Kley, 2011; Mencarini et al., 2015). In regards to leaving the parental home for the first time the picture is less clear, however, because two different demographic literatures – one on migration and one on the transition to adulthood – researched the topic differently and the relatively modest amount of empirical research on how young adults' leaving home intentions are associated with behavior within a TPB framework has not produced entirely consistent findings.

First, studies focusing on migration intentions sometimes account for young adults' moves from the parental home to an independent household, too, but findings about the decision-making processes of movers cannot be straightforwardly applied to leaving home. Most research has been based on intentions or desires to move rather than on intentions to live

independently from parents, equating different types of moves (e.g., residential moves in a city, between municipalities or between countries) with the first move to become independent from parents and amalgating boomerangers and first leavers (i.e. those young adults with and without prior moves from the parental household) (e.g., Dommermuth & Klüsener, 2018; Kley, 2011; Kley & Mulder, 2010).

Second, while studies focusing on leaving home as part of the transition to adulthood do not have the same shortcomings as the migration studies, they are generally scarce, apply the TPB framework very differently and focus on some elements of the TPB model more than on others, and are based on single-country samples (cf. Billari et al., 2019). Both Billari and Liefbroer (2007) with Dutch Family and Fertility Survey data and Tosi (2017) with Italian GGS data employed a reduced TPB model, excluding intention to leave the parental home and instead directly linking behavior to only some selected proximate determinants. Ferrari, Rosina, and Sironi (2014) explicitly study intentions as part of the decision-making process to leave home for the first time. Using the Italian GGS, they found that leaving home intentions are moderate predictors of leaving home for the first time after controlling for attitudes, subjective norms, perceived behavioral control and other socio-demographics. Billari, Hiekel, and Liefbroer (2019) most recently also found evidence for an intention-behavior link in a tri-country study using GGS data; contrary to Ferrari, Rosina, and Sironi (2014) however, they indicate that leaving home intentions are strong predictors of leaving home for the first time, with the intention-behavior link for leaving home being somewhat stronger for women than for men. Importantly, Billari, Hiekel, and Liefbroer (2019) neither controlled for attitudes, subjective norms, and perceived behavioral control, nor included many background factors.

Based on the theoretical and empirical considerations discussed – and following the TPB framework (Figure 1) – I hypothesize that the intention to leave home is positively associated with having left the parental home (H3). In addition, I hypothesize that intention to leave home mediates the effect of the proximate determinants (i.e. attitudes, subjective norms,

and perceived behavioral control) (H4). Novel to prior research, I will test these hypotheses in a comparative, multi-country setting.

2.3 Previous empirical findings: Background factors of intentions

Different factors have been shown to be relevant for leaving home intentions in the relatively few previous studies, among them age, sex, partnership status, level of education and employment status but also socio-economic characteristics of young adults' parents and family structure (Billari et al., 2019; Ferrari et al., 2014). According to the TPB, social background factors are not directly determining leaving home intentions and behavior, but the anticipation and evaluation of the possible consequences of leaving home for the first time are socially structured. The social background shapes young adults' opportunity structure and prevailing normative expectations which then leads to different attitudes, subjective norms, and perceived behavioral control. The underlying mechanism likely is socialization during childhood and adolescence (Keijer, Liefbroer, & Nagel, 2018; Keijer, Nagel, & Liefbroer, 2016); at the same time however, people may change attitudes, subjective norms, and perceived behavioral control during later phases of the life course, as well – likely as a response to significant changes in a person's situational context (Fishbein & Ajzen, 2010). Becoming unemployed or finding a partner, for example, likely leads to re-evaluations of the anticipated consequences of leaving home for the first time and in turn to changes in attitudes, subjective norms, or perceived behavioral control and intentions (Liefbroer, 2011, p. 59).

A background factor that in previous research on leaving home intentions has not explicitly been considered is country context (cf. Billari et al., 2019), largely owing to studies taking a single-country perspective (Billari & Liefbroer, 2007; Ferrari et al., 2014; Tosi, 2017). While Billari, Hiekel, and Liefbroer (2019) find little evidence for substantial country differences in the intention-behavior link – but do not address differences in intention formation or background factors – we know from demographic research that leaving the parental home for the first time differs markedly across countries. Leaving home has, for

example, different meanings and implications (vis-a-vis its link with partnership and family formation) (Sobotka & Toulemon, 2008), refers to different time frames and age deadlines (Aassve, Arpino, & Billari, 2013), and also ranks differently in significance as a marker of adulthood (Spéder, Murinkó, & Settersten, 2013). I assume that young adults' decision-making, particularly intention formation, is embedded in the wider socio-cultural, socio-economic, and institutional country context. This means not only that the country context likely shapes young adults' evaluations and reasoning about leaving home and its consequences – because people have grown up and have been socialized in it – but that it also determines the structural environment in which actual leaving home takes place. Enablers (e.g., job creation schemes or subsidized social housing) or barriers (e.g. youth unemployment or tight housing markets) within a country's structural environment then can make it easier or more difficult to act on leaving home intentions.

I do not have a specific hypothesis on specific background factors but want to explore empirically if there are socio-economic, social background, and contextual factors influencing leaving home intentions. Different to prior research I focus on a broad set of background factors and include five countries with quite divergent social and economic contexts which allows validating assumptions of the TPB framework vis-à-vis leaving home for the first time: Austria is a country, where autonomous living is valued but state support in the family domain is less generous (than in Scandinavian countries, for example) and prioritizes intra-family transfers, leaving home occurs later and intergenerational co-residence is not uncommon. Bulgaria, Georgia and Russia are post-communist countries, where state support in the family domain is meager, leaving home occurs at older ages and levels of intergenerational co-residence are high. Italy is a country, where due to minimal state support family provides assistance through intergenerational co-residence, for example, and leaving home occurs at later ages and typically synchronized with union formation (Sobotka &

Toulemon, 2008; Thévenon, 2015). Similar to prior research I slightly relax the TPB's conceptual assumption of background factors only having an indirect relationship with intention and include background factors that may also have a direct association with intention to leave home (Billari, Philipov, & Testa, 2009; Ferrari et al., 2014).

3. Data, measures, and method

3.1 Data

The data for this study come from the first two waves of the Generations and Gender Survey (GGS), an internationally comparable and harmonized set of survey data with rich information about respondents' socio-demographic background, health, intergenerational and gender relations, as well as value orientations and beliefs (Gauthier, Cabaço, & Emery, 2018). A key advantage of the GGS is that it surveys life course decision-making processes by collecting information on respondents' intentions about a series of key demographic choices (e.g., leaving the parental home, getting partnered, or having children), includes TPB item variables, and allows follow-up of realization of intentions in the three-year period between panel waves. From the GGS I selected respondents from five countries (Austria, Bulgaria, Georgia, Italy, and Russia) who were aged between 18 and 34, had never left the parental home before, lived with at least one parent at wave 1, did not have missing values on intention to leave home or other variables of interest, and for whom information in wave 2 was available. Overall response rates of the GGS compare with other European panel surveys (Fokkema et al 2016) and attrition rates between wave 1 and 2 ranged between 19.6% (Georgia) and 35.3% (Russia) for young adults in the study sample. For the Czech Republic, Germany, and Lithuania attrition between panel waves for the selected subset of respondents exceeds 70%, which is why I do not consider them, although GGS' wave 2 was conducted in these countries. France and Poland both have data for wave 1 and 2 but do not contain complete TPB item variables in wave 1 and are therefore also excluded. The final sample size is 4,598.

3.2 Measures

Leaving home *intentions* are measured on a four-point scale (ranging from 1 = definitely not to 4 = definitely yes) in response to the question "Do you intend to start living separately from your parents within the next 3 years?". The four scales are collapsed to a binary variable, 0 = no, 1 = yes, because tests indicated that the variable is not uniformly distributed. Leaving home *behavior* is measured as a binary variable in wave 2, which is 1 if the respondent had left the parental home within the three-year inter-survey period and 0 if not. From those stating an intention to leave home in in the next 3 years 48% actually left (and 52% did not leave) and from those stating not to have an intention to leave home in the next 3 years 38% left (and 62% did not leave).

To assess *attitudes* toward leaving home, respondents evaluated the statement, "If you were to start live separately from your parents during the next 3 years, do you think this would be better or worse for ..." on a five-point Likert scale, ranging from 1 = much better to 5 = much worse for several items. I selected three: "the possibility to do what you want" "your sexual life", and "the joy and satisfaction you get from life". Responses are averaged to yield a measure of attitudes (Cronbach's $\alpha = 0.71$). The share of missing data on this item is low, at 0.2%. To assess *subjective norms* toward leaving home, respondents were asked to rate the extent to which they agree that different groups of people think they should start living separately from their parents on a five-point Likert scale, ranging from 1 = strongly agree to 5 = strongly disagree for several items. I selected three: "friends", "parents", and "other relatives". Responses are averaged to yield a measure of *subjective norms* (Cronbach's $\alpha = 0.80$). The share of missing data for subjective norms is the highest among all TPB measures, at 2.1%. To assess *perceived behavioral control* toward leaving home, respondents were asked to indicate how much the decision to start living separately from their parents during the next three years depended on specific circumstances on a 4-point Likert scale, ranging from 1 = not at all to 4 = a great deal for several items. I selected three items: "your

financial situation", "your work", and "your housing conditions". The share of missing data on this item is lower than for subjective norms, at 1%. Responses were averaged to yield a measure of *perceived behavioral control* (Cronbach's α = 0.88). All three variables were reverse coded so that higher scores reflect stronger attitudes and subjective norms, and greater perceived behavioral control, respectively. Table A-1 of the Appendix lists the complete TPB item variables in the GGS and includes details about the selection of items for the three measures.

Further, I distinguish several background variables measured at wave 1: *Age* and *age squared* – to account for non-linearity of the age effect. Dummy variables indicating whether the young adult *has a child* (= 1) or not (= 0); *has a partner* (= 1) or not (= 0); is *religious* (= 1) or not (= 0); *has at least one parent with a high level of education* (ISCED 5–6) (= 1) or not (= 0); *parental household is owned* (= 1) or not (= 0). I include *country* dummy variables for the five countries (ref = Bulgaria), too. *Education* is based on the international standard classification (ISCED 1997) and has three categories: 1 = low (ISCED 0–2), 2 = medium (ISCED 3–4; -ref-), and 3 = high (ISCED 5–6). *Employment status* has three categories: 1 = employed/ self-employed (-ref-), 2 = student/ in training, 3 = unemployed/ other. *Number of siblings* has three categories: 0 = no siblings (-ref-), 1 = one sibling, 2 = two or more siblings. Whether or not the *respondents' parents had divorced or separated* before the respondent was aged 15 is also included (0 = no, 1 = yes). Table 1 lists means and standard deviations or percentages of the variables used in the analyses.

3.3 Method

Four sets of models, run separately for men and women with country fixed effects and control variables, are used to analyze the different relationships as posited by the TPB (Figure 1): First, I specify a probit regression in which leaving home intention is the dependent variable to examine whether or not the TPB variables are associated with young adults' intention formation (Q1; Hypothesis 1). Second, I specify a probit regression model to jointly examine

Table 1 Descriptive statistics of the study sample (N = 4,598)

Variables	Mean (SD) or %	Range
Sex		--
Male	58.15	
Female	41.85	
Has a child		--
Yes	11.29	
No	88.71	
Has a partner		--
Yes	34.51	
No	65.49	
Age	23.62 (4.53)	18-34
Education		--
Low	22.66	
Medium	61.31	
High	16.02	
Employment status		--
Student/ In training	30.48	
Unemployed/ Other	25.42	
Employed/ Self-employed	44.10	
Religious		--
Yes	18.18	
No	81.82	
Number of siblings		--
0	13.74	
1	53.07	
2 or more	33.19	
Parents have high education		--
Yes	38.46	
No	61.53	
Parents are divorced		--
Yes	9.77	
No	90.22	
Household is owned		--
Yes	83.29	
No	16.71	
Attitudes †	3.39 (0.61)	1-5
Subjective norms †	2.70 (1.00)	1-5
Perceived behavioral control †	2.64 (0.97)	1-4

Table 1 continued

Variables	Mean (SD) or %	Range
Country		--
Austria	12.81	
Bulgaria	20.29	
Georgia	25.50	
Italy	28.28	
Russia	13.12	
Intention to leave at wave 1		--
Yes	42.03	
No	57.97	
Left home at wave 2		--
Yes	41.92	
No	58.08	

Source: GGS wave 1. Own calculations.
Notes: SD = Standard Deviation; † Proximate determinants are standardized in the following analyses.

determinants of intention to leave home and related behavior at wave 2, as well as testing for an interaction between perceived behavioral control and intention to leave home (Q3; Hypotheses 3 and 2). Third, I apply the KHB-method (Karlson, Holm, & Breen, 2012) to assess mediation by the intention to leave home in the probit regression models (Hypothesis 4). The KHB-method accounts for varying error variance across non-linear probit models and decomposes all (i.e., direct, indirect, and total) effects within a model; it thus allows for a comparison of coefficients across non-linear models without any scale identification issue and for testing if a variable mediates the effect of another in a non-linear model. Fourth, I specify a series of Ordinary Least Squares (OLS) regressions, with attitudes, subjective norms and perceived behavioral control as respective dependent variables, to examine the association of background factors (Q2).[1] Longitudinal weights and robust standard errors are applied to account for panel attrition between the two GGS' waves. Furthermore, Inverse Mill's Ratio (IMR) – based on an additional probit regression model on the likelihood to live in the parental home at wave 1 shown in Table A-2 of the Appendix – is applied to account for

[1] Additionally, I followed the same analytical steps for models estimated for single-country samples. The main pattern of results generally holds for men and women in all five countries, but due to lower case numbers, associations are significant less often (results available upon request).

sample selection (Dubin & Rivers, 1989). Note that all analyses are undertaken with a view to exploring associations, rather than proving causation.

4. Results

4.1 Proximate determinants of leaving home intentions

Results from the two probit models on leaving home intentions for men and women are shown in Table 2. These models include background factors as control variables along with attitudes, norms and perceived behavioral control. Attitudes and subjective norms are consistently and significantly relevant in explaining leaving home intentions for men and women. The association is also in the expected direction: the more favorable attitudes and subjective norms, the more likely the intention to leave home. Perceived behavioral control, however, has no significant association for women and the association for men and women is in the opposite direction (for men: b = -0.069, SE = 0.034, $p<.05$; for women: b = -0.011, SE = 0.033, $p>.05$), i.e. the higher the perceived behavioral control, the less likely become intentions. Separate Wald tests for each proximate determinant in a simplified model (Table A – 3) support that only the coefficient for perceived behavioral control for women does not contribute to the fit of the multivariable model ($\chi2 = 0.030$, df = 1, $p = 0.857$). Therefore, and although there is a positive answer to Q1 – attitudes, norms and behavioral control are independently associated with leaving home intentions, even when background factors are controlled for – Hypothesis 1 is only partially confirmed.

Net of proximate determinants both young adults' parental and partnership status is relevant for intention formation regarding leaving the parental home: young men and women with a child have a lower likelihood of intending to leave home within the next three years than childless young adults. Those with a partner have a higher likelihood of intending to leave home than single young adults. Other background factors, mainly those relating to ideational factors and young adults' socio-economic characteristics, are not significantly associated with the intention to leave home and some background factors, mainly age and those relating to the family background and structure, are significantly related to the intention

to leave home only for men. As to the country context, the findings from Table 2 suggest that residing in Austria increases the likelihood of intending to leave the parental home for both young men and women.

Table 2 Probit regression models on intention to leave home

	Intention to leave the parental home in 3 years			
	Men		Women	
	b	*SE*	b	*SE*
Attitudes	**0.406**	0.036	**0.361**	0.038
Subjective norms	**0.413**	0.036	**0.360**	0.037
Perceived behavioral control	**-0.069**	0.034	-0.011	0.033
Has a child (ref. No)	**-0.490**	0.129	**-0.636**	0.125
Has a partner (ref. No)	**0.349**	0.076	**0.501**	0.079
Age	**0.272**	0.091	0.148	0.094
Age sq.	**-0.004**	0.002	-0.001	0.002
Education (ref. Medium)				
Low	0.148	0.096	**0.241**	0.119
High	0.171	0.099	0.156	0.105
Employment status (ref. Employed/ Self-employed)				
Unemployed/ Other	0.010	0.082	-0.063	0.091
Student/ In training	-0.027	0.093	-0.128	0.096
Religious (ref. No)	-0.049	0.093	-0.008	0.095
Number of siblings (ref. 0)				
1	**0.182**	0.093	0.054	0.098
2 or more	**0.213**	0.101	0.056	0.112
At least one parent has high education (ref. No)	**0.161**	0.076	0.051	0.079
Parental household is owned (ref. No)	**-0.265**	0.093	-0.030	0.097
Parents divorced (ref. No)	**0.226**	0.112	-0.152	0.107
Country (ref. Bulgaria)				
Russia	0.145	0.198	**0.552**	0.260
Georgia	**-0.467**	0.113	-0.221	0.129
Italy	0.177	0.115	**-0.499**	0.133
Austria	**0.633**	0.182	**0.555**	0.233
IMR	-0.521	0.515	**-1.476**	0.574
Intercept	**-4.349**	1.147	-2.064	1.194
N	2,514		2,084	

Source: GGS wave 1. Own calculations.
Notes: SE = Standard Error. IMR = Inverse Mill's Ratio. Proximate determinants are standardized. Bold font indicates p<.05.

4.2 The leaving home intention – behavior link

Results from the two probit models on leaving home behavior for men and women are shown in Table 3. These models focus on whether a young adult actually left the parental home in the three years after the first survey and leaving home intention is added as control along with proximate determinants and background factors. The intention to leave home is positively associated with its realization three years later for both men and women, but it is only significant for women (b = 0.303, SE = 0.093, p<.05). This is a positive answer to Q3 and confirms Hypothesis 3. However, the results from Table 2 also indicate that background factors are associated with leaving home behavior, particularly life course factors (having children, partnership status, and age) and parental household characteristics and family structure for men. The country context is also important for leaving home: young adults who live in a post-communist country are less likely and those who live in Italy a more likely to have left home, compared to young adults in Bulgaria. The moderating association between perceived behavioral control and intention was also tested but is not significant (for men: b = 0.022, SE 0.089, p>.05; for women: b = 0.032, SE = 0.080, p>.05). Hypothesis 2 is thus not confirmed.

According to the TPB, attitudes, subjective norms, and perceived behavioral control should have less or no impact on the leaving home behavior if the intention is controlled for (see Table 3). In a non-linear setting, however, assessing whether or not intention to leave home mediates the association of the proximate determinants is not that straightforward because, unlike in linear models, regression coefficients and error variance are not separately identified and regular decomposition principles do not apply (Karlson, Holm, & Breen, 2012). The KHB-method ensures that coefficients and average marginal effects are not affected by this scale identification issue; using the KHB-method (Table 4) I find that for men,

Table 3 Probit regression models on leaving home behavior

	Having left the parental home after 3 years			
	Men		Women	
	b	*SE*	b	*SE*
Attitudes	0.045	0.042	0.005	0.041
Subjective norms	0.017	0.040	0.067	0.044
Perceived behavioral control	0.002	0.043	0.029	0.059
Intention to leave (ref. No)	0.064	0.095	**0.303**	0.093
Has a child (ref. No)	**0.295**	0.138	-0.029	0.133
Has a partner (ref. No)	**0.259**	0.099	**0.262**	0.094
Age	**0.280**	0.102	0.021	0.111
Age sq.	**-0.006**	0.002	-0.002	0.002
Education (ref. Medium)				
Low	0.055	0.103	-0.168	0.140
High	-0.132	0.130	0.099	0.109
Employment status (ref. Employed/ Self-employed)				
Unemployed/ Other	-0.044	0.100	0.199	0.117
Student/ In training	0.027	0.107	**0.198**	0.100
Religious (ref. No)	0.175	0.126	-0.117	0.124
Number of siblings (ref. 0)				
1	-0.002	0.116	0.047	0.111
2 or more	0.168	0.124	0.101	0.130
At least one parent has high education (ref. No)	-0.056	0.078	-0.091	0.078
Parental household is owned (ref. No)	**-0.293**	0.106	-0.134	0.104
Parents divorced (ref. No)	**0.339**	0.117	0.095	0.112
Country (ref. Bulgaria)				
Russia	**-0.611**	0.217	**-0.585**	0.268
Georgia	**-0.409**	0.120	0.053	0.138
Italy	**2.630**	0.155	**2.346**	0.179
Austria	0.038	0.183	0.059	0.236
Interaction				
Perceived behavioral control * Intention to leave	0.022	0.089	0.032	0.080
IMR	0.552	0.530	0.624	0.599
Intercept	**-4.241**	1.266	-0.980	1.389
N	2,514		2,084	

Source: GGS wave 1 and 2. Own calculations.
Notes: SE = Standard Error. IMR = Inverse Mill's Ratio. Proximate determinants are standardized. Bold font indicates p<.05.

while the indirect effects are not statistically significant (b = 0.007, SE = 0.011, p>.05; b = 0.008, SE = 0.012, p>.05), around 14% and 30% of the effect between attitudes and subjective norms, respectively, and leaving home is attributable to the intention to leave home. These values are consistent with the idea of mediation. For women around 87% and

35% of the total effect of attitudes and subjective norms, respectively, is due to the intention to leave home. The indirect effects are statistically significant (b = 0.036, SE = 0.013, p<.05; b = 0.036, SE = 0.013, p<.05). Expressed in average marginal effects this means for women: on average, the probability of leaving home increases by 2.63 percentages points for a standard-deviation change in subjective norms. After controlling for intention to leave home, this average increase is reduced to 0.17 percentage points. An increase of subjective norms leads to stronger intention to leave, which is then translated into a higher probability of leaving the parental home of 0.91 percentage points for women.

Table 4 KHB decomposition results by proximate determinants and intention to leave home

	Men			Women		
	b	*SE*	Confounding %	b	*SE*	Confounding %
Attitudes						
Total effect	0.052	0.039	--	0.041	0.039	--
Direct effect	0.045	0.042	--	0.005	0.041	--
Indirect effect	0.007	0.011	13.62	**0.036**	0.013	87.47
Subjective norms						
Total effect	0.026	0.039	--	**0.104**	0.040	--
Direct effect	0.018	0.040	--	0.068	0.043	--
Indirect effect	0.008	0.012	29.65	**0.036**	0.013	34.86
Perceived behavioral control						
Total effect	0.009	0.040	--	0.044	0.040	--
Direct effect	0.010	0.040	--	0.045	0.040	--
Indirect effect	-0.001	0.002	-13.22	-0.001	0.006	-2.44
N	2,514			2,084		
Pseudo R^2	0.49			0.35		

Source: GGS wave 1 and 2, own calculations.
Note: SE = Standard Error. Confounding % is calculated as the difference between total and direct effect divided by the direct effect ×100. The same background factors as in Tables 1 and 2 were controlled for and included as concomitant variables; only mediation results are reported. Bold font indicates p<.05.

With regard to perceived behavioral control, findings from the earlier analyses (Table 2 and Table A – 3 in the Appendix) and additional analyses (Table A – 4 in the Appendix)

suggest that there is neither sufficient evidence for a direct association between perceived behavioral control and the intention to leave home nor for a direct association between perceived behavioral control and leaving home behavior. If, however, both those links are negligible, mediation is unlikely. This is reflected in the results for perceived behavioral control in Table 4. Taken together, Hypothesis 4 is only partially confirmed and it remains equivocal whether all proximate determinants have an indirect association on leaving home behavior through intention to leave home for both men and women.

4.3 Background factors of leaving home intentions

Table 5 presents the results of OLS regressions for men and women in which attitudes, subjective norms and perceived behavioral control are dependent variables, and background factors are independent variables. With regard to attitudes, having children, partnership status, and (low) education are associated with attitudes for both men and women. The direction is positive for partnership status – young adults seem to assume better chances of self-realization upon leaving when having a partner – and negative for having children and low education – young adults assume worse chances of self-realization when being in a comparatively vulnerable life course situation and likely more dependent on intergenerational assistance from their parents (Swartz et al., 2011). Religiosity and parental background characteristics are only relevant for men, whereas number of siblings is only relevant for women.

With regard to subjective norms, key background factors here seem to be life course related – with increasing age and with a partner, young adults experience more pressure from relevant other to leave home; if, however, young adults have children themselves, they experience less pressure to leave home. These results show that normative pressure from relevant others could turn from being favorable towards leaving – as is supposed to be the

Table 5 OLS regression models on proximate determinants of intentions to leave home (coefficients)

	Proximate determinants					
	Men			Women		
	Att	Sun	Pbc	Att	Sun	Pbc
Has a child (ref. No)	**-0.408**	**-0.401**	0.097	**-0.504**	**-0.306**	-0.163
Has a partner (ref. No)	0.099	**0.136**	0.041	**0.237**	**0.255**	0.034
Age	-0.038	**0.253**	-0.020	0.100	**0.259**	0.083
Age sq.	-0.000	**-0.005**	-0.000	**-0.004**	**-0.007**	-0.001
Education (ref. Medium)						
Low	**-0.206**	**-0.166**	-0.012	**-0.211**	-0.140	0.092
High	-0.022	**0.170**	-0.098	**0.168**	**0.153**	**-0.206**
Employment status (ref. Employed/ Self-employed)						
Student/ In training	-0.093	**-0.191**	**-0.327**	0.064	**-0.221**	**-0.375**
Unemployed/ Other	-0.040	-0.023	**-0.392**	-0.034	-0.055	**-0.279**
Religious (ref. No)	**-0.172**	-0.075	0.099	-0.047	-0.112	0.077
Number of siblings (ref. 0)						
1	0.046	**0.151**	-0.086	**0.140**	0.046	-0.049
2 or more	0.056	**0.186**	**-0.139**	**0.174**	**0.228**	-0.119
At least one parent has high education (ref. No)	**0.191**	**0.099**	0.005	0.032	0.026	-0.077
Parental household is owned (ref. No)	**-0.205**	-0.077	0.094	-0.082	0.073	0.053
Parents divorced (ref. No)	0.022	0.002	0.075	0.050	-0.055	-0.048
Country (ref. Bulgaria)						
Russia	-0.272	-0.185	**-0.343**	**-0.532**	**-0.475**	0.227
Georgia	0.084	0.105	**0.197**	**0.209**	0.152	0.090
Italy	**0.207**	0.130	-0.010	0.098	**0.221**	-0.058
Austria	-0.183	-0.214	**-0.404**	**-0.655**	**-0.525**	0.108
IMR	0.576	**0.772**	**1.064**	**1.298**	**1.187**	-0.292
Intercept	0.959	**-3.244**	0.459	-1.000	**-3.301**	-0.865
N	2,514	2,514	2,514	2,084	2,084	2,084

Source: GGS wave 1. Own calculations.
Notes: IMR = Inverse Mill's Ratio; Att = Attitudes; Sun = Subjective norms; Pbc = Perceived behavioral control.
Proximate determinants are standardized. Bold font indicates $p<.05$.

case with young adults having begun partnership formation – to being favorable towards staying, when this is relevant for the life course or economic situation of the young adult. Furthermore, socio-economic characteristics and the parental household background are important. With increasing educational attainment relevant others are pushing for an exit from the parental home, whereas the lower educated and unemployed experience less pressure from

relevant others to leave. Again, this could indicate parents' role as "safety net", offering support in hard times but also encouraging adult children's independence (Swartz et al., 2011), at the same time, a higher completed level of education – both of the young and the parents – often indicates a high degree of non-traditionalism and stronger preference for autonomy (Liefbroer and Billari 2010). Young adults with two or more siblings feel pressure to leave, possibly indicating household crowding.

With regard to perceived behavioral control, socio-economic background factors are central: employment status is showing up consistently for women and men, (high) education for women and number of siblings for men. It is not surprising that more tangible measures of young adults' economic situation correlate with perceived control over achieving residential independence from parents. However, answering the impact of background factors on perceived behavioral control is generally also conditional on it being associated with leaving home intentions – for which the prior analyses (Table 1) do not provide sufficient evidence. Taken together, these results are unexpected and I will discuss them in more detail in the conclusions.

Finally, there is some indication that proximate determinants, overall, are not only reflective of the personal, situational context but also of the wider national socio-economic, institutional and policy, and socio-cultural context: The association between the country dummies and attitudes and subjective norms, respectively, are mostly significant only for women, whereas the association between perceived behavioral control and the country dummies is mostly significant only for men.

5. Conclusion and discussion

In this study, I used GGS wave 1 and 2 data to examine longitudinally how young adults' leaving home intentions are tied to the realization of these intentions according to a framework provided by the Theory of Planned Behavior (Ajzen, 1991). My findings indicate firstly that attitudes, subjective norms and behavioral control simultaneously influence young

adults' leaving home intentions, even when controlled for background factors. The case for attitudes and subjective norms as important precursors for leaving home intentions is quite robust for men and women across the five countries, but the case for perceived behavioral control is not. All the same, as Liefbroer (2011) noted, a lack of complete determination of intentions by attitudes, subjective norms, and perceived behavioral does not necessarily reject the TPB framework. Ajzen and Fishbein (2004), too, conceded that the relative importance of intentions' proximate determinants depends on behavior type.

Secondly, attitudes and subjective norms are related to a complex set of factors and among them age, family and partnership status, as well as education are key. Perceived behavioral control is mostly associated with economic factors, but does not act as a vector through which these economic factors then influence leaving home decision-making. Between men and women, the picture is more or less similar, with the exception of associations between young men's attitudes and subjective norms, respectively, and religiosity, parental education and whether or not the parental household is owned (which might indicate that family background is more relevant for men than it is for women). Overall, the country context also has a non-negligible influence on proximate determinants.

Thirdly, young adults' leaving home intentions are not only precursors of first moves from the parental home but also mediate the effects of attitudes and subjective norms – but not perceived behavioral control – on actual leaving home behavior. The mediation decomposition supports the TPB's tenet of intention as a main driver for actual behavior; it is more clearly evidenced for women, though, where high subjective norms lead to a stronger intention to leave, which is then translated into a higher probability of actually leaving the parental home. Nevertheless, even when an intention to leave home for the first time has formed, there is still a direct relationship from life course factors on realization. For both men and women partnership status is important, underlining the role of partnership formation as trigger for exit moves from the parental home (e.g., Mulder & Hooimeijer, 1999). The

country context is also important for intention formation, not only as an indirect driver, operating through proximate determinants (Figure 1), but also as a direct one.

These findings answer the posed research questions and are also in line with many of the proposed hypotheses, although support for women is generally stronger. Exceptions mainly concern the role of perceived behavioral control, which is neither important for the formation of leaving home intentions nor for the realization of leaving home intentions. However, the ability to identify any direct or indirect associations of perceived behavioral control could be limited by the GGS's operationalization. Importantly, respondents were not directly asked if they have control over a factor, but only how much their decision to leave home depends on it. In that way, the GGS measure of perceived control taps into perceived difficulty of leaving home rather than young adults' confidence in being able to actually leave the parental home. This is not to say that perceived difficulty has no conceptual link to one's perceived capability to actually perform a behavior – the OLS regression models furthermore empirically confirm a correlation between perceived difficulty and objective measures of actual control (i.e. education and employment status) – but a mixed perceived behavioral control scale, combining perceived difficulty and perceived control, might be more predictive of intention to leave the parental home for the first time. It is interesting to note that research on fertility intention formation using GGS data has also raised measurement issues – mainly related to either a failure to observe a correlation between perceived behavioral control and intention once socio-demographic background factors are controlled for (Dommermuth, Klobas, & Lappegård, 2011) or a failure to observe an absence of a direct correlation of background factors with intention once proximate determinants are included (Mencarini, Vignoli, & Gottard, 2015). But even allowing for measurement imperfection in the GGS, the latter research has, all the same, shown a positive correlation between perceived behavioral control and fertility intention in simpler model specifications. So, it seems that a measure tapping into perceived difficulty has some bearing for the formation of fertility intentions but

there is no evidence that it has for the formation of leaving home intentions. With sufficient and diverse data, future research could further clarify this point and ascertain the role of perceived behavioral control for young adults' decision-making process to leave the parental home for the first time.

Two limitations regarding the data and research design should be noted. Analogous to leaving home behavior, the determinants of leaving home intentions may also operate slightly differently or have a different weight depending on whether or not young adults leave the parental home to live alone, live with a partner, or pursue higher education (Iacovou, 2010). At this moment, however, the GGS neither allows differentiating between all of these destinations nor between intentions regarding leaving home destinations. Nonetheless the current analysis provides a more detailed picture of young adults' decision-making process vis-a-vis the first exit move from the parental home than prior research and a benchmark for future research. With prospective new waves of the GGP 2020, examining alternative intentions and destination choices could be a fruitful topic for further research. Furthermore, the evidence in this study cannot support a causal interpretation of the mechanisms and pathways posited by the TPB. While structural techniques are sometimes chosen to tackle questions asked in this paper – but, importantly, do neither automatically warrant a causal interpretation – regression modeling has been reliably applied in studies on demographic decision-making (e.g., Billari, Philipov, & Testa, 2009; Dommermuth, Klobas, & Lappegård, 2011; Dommermuth & Klüsener, 2018; Gauthier, Emery, & Bartova, 2016; Kley, 2011; Kley & Mulder, 2010) and lends nonetheless some first credibility to the TPB's causal assumptions about leaving home intention formation and subsequent realization. Repeated tests with different data or study designs could complement my findings.

Despite its limitations, this study, overall, makes a contribution to the relatively small comparative literature on leaving home intentions by using the GGS's TPB measures on leaving home for the first time to study longitudinally how young adults' leaving home

intentions are tied to the realization of these intentions. It has shown the usefulness of the TPB framework, with its two stages intention formation and actual behavior, for understanding how young adults make the decision to leave the parental home across different country contexts and illustrated how young adults' characteristics, contextual constraints, and decision-making processes intersect to shape the pathway out of the parental home. It has also, however, indicated the need for continued validation of the TPB's elements, particularly perceived behavioral control, for analyses of young adults' leaving home decision-making. A more nuanced understanding of the decision-making process underlying young adults' first exit from the parental home not only has scientific relevance but can provide policy cues for a successful transition to adulthood.

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Appendix

Table A – 1 Factor loadings of TPB-items

	Factor 1: Attitudes	Factor 2: Subjective norms	Factor 3: Perceived behavioral control
"If you were to start live separately from your parents during the next 3 years, do you think this would be better or worse for ... "			
Possibility to do what you want	**0.78**	-0.02	-0.04
Employment opportunities	0.81	-0.11	0.09
Financial situation	0.63	0.05	0.27
Sexual life	**0.69**	0.02	-0.12
What people around you think of you	**0.74**	0.02	-0.07
Joy and satisfaction you get from life	**0.71**	0.14	-0.10
"(...) I'm going to read out some statements about what other people might think about you leaving the parental home during the next three years. Please tell me to what extent you agree or disagree with these statements. "			
Most of your friends think it is about time for you to live separately from parents	0.05	**0.88**	0.00
Your parents think that it is about time for you to live separately from parents	-0.04	**0.94**	0.00
Most of your other relatives think that it is about time for you to live separately from parents	0.01	**0.93**	-0.01
Your children think that you should live separately from your parents	0.00	0.88	0.01
"How much would the decision on whether to start or not to start to live separately from your parents during the next 3 years depend on … "			
Your financial situation	0.02	-0.12	**0.78**
Your work	0.03	0.01	**0.82**
Your housing conditions	0.01	-0.19	**0.66**
Your health	-0.04	0.11	0.74
Parents' health	0.01	0.23	0.66
You having a partner	-0.12	-0.03	0.68
Cronbach's alpha	0.71	0.80	0.88

Source: GGS wave 1. Own calculations.

Notes: Factor loadings in bold indicate the factor on which the TPB item was placed. For attitudes, "employment opportunities" and "financial situation" are not used because of the conceptual and methodological overlap with perceived behavioral control, and high uniqueness (= 0.6). For subjective norms, "your children think that you should live separately from your parents" is not used because this item is not available in the Austrian GGS and the share of respondents with children in the sample is low (11%) and missing values for this item are high (92.6%). Note also that the Italian GGS omitted "other relative" and included mother and father separately. For perceived behavioral control, "parents' health" and "you having a partner" is not used because these items are neither available in the Austrian nor the Italian GGS; "your health" is not used because the share of respondents with bad health in the sample is low (2.2%) and uniqueness for this item is high (= 0.6).

Table A – 2 Probit regression on the likelihood of living in the parental home at wave 1 (sample selection)

	Selected into sample	
	b	*SE*
Man (ref. Woman)	**0.615**	0.022
Age	**-0.130**	0.002
Education (ref. Medium)		
Low	**-0.242**	0.030
High	**0.057**	0.029
Young adult has limited health (ref. No)	**0.533**	0.084
At least one parent has high education (ref. No)	**0.037**	0.024
Parent has limited health (ref. No)	**-0.227**	0.047
Country (ref. Bulgaria)		
Russia	**-0.628**	0.032
Georgia	**0.279**	0.032
Italy	**0.227**	0.035
Austria	**-0.582**	0.034
Intercept	**3.247**	0.070
N	16,404	

Source: GGS wave 1. Own calculations.
Notes: SE = Standard Error. Bold font indicates p<.05.

Table A – 3 Probit regressions on intention to leave home (with different model specifications)

	Intention to leave the parental home in 3 years			
	Men	Women	Men	Women
	b	b	b	b
Attitudes	**0.404**	**0.374**	**0.403**	**0.375**
Subjective norms	**0.411**	**0.367**	**0.412**	**0.358**
Perceived behavioral control	**-0.075**	0.006	**-0.088**	-0.001
Has a child (ref. No)	--	--	--	--
Has a partner (ref. No)	--	--	--	--
Age	--	--	--	--
Age sq.	--	--	--	--
Education (ref. Medium)				
Low	--	--	0.117	-0.040
High	--	--	0.106	**0.270**
Employment status (ref. Employed/ Self-employed)				
Unemployed/ Other	--	--	**-0.219**	-0.121
Student/ In training	--	--	-0.064	-0.143
Religious (ref. No)	--	--	--	--
Number of siblings (ref. 0)				
1	--	--	--	--
2 or more	--	--	--	--
At least one parent has high education (ref. No)	--	--	--	--
Parental household is owned (ref. No)	--	--	--	--
Parents divorced (ref. No)	--	--	--	--
Country (ref. Bulgaria)				
Russia	--	--	--	--
Georgia	--	--	--	--
Italy	--	--	--	--
Austria	--	--	--	--
IMR	**0.525**	-0.010	**0.475**	-0.131
Intercept	**-0.655**	0.032	**-0.605**	0.158
N	2,514	2,084	2,514	2,084

Source: GGS wave 1 and 2. Own calculations.
Notes: IMR = Inverse Mill's Ratio. Proximate determinants are standardized. Bold font indicates p<.05.

Table A – 4 Probit regressions on leaving home behavior (with different model specifications)

	Having left the parental home after 3 years			
	Men	Women	Men	Women
	b	b	b	b
Attitudes	0.036	0.022	0.052	0.044
Subjective norms	0.042	**0.136**	0.027	**0.103**
Perceived behavioral control	0.012	0.040	0.009	0.044
Intention to leave (ref. No)	--	--	--	--
Has a child (ref. No)	--	--	**0.285**	-0.091
Has a partner (ref. No)	--	--	**0.267**	**0.318**
Age	--	--	**0.285**	0.028
Age sq.	--	--	**-0.006**	-0.001
Education (ref. Medium)				
Low	--	--	0.057	-0.158
High	--	--	-0.129	0.114
Employment status (ref. Employed/ Self-employed)				
Unemployed/ Other	--	--	-0.045	0.193
Student/ In training	--	--	0.028	0.184
Religious (ref. No)	--	--	0.172	-0.127
Number of siblings (ref. 0)				
1	--	--	0.002	0.046
2 or more	--	--	0.172	0.097
At least one parent has high education (ref. No)	--	--	-0.052	-0.087
Parental household is owned (ref. No)	--	--	**-0.299**	-0.137
Parents divorced (ref. No)	--	--	**0.339**	0.075
Country (ref. Bulgaria)				
Russia	--	--	**-0.604**	**-0.537**
Georgia	--	--	**-0.418**	0.039
Italy	--	--	**2.636**	**2.297**
Austria	--	--	0.053	0.103
IMR	0.108	**-0.422**	0.536	0.506
Intercept	**-0.317**	**0.195**	**-4.291**	-0.906
N	2,514	2,084	2,514	2,084

Source: GGS wave 1 and 2. Own calculations.
Notes: IMR = Inverse Mill's Ratio. Proximate determinants are standardized. Bold font indicates p<.05.