

Original Papers

Polish Psychological Bulletin
2016, vol. 47(4) 421–430
DOI - 10.1515/ppb-2016-0049

Ivan Lukšík*
Gabriel Bianchi*
Miroslav Popper*
Pavol Baboš**

Factors affecting decisions to have a second child: exploiting the theory of planned behaviour

Abstract: *The objective of this study is to explore factors that affect the decisions single-child parents make when considering whether to have a second child applying the psychological theory of planned behaviour (TPB). Quantitative survey data from a sample of parents with a single child selected from a Slovak representative sample was used to perform regression analysis assessing effects of attitudes, subjective norms and perceived control on intention to have a second child within the next three years. Results largely confirm the model captured in TPB. All three components of the TPB have a significant effect on intentions to have a second child. A particular set of liberal and conservative attitudes facilitate plans to have a second child. The strongest predictors, however, are the perceived pressure from the social environment (subjective norm) and subjective desire to have a child (perceived control). The study concludes that, along with demographic and sociological variables, psychological factors play a significant role in decision-making processes concerning reproductive planning.*

Key words: *reproductive decision-making, planned behaviour theory, attitudes, social norms, perceived control*

Introduction

Slovakia is a country with a low fertility rate. In recent years, the birth rate has been roughly 1.4 children per woman of child-bearing age (Šprocha & Vaňo, 2012). Currently total fertility rate is around 1.5, including childbirths of Slovak citizens living abroad (Šprocha et al., 2015, p. 27).

Decreased fertility and delayed reproduction are trends that have affected not only Slovakia over the last 20 years but also other post-communist countries. These trends are part of what demographers (Lesthaeghe, 2010; van de Kaa, 1999) refer to as the Second Demographic Transition (SDT) which began in Western Europe back in the mid-1960s. Lesthaeghe and van de Kaa use this term to describe a shift in people's values marked primarily by an increasing individualism and a focus on the self-realisation of the individual. SDT has been accompanied by a move away from marriage and towards cohabitation, and a change in the perceived value of children; they are no longer seen as the single central point in a couple's life.

Equally, there is also a shift from a single uniform family to more pluralistic forms of cohabitation. Another concept that may relate to possible causes of low reproduction rates and delayed parenthood is emerging adulthood. Arnett (2004) considers the period between adolescence and adulthood to be a specific developmental stage which he calls emerging adulthood. It is a concept that follows on from Erikson's identification of a psychosocial moratorium; that is, a period of sexual and cognitive maturation, during which binding commitments are postponed, and of relative freedom to experiment with roles (Erikson, 1999). During this period young people are typically relatively independent where social roles and normative expectations are concerned, and they also experiment with relationships, work opportunities and worldviews.

Whilst it is true that human reproduction is the subject most frequently dealt with in demographic research, there is also psychological research, mostly on attitudes to parenthood and to childcare, but also including attitudes to cohabitation and role sharing between partners and so forth. The first research to have been conducted in this area

* Institute for Research in Social Communication, Slovak Academy of Sciences

** Faculty of Philosophy, Comenius University in Bratislava

(Kiser, 1962; Westoff et al., 1961; Kiser, 1967) resulted in sceptical conclusions as to the relationship between psychological variables and birth rates. Later research, however, demonstrated that attitudes to reproduction had a certain degree of influence on reproductive behaviour (Bagozzi & Van Loo, 1978; Bell, Bancroft, and Philip, 1985).

Social psychologists and other social scientists have long been interested in the relationship between attitudes and behaviour. Since initial research (e.g. La Pierre, 1934) in this area did not identify a clear link, researchers began searching for a framework or rather the conditions under which this relationship might be valid. The most frequently used theoretical framework in this field is that provided by Fishbein and Ajzen's theories of reasoned action and planned behaviour (Ajzen & Fishbein, 1980; Ajzen, 1988, 1991). The theory of planned behaviour (TPB) emerged through the wider application of reasoned action theory and it aims to predict and explain intentions and behaviour. Planned behaviour theory (Ajzen, 1988; Ajzen, 1991) holds that behaviours are influenced by attitudes to particular behaviours; thus, in our case attitudes to reproductive behaviour, such as attitudes to having children, bringing up children and partner relations. Within this theory attitudes are understood to be a disposition to react positively or negatively to objects, people, institutions or events. However, the intention to behave in a certain way, and behaviours themselves, is influenced not only by attitudes but also by subjective norms and perceived control. Subjective norms relate to perceived social pressure to produce or not produce a given behaviour. Subjective norms are individual perceptions of social pressure exerted by important people in the person's environment so as to encourage that person to produce or not produce that behaviour. The third significant influence on behaviour is the extent to which people perceive themselves as having or not having control over internal and external factors which might suppress that behaviour. Figure 1 below shows a diagram illustrating TPB.

This model shows that the three groups of variables affecting intentions to behave in a certain way do not exert a directly influence on behaviour since people do not act on all their intentions. The model has been tested in a number of areas, for instance, condom use, observing speed limits, hand washing, eating safely, giving blood and registering as an organ donor, consuming alcohol, interventions for

intimate partner violence, academic performance (Alas et al., 2016; Jones, Andrews, & Berry, 2016; Kassin, Fein & Markus, 2014; O'Doherty et al., 2016). It was tested on reproductive behaviours by Barber (2001) who found that positive attitudes to children and a preference for larger families, particularly among married couples, lead to earlier parenthood amongst men and women alike. By contrast, positive attitudes to having a career and a focus on luxury items lowers the rate at which people have/give birth to children, particularly amongst married couples. Barber (2001) states that attitudes have been shown to be important in explaining the mechanism for timing parenthood in other theoretical frameworks as well, for example, structural theories or demand theories. Another study focused on reproduction provides preliminary support for the applicability of the TPB model in accounting for intentions to delay childbearing among young childless women (Williamson & Lawson, 2015). Moreover, in their meta-analytical study, Armitage and Conner (2001) conclude that within the theory of planned behaviour the predictive value of the TPB model explains 39% of variance in intentions and 27% of variance in behaviour. As White and Wellington (2009) indicates various studies have altered the model and explored additional factors that might influence behavioural intentions in various areas, for instance, self-identity, group norms, etc.

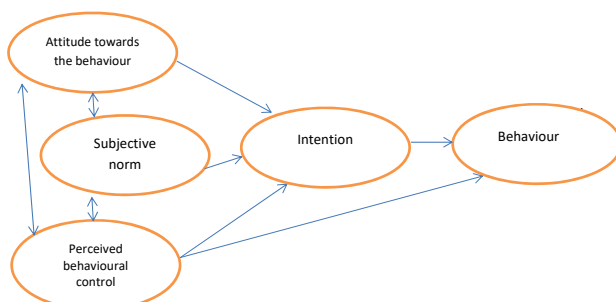
In order to shed light on the psychological aspects of reproductive decision-making, extensive research¹ has recently been conducted in Slovakia. Quantative research performed on a representative sample of the population produced data that can be analysed using the theory of planned behaviour.

Present study

Focus

Since it has been shown that one of the more serious issues in reproduction is the transition from first child to second child, we focused on single-child parents planning to have a second child. In our study we attempt to ascertain which psychological factors in the TPB model influence plans to have a second child. Using the theoretical TPB model we test three core independent variables. The first is a wide range of attitudes that, to varying degrees, relate to reproduction: attitudes to having children, to men and women having only one child or no children (assessed in terms of happiness, responsibility and substitutability), attitudes to childcare being provided by the mother and father, and attitudes to role sharing in partnerships or married couples. We consider the second variable – the subjective norms in the TPB model – to be the social norm constituted by subjective internalised perceptions of pressure from family, friends and other relatives to have a child. The third variable – perceived behavioural control – was operationalised as an indicator of how a person perceives the various circumstances of his or her life affecting the decision on whether or not to have a child

Figure 1. Diagram of model of planned behaviour theory adapted from Ajzen (1988)



¹ Sustainable reproduction in Slovakia: psycho-social research (APVV).

within the next three years. Here we included external circumstances such as work, housing, access to childcare facilities and the presence of a partner and also the internal factor of whether the person had the emotional desire to have a child at that time. Relatively little is known about what motivates men into having children (Barber, 2001) and so the demographic variable of gender was included in the testing conducted outside the TPB model.

Hypotheses

In order to test the TPB model we formulated the following hypotheses:

- H1: Attitudes to and the conditions required for reproduction influence plans to have a second child.
 H2: An increased awareness of social pressure from the social environment to have a child positively influences plans to have a second child.
 H3: Greater control over the circumstances of reproduction positively influence plans to have a second child.

Methodology

Research sample

The research sample comprised young people in Slovakia, aged between 24 and 36 who already had one child at the time of data collection and had no health issues preventing them from having another child. The sample was taken from a representative sample of the Slovak population aged between 18 and 45 years. The representative sample contained 1,414 respondents and representativeness was ensured in regard to the following characteristics: age, gender, education, nationality and place of residence². Once we had cleansed the data of any missing values and applied the age limit referred to above, health status and number of children, the sample for analysis contained 76 respondents (31 male, 40,8% and 45 female, 59,2%; age 24–36 years, mean 31,3, st. deviation 3.791³). Although the number of 76 respondents might seem rather small, there are many simulation studies, as well as empirical research showing that such a sample is satisfactory to produce reliable and robust estimates. Vittinghof and McCulloch (2007) showed particularly for binary logistic regression that five events/observations per one independent variable is already good enough. Sideridis et al. (2014) showed that a sample size of 50–70 is satisfactory for regression-based structural models. Many empirical psychology research works with samples of size within similar boundaries (Pagotto et al., 2012).

Given the low number of respondents in the sample we used bootstrapping (further details given below)

to calculate the standard errors and thus the level of significance.

Research method

The data collection method was a questionnaire⁴. In this study we analyse the following items: (1) 22 attitudinal questions, (2) three questions designed to establish subjective norms – perceived social pressure on the respondent to have a child, (3) several items measuring perceived behavioural control in relation to parenthood, (4) respondents' gender, and (5) the intention to have a child within the next three years.

The attitudinal questions related to attitudes to not having children, child rearing and various aspects of the relationship including gender roles, for instance: *It is normal for a married couple to remain childless throughout their life; A child being brought up by its parents outside marriage is equal to a child being brought up by its parents within marriage; There is no substitute for the mother's role in caring for a young child.* Respondents answered each question on a five-point Likert scale from 1 – totally agree to 5 – totally disagree. Since the overall number of attitudinal questions (22) is too high to allow us to perform logistic regression on each of them (the main statistical method of analysis used in this study) it was decided in advance that a factor analysis would be performed in order to reduce the data, ascertain its internal structure and enhance the effect in the model of the theory of planned behaviour.

Three items were used to assess the role played by subjective/social norms: (a) *Your friends* (b) *Your family* or (c) *Your relatives think you should have a child.* A five-point Likert scale was used to measure the extent to which respondents agreed or disagreed with these statements. We used confirmatory factor analysis to verify whether a single factor underlies these three items, which was in fact the case. The factor scores that emerge are a kind of index of subjective norms measuring the aggregate pressure three groups exert on the respondent. We have called this variable 'pressure'.

Perceived behavioural control we explored by asking what the respondent's decision to have a (second) child depended on, regardless of whether they were or were not planning to have a child within the next three years. The respondents selected the three most important factors out of a choice of 15 (e.g. financial situation, housing situation, work, emotional desire for a child, etc.). We included in our analysis the five factors that respondents most frequently assessed as being the most important (work, housing, emotional desire to have a child, partner and accessibility of childcare facilities).

Finally, we explored reproductive intentions by asking whether or not respondents wanted to have a child within the next three years (yes or no answers).

² Data collection was carried out with the help of a professional research agency that uses a stable network of interviewers.

³ As the sample was narrowed in a specific way with regard to number of children (one) and age, it is understandable that in some categories our sample does not reflect the adult population exactly (particularly in relation to economic status, with students and pensioners missing, while almost a fifth of sample being on maternity leave). However, in other characteristics such as gender, education stratification and religious affiliation the sample is broadly representative.

⁴ In compiling the questionnaire we were inspired by the questionnaire used in the GGP (Gender and Generation Programme) project. The questionnaire covers 7 areas: 1. Living, 2. Partner relations, 3. Current children, 4. Future children, 5. Value orientations and attitudes, 6. Demography, 7. Confidential issues and health issues relating to sex life.

Table 1. Summary of attitudinal factors extracted

No. of factor	Name	Explanation of the values of the factor
F. 1	Child and work	A higher value means a tendency to harmonise work and family responsibilities when the child is very young; this factor also includes a rejection of sex education
F. 2	Toleration of single children/no children	A higher value means a tendency to consider it normal and not irresponsible to not have children or to have only one child.
F. 3	The substitutable parent	A higher value means a tendency to think that in child rearing the mother and father can be substituted
F. 4	Happy even without children	A higher value means greater acceptance of the idea that people can be happy even if they don't have children.
F. 5	Conservative attitudes to cohabitation, parenthood and child rearing	A higher value reflects a rejection of child rearing outside marriage, a rejection of not having children, a rejection of sharing childcare, and support for the idea that looking after the home is as fulfilling as work
F. 6	Rejecting female autonomy	A higher value reflects a rejection of the idea that a woman can bring up a child alone and that in the relationship she can decide how the money she earns is spent; this factor loads on a rejection of couples deciding to have only one child
F. 7	Conservative marriages	A higher value reflects a prioritisation of marriage over cohabitation and rejection of the idea that women can decide to bring up a child themselves
F. 8	Male and female equality	A higher value reflects backing for the idea that the woman in the relationship can earn more than the man and that women can be equally good political leaders as men

The full list of 22 variables entering the Factor Analysis, with their respective factor loadings, are presented in Table X (Appendix).

Analytical method

The data analysis was performed in two stages using two different statistical methods. In the first stage we used exploratory factor analysis to reveal the underlying structure of respondents' attitudes and reduce the number of attitudinal items. Subsequently, within the model of the theory of planned behaviour, we used multivariate logistic regression to test the effect of the individual latent variables on plans to have a child within three years.

The factor analysis was exploratory in nature. We used principle component analysis as the extraction method. To simplify the interpretation of the results we adjusted the factor scores using Varimax rotation. This is the most appropriate method of rotation because for each factor it attempts to find 'the lowest number of items with the highest factor scores and vice versa the highest number of items with the lowest factor scores' (Abdi 2003, p. 3).

In the second stage we build a regression model based upon the theory of planned behaviour. Given that the dependent variable, planning a second child, contains two categories (respondents planning or not planning to have a child), we use logistic regression. The independent variables were 1. scores of the individual attitudinal factors obtained from the previous factor analysis, 2. perceived social pressure from their social environment on respondents to have a child (marked: pressure), 3. respondents' perceived control over planning a child

in relation to job held (marked: work) living conditions (marked: housing), how accessible he or she considers pre-school care to be (marked: accessibility), whether he or she has a partner (marked: partner) and desires to have a child (marked: desire), and 4. gender.

Results

Factor analysis: attitudes to partnership and child rearing

The factor analysis revealed 8 latent factors which load on 19 items linked to attitudes to marriage, the role of women, equality in the relationship, child rearing and others. Table 1 summarises the factors extracted and briefly describes what the values represent⁵.

Descriptive statistics of these 8 factors entering further logistic regression are presented in Table 2. Regarding the eight constructed latent factors, they all have mean around zero and standard deviation around one. This is expectable by design, as they are derived from factor analysis.

⁵ Before subjecting the attitudinal factors to logistic regression we controlled for the mutual relationships between them so as to ensure that there was no problem with multicollinearity. This problem was also avoided by looking at the variance inflation factor which quantifies inflation in the variance of the regression coefficients affected by multicollinearity.

Table 2. Descriptive statistics of 8 attitude Factors entering logistic regression

	Descriptive Statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
Child and work	76	-1.866	2.398	-0.007	1.001
Toleration of single children/no children	76	-2.553	2.192	-0.018	0.950
Parent cannot be substituted	76	-1.722	2.221	-0.023	0.980
Happy without children	76	-1.569	2.339	0.005	0.910
Conservative attitudes to cohabitation, parenthood and child rearing	76	-1.774	2.783	0.124	0.976
Rejecting female autonomy	76	-2.070	2.573	-0.031	0.959
Conservative marriage	76	-2.502	2.161	-0.032	1.021
Male and female equality	76	-2.435	2.462	0.001	1.035

Source: Own Survey.

Descriptive characteristics of the subjective norm variable in the TPB model (perceived social pressure) entering logistic regression are min. -1,813, max. 1,335, mean -0,359, st. deviation 1.010. Frequencies of categorical variables representing perceived behavioural control in the TPB model entering logistic regression are presented in Table 3.

Table 3. Frequencies of categorical variables representing perceived behavioural control

Variable	Categories	Count	Percent
Suitable housing	No	54	71.1
	Yes	22	28.9
Suitable partner	No	56	73.7
	Yes	20	26.3
Desire for a child	No	48	63.2
	Yes	28	36.8
Having work	No	54	71.1
	Yes	22	28.9
Accessibility of nurse (1) and kindergarden (2)	0	27	35.5
	1	22	28.9
	2	27	35.5

Source: Own Survey.

Logistic regression: testing the TPB model

The dependent variable was the response to the question of whether the respondent wanted to have a child within the next three years. The results are shown in as odds

ratios comparing the 'yes' answer to the 'no' answer (base). We estimated one, multivariate logistic regression model, i.e. all independent variables included in the same, single model.

Given the small final sample (76)⁶ and the fact that several of the variables do not meet the assumption of normal distribution (tested using the Kolmogorov-Smirnov test), there is a risk that the estimated parameters will be biased. In order to resolve this, we decided to use bootstrapping (Yung & Bentler, 1996). Byrne states that the main advantage of bootstrapping is that it enables us to assess the stability of the parameters of the model and 'report their values with a greater degree of accuracy' (Byrne, 2010, p. 332). In bootstrapping the analysis is performed repeatedly and the original respondents are resampled – each time a new sample is created by random selection with replacement. We set the number of repetitions at 1,000. Instead of the assumed normal distribution we therefore gained an empirical distribution of the individual values that are used to adjust the standard errors and thereby also the level of significance (Mooney & Duval, 1993; Kline, 2011; Yung & Bentler, 1996).

Before beginning to interpret the influence of the various predictors, we present Table 4 with the observed and predicted values of the dependent variables. As can be seen, out of the original 76 responses our model successfully predicted 66, which means the overall predictive success of the model is 86.8%.

The effect of the observed parameters on planning for a second child obtained by calculating logistic regression can be seen in Table 5 as well as in below.

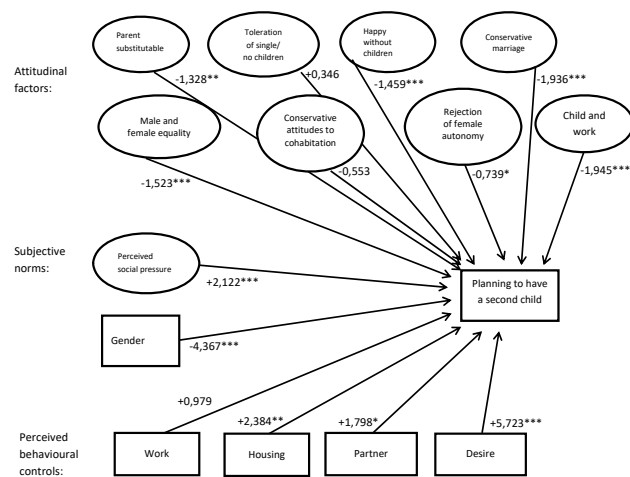
⁶ There is a relatively small number of respondents in the target sample owing to the fact that the age cohort in the original sample N = 1414 was limited to 24–36 years of age to reflect the "epicentre" of reproductive decision-making and that we only used data relating to respondents who already had one child.

Table 4. Observed and predicted group membership by planning for a second child

Observed	Predicted			
	Plan	Correct predictions		
	yes	no		
Plan	yes	36	5	87.8
	no	5	30	85.7
Total %				86.8

Source: authors.

Note. The cut-off value of the likelihood of belonging to the group to be assigned in the model is 0.5.

Figure 2. Diagram of observed parameters affecting planning for a second child obtained by logistic regression

Logistic regression shows that in keeping with the theory of the planned behaviour model all three components (attitudes, norms and control) are significant predictors of planning a second child. Of the wide range of attitudes it was shown that four conservative and two liberal attitudinal factors had an effect on planning for a second child amongst respondents with one child. Planning for a second child is encouraged by conservative attitudes that emphasise the idea that there is no substitute for the parent in caring for a child under three, that the person (probably mainly the mother) has to choose whether to look after the child or work, that a person cannot be happy without children, that women should not earn more than men and that men are better political leaders than women. Liberal attitudes also have an impact on planning for a second child. They support the idea that women can look after children on their own and also that they can have economic independence (there is also support for the idea that couples can have a single child). Here we also find the attitudes that support the idea that marriage is equal to cohabitation and that defend child rearing in incomplete families. In

Table 5. Logistic regression results

	B	Exp(B)	Sig. (2-tailed)
Child and work	-1.945	.143	.001
Toleration of single children/no children	0.346	1.414	.130
Parent cannot be substituted	-1.328	.265	.004
Happy without children	-1.459	.232	.001
Conservative attitudes to cohabitation, parenthood and child rearing	-0.553	.575	.063
Rejecting female autonomy	-0.739	.478	.034
Conservative marriage	-1.936	.144	.001
Male and female equality	-1.523	.218	.001
Social pressure	2.122	8.350	.001
Housing (base = no, result for yes)	2.384	10.845	.006
Partner (1)	1.798	6.039	.016
Desire (1)	5.723	305.678	.001
Work (1)	0.979	2.662	.097
Accessibility (base = 0)			
Accessibility (1)	-1.091	.336	.098
Accessibility (2)	1.388	4.008	.062
Gender (b = male)	-4.367	.013	.001

Source: authors.

Note. The level of significance is based on bootstrap sampling repeated 1,000 times.

particular, though, our first hypothesis on the effect of attitudes on planning a second child was also confirmed.

In the TPB model we also tested the influence of subjective norms and of perceived social pressure from the social environment on planning for a second child. This effect, formulated as part of the second hypothesis, was confirmed. People who reported to feel social pressure have about eight times higher odds of planning the second child than those without social pressure.

Variables of perceived behavioural control that may suppress or reinforce plans to have a second child and that were part of the third hypothesis were also confirmed. External control factors that were found to be important in planning a child were whether respondents had or would have housing and suitable partner, and the important internal factor was whether they felt the desire to have a second child. However, we did not find that the importance of work would make a difference nor did we find that consideration of accessibility of childcare facilities would have any impact on planning for a second child. In relation to the effect of the control factors, we can state the following:

- the likelihood of a respondent planning a second child within three years against the likelihood of not planning one is around six times higher in people for whom **having a suitable partner** is determining and one of the three most important factors in considering whether to have another child compared with those who did not mention a partner in their criteria.
- the likelihood of a respondent planning to have another child within three years as against not planning to have one is almost 11 times higher in people who mentioned their **housing situation** as being one of the three most important factors in considering whether to have a child than was the case for those who did not list housing amongst their criteria.
- the likelihood that respondents planning another child within three years against not planning one was 306 times higher in people who listed the **emotional desire to have a child** amongst their three most important factors in considering whether or not to have a child than in people who did not list emotional desire amongst their criteria.

Outside the TPB model we found confirmation that **gender** had an impact on planning a child, with planning featuring more strongly amongst women than men. The likelihood of respondents planning to have another child within three years as against not planning one was almost 77 times higher amongst women than men. Put simply, women are much more likely to be planning a child within three years than men assuming *ceteris paribus*, i.e. that all the characteristics surveyed are equal (hence assuming that they have the same attitudes, perceived pressure and control).

Discussion and conclusions

The results of our analysis show that a number of variables, structured within the theory of planned behaviour (TPB) model, have a significant effect on planning for a second child. In our research we did not investigate the effect on reproductive behaviour of the individually monitored factors using the TPB model but just looked at the planning of this kind of behaviour; cross-sectional studies do not allow for this kind of analysis. Despite this, we suggest that the research has produced interesting findings on a number of levels: 1. the research confirmed that the TPB psychological model can be used to explain the role of attitudes, subjective norms and perceived controls on planned behaviour, 2. the results provide an insight into the complex structures of attitudes relating to reproductive planning. 3. the results also confirm that gender affects reproductive planning.

The theory of planned behaviour (Ajzen, 1988; Ajzen, 1991) suggests that behaviour is affected by three factors: attitudes to specific behaviour (in our case various attitudes relating to parenthood, reproduction, child rearing and so on), subjective norms (in our case perceived social pressure to have a child) and finally perceived control over a particular behaviour (in our case control over the circumstances determining reproduction within the next

three years). The results show that planning a second child is facilitated by all three factors, specifically, by a set of conservative and liberal attitudes, perceived pressure from parents, relatives and friends to have a second child and also by whether the respondents would be able to secure housing, suitable partner and whether they desire a child.

Planning a second child is encouraged by conservative attitudes that emphasise that there is no substitute for a parent caring for a child under three and that a person cannot be happy without children and also attitudes attesting to the socio-economic inequality of men and women. Planning a second child was also affected by liberal attitudes promoting female autonomy in child rearing and also female economic independence. Planning a second child was also underpinned by liberal attitudes to partnerships where respondents considered marriage to be equal to cohabitation and defended child rearing in incomplete families. The results did not show that conservative attitudes to cohabitation or liberal toleration of single/no children affected planning for a second child.

Perceived social pressure, i.e. whether respondents feel their family, relatives and friends think they should have another child, increases the likelihood of the respondents planning a second child. This result is in line with findings by Barber (2000) indicating that whether people plan and enter into parenthood is considerably affected by their mother's preferences. It has been shown that mothers particularly have an influence over the timing of their offspring's marriage, size of family, education level and career development. Other findings also point to parental influence on their children's lifestyle and plans to have a family. Parents make it possible for children to achieve the things that they themselves could not achieve, e.g. education, travel and so forth (Lukšik & Fugger, 2013).

Within the TPB model we confirm other factors in perceived behavioural control that might encourage or discourage plans to have a second child. The external factors of control that were important in planning were whether respondents had or would have housing and suitable partner and the internal ones were whether they felt the desire to have a second child. The strongest of these was shown to be the emotional desire to have a child. If we see the perceived control in terms of a belief about one's abilities to act in pursuit of the goal, where control is seen as being close to the concept of self-efficacy (Ajzen, 1991), then emotional desire operates more as absence of control. As far as the other variables of perceived control are concerned, we observed no effect for the availability of work or accessibility of childcare facilities on planning for a second child. One could interpret this finding as meaning that the respondents had already resolved this issue in relation to their first child. The fact that these variables do not influence planned behaviour does not mean that they may not have an effect on behaviour since the theory of planned behaviour suggests that in addition to there being an indirect relationship between perceived control via planning, there is also a direct effect on behaviour (see fig. 1).

The particular set of conservative and liberal attitudes that affect reproductive planning raises the general question as to the role of attitudes, their internal composition and their relationship to behaviour. The results indicate that attitudes need not create a consistent internal mental structure and that they clearly do not exist independently of what is occurring within society and without accounting for the person's own history of interactive episodes (Harré & Gillett, 2001). Our findings indicate that in planning a second child what is important is not the kind of attitudes the respondent has but that they are strong and that the person is capable of articulating them clearly. Contemplating parenthood and the formation of attitudes, regardless of whether they are conservative or liberal, takes place before planning to have a child. As mentioned above reproductive planning and decision-making clearly occurs within the decision-making and negotiating that goes on within partnerships. It has also been shown that attitudes relating to reproductive behaviour reflect topics that sporadically emerge within social debate, for instance, on whether the mother can be substituted, on parents, on the institutions of marriage and cohabitation, child rearing and a single parent caring for a child, and balancing work and family. It is possible that people who have certain liberal or conservative attitudes adopt their arguments from the debates within society. However, that does not necessarily affect whether they plan to have a child, but just the way in which they will bring up that child or how they will run their household.

Outside the model of the theory of planned behaviour we confirmed the effect of gender on planning children, with planning being significantly more marked amongst women than men. The likelihood ratio of a respondent planning another child within three years as against the opposite was 77 times higher amongst women than men. Although women plan to have a child to a much greater extent this does not necessarily mean that their plans will come to fruition, since their partner – the potential father of the child – is also involved in making the decision. According to TPB the partner's intentions may be subjectively perceived as a social norm by the woman and so if the partner strongly disagrees, then this norm may act as a brake on planning and further reproductive behaviour. Nonetheless, in planning the first and second child the partner's veto does not play such an important role as it does in planning further children; plans to have a first and second child are influenced by the two-child norm and so the partner's veto is weaker here (Testa, Cavalli & Rosina, 2014). More marked reproductive planning amongst women may be influenced by the fact that planning children is seen culturally as a matter for women and as the responsibility of women (Beckman, 1984; Rindfuss, Morgan & Swicegood, 1988; Testa, Cavalli & Rosina, 2011); although, this cultural frame was not confirmed in recent research, for example, that conducted in Italy (Testa, Cavalli & Rosina, 2014).

Assumptions related to the existence of the Second Demographic Transition, specifically that the unwillingness to have a larger number of children is linked to the fact that

the child is no longer the focal point of the partners' lives and also to the spread of more liberal forms of cohabitation, were only partially confirmed. In terms of attitudes it was shown that if a parent can balance childcare and work, hence the child is no longer the focal point, then it is likely that plans to have a second child will feature less. On the other hand, liberal partnerships and support for cohabitation do not operate as barriers so much as strengthen the transition from first to second child.

The results indirectly point to the fact that it is not the concept of the insubstitutable mother (Grño, 2006), widespread throughout Slovakia and the Czech Republic (Janoušková & Sedláček, 2005), that affects reproduction most, but the more liberal concept of insubstitutable parents.

If we assume that emerging adulthood, characterised by relative independence from normative expectations and social roles (Arnett, 2004), also means delayed reproductive decisions and indeed reproduction, then this assumption was not confirmed. Our findings indicate that social (normative) pressure to have children plays an important role in plans to have children.

The research findings confirm that reproductive planning can be explained not simply by demographic and sociological factors but also as part of the psychology behind the decision-making processes. In this respect we have confirmed that the theory of planned behaviour can be of benefit.

References

- Abdi, H. (2003). Factor rotations in factor analyses. In M. Lewis-Beck, A. Bryman & T. Futing (Eds.) *Encyclopedia of social sciences research methods*. Thousand Oaks (CA): Sage.
- Ajzen, I. (1988). *Attitudes, personality, and behavior*. Chicago: Dorsey.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211.
- Ajzen, I. & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice Hall.
- Alas, Y., Anshari, M., Sabtu, N.I., Yunus, N. (2016). Second-chance university admission, the theory of planned behaviour and student achievement. *International Review of Education*, 62(3), 299–316. doi: 10.1007/s11159-016-9558-5
- Armitage, C. & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *The British Journal of Social Psychology* 40(4), 471–499. doi: 10.1348/014466601164939
- Arnett, J.J. (2004). *Emerging adulthood: The winding road from late teens through the twenties*. Oxford: Oxford University Press.
- Bagozzi, R.P. & Van Loo, M.F. (1978). Fertility as consumption: theories from the behavioural sciences. *Journal of Consumer Research* 4(4), 199–228. doi: 10.1086/208700
- Barber, J.S. (2001). Ideational influences on the transition to parenthood: Attitudes toward childbearing and competing alternatives. *Social Psychology Quarterly* 64(2), 101–127. doi: 10.2307/3090128
- Barber, J.S. (2000). Intergenerational influences on the entry into parenthood: Mothers' preferences for family and nonfamily behavior. *Social Forces* 79(1), 319–348. doi: 10.1093/sf/79.1.319
- Beckman, L.J. (1984). Husbands' and wives' relative influence on fertility decision and outcomes. *Population and Environment: Behavioral and Social Issues* 7(3), 182–197. doi: 10.1007/bf01255488
- Bell, J.S., Bancroft, J.P. & Philip, A. (1985). Motivation for parenthood: A factor analytic study of attitudes towards having children. *Journal of Comparative Family Studies* 16(1), 111–119.
- Byrne, B.M. (2010). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. London: Routledge.
- Erikson, E.H. (1999). *Životní cyklus rozšířený a dokončený* (The life cycle completed) Praha: Nakladatelství Lidové noviny.

- Grño, J. (2006). Kde se láme subject (Where the subject breaks), *Biograf*, 40–41. Retrieved from <http://www.biograf.org/clanky/clanek.php?clanek=4002>
- Harré, R. & Gillett, G.R. (2001). *Diskurz a myseľ: Úvod do diskurzívnej psychológie (The discursive mind)*. Bratislava: IRIS.
- Janoušková, K.L. & Sedláček, L. (2005). Jiné mateřství (Other motherhood). *Gender, rovné příležitosti, výzkum* 6(1), 19–22.
- Jones, S.C., Andrews, K., Berry, N. (2016). Lost in translation: a focus group study of parents' and adolescents' interpretations of underage drinking and parental supply. *BMC Public Health*, 16(561). doi: 10.1186/s12889-016-3218-3
- Kassin, S., Fein, S. & Markus, H.R. (2014). *Social psychology* (9th ed.). Belmont, CA: Cengage/Wadsworth.
- Kiser, C.V. (1962). The Indianapolis study of social and psychological factors affecting fertility. Population Studies. In C.V. Kiser, (Ed.) *Research in family planning* (pp. 149–166). Princeton: Princeton University Press.
- Kiser, C.V. (1967). The growth of American families studies: An assessment of significance. *Demography*, 4(1), 388–396. doi: 10.2307/2060378
- Kline, R.B. (2011). *Principles and practice of structural equation modeling*. New York: The Guilford Press.
- La Pierre, R. (1934). Attitudes versus actions. *Social Forces*, 13(2), 230–37. doi: 10.2307/2570339
- Lesthaeghe, R. (2010). *The unfolding story of the second demographic transition*. Research Report 10696, Population Studies Center, University of Michigan.
- Lukšik, I. & Fugger, J. (2013). Životné štýly mladých ľudí - hra s normatívnou sociálnou dospelosťou (Youth lifestyles: play with the normativity of social adulthood). In A. Neusar, L. Vavryšová, (Eds.). *Kvalitatívny prístup a metódy vo vedách o človeku 12 : Hranice normality* (pp. 343–350). Olomouc: Univerzita Palackého.
- Mooney, C.Z. & Duval, R.D. (1993). *Bootstrapping: A nonparametric approach to statistical inference*. Sage University Paper series on Quantitative Applications in the Social Sciences, series no. 07-095. Newbury Park, CA: Sage.
- O'Doherty, L., Taket, A., Valpied, J. & Hegarty, K. (2016). Receiving care for intimate partner violence in primary care: Barriers and enablers for women participating in the weave randomised controlled trial. *Social Science & Medicine*, 160, 35–42. doi: 10.1016/j.socsci-med.2016.05.017
- Pagotto, L., Visintin, E.P., De Iorio, G. & Voci, A. (2012). Imagined intergroup contact promotes cooperation through outgroup trust. *Group Processes & Intergroup Relations*, 16(2), 209–216. doi: 10.1177/1368430212450057
- Rindfuss, R.R., Morgan, S.P. & Swicegood, G. (1988). *First births in America: Changes in the timing of parenthood*. Berkeley and Los Angeles: University of California Press.
- Sideridis, G., Simos, P., Papanicolaou, A. & Fletcher, J. (2014). Using Structural Equation Modeling to Assess Functional Connectivity in the Brain Power and Sample Size Considerations. *Educational and Psychological Measurement*, 74(5), 733–758. doi: 10.1177/0013164414525397
- Šprocha, B. & Vaňo, B. (2012). Analýza a prognóza reprodukčného správania populácie Slovenska, 1. časť Plodnosť (Analysis and prognosis of the Slovak population reproductive behavior, Part 1 fertility) *Prognostické práce*, 4(2), 95–120.
- Šprocha, B., Vaňo, B., Jurčová, D., Pilinská, V., Mészáros, J. & Bleha, B. (2015). *Populačný vývoj v Slovenskej republike 2014*. (Population development in the Slovak Republic 2014) Bratislava: Infostat.
- Testa, M.R., Cavalli, L. & Rosina, A. (2011). Couples' childbearing behaviour in Italy: Which of the parents is leading it? *Vienna Yearbook of Population Research*, 9, 157–178. doi: 10.1553/populationyearbook2011s157
- Testa, M.R., Cavalli, L. & Rosina, A. (2014). The effect of couple disagreement about child-timing intentions: A parity specific approach. *Population and Development Review*, 40(1), 31–53. doi: 10.1111/j.1728-4457.2014.00649.x.
- Van de Kaa, D.J. (1999). *The past of Europe's demographic future*. 1st ed. Wassenaar: NIAS. Retrieved from <http://www.nias.knaw.nl/en/new_3/new_1/new_1/17uhlenbeck.pdf>.
- Vittinghoff, E. & McCulloch, Ch.E. (2007). Relaxing the Rule of Ten Events per Variable in Logistic and Cox Regression. *American Journal of Epidemiology*, 165(6), 710–718. doi: 10.1093/aje/kwk052
- Westoff, C.F., Potter, R.G., Sagi, P.C. & Mishler, E.G. (1961). *Family growth in metropolitan America*. Princeton: Princeton University Press.
- Williamson, L.E.A. & Lawson, K.L. (2015). Young women's intentions to delay childbearing: A test of the theory of planned behaviour. *Journal of Reproductive and Infant Psychology*, 33(2), 205–213. doi: 10.1080/02646838.2015.1008439
- White, K. & Wellington, L. (2009). Predicting participation in group parenting education in an Australian sample: the role of attitudes, norms, and control factors. *Journal of Primary Prevention*, 30(2), 173–189. doi: 10.1007/s10935-009-0167-y
- Yung, Y-F., and Bentler, P.M. (1996). Bootstrapping techniques in analysis of mean and covariance structures. In G.A. Marcoulides & R.E. Schumacker, (Eds.) *Advanced structural equation modeling: Issues and techniques*. (pp. 195–226). Mahwah, NJ: Erlbaum.

ACKNOWLEDGEMENTS

This paper was written with partial support from the following projects: ...

Appendix

Table X. Factor scores for each attitudinal item

		factor							
		1	2	3	4	5	6	7	8
To what extent do you agree or disagree with the following statements?	marriage is an old-fashioned institution	.143	-.079	-.263	-.211	-.034	-.087	.812	.062
	parents living outside marriage bringing up a child is of equal value as parents who are married bringing up a child	-.088	-.084	.232	.070	.549	-.012	.544	.205
	it is normal for parents to want to remain childless all their lives	-.288	-.246	-.068	-.318	.447	.245	.265	.336
	it is normal for a married couple to agree to have only one child	-.156	-.405	.231	-.016	.187	.565	.099	.126
	if a man never has a child he can't be completely happy	.043	.261	.003	.824	.000	-.058	-.152	.109
	if a woman never has a child she can't be completely happy	.169	.249	.176	.743	-.234	-.022	.086	.013
	it is ok if a woman has a child even if she is alone and doesn't want to live in a stable relationship with a man	-.008	-.018	.228	.103	-.002	.461	.615	-.241
	a woman who never wants to have a child is irresponsible	-.052	.791	-.129	.321	.169	-.096	-.058	.264
	a man who never wants to have a child is irresponsible	-.039	.830	-.052	.301	.074	-.044	-.096	.254
	it should be compulsory for all children to learn about the basics of parenting and sex education at primary school	.431	-.054	.419	-.138	-.095	-.161	-.284	.278
	the role of the mother in caring for young children cannot be substituted	.191	-.173	.781	.023	-.169	.060	.039	.020
	the role of the father in caring for young children cannot be substituted	.000	.112	.822	.122	.086	-.001	-.040	.017
To what extent do you agree or disagree:	it is better if the man in the couple is older than the woman	.087	.566	.247	-.043	-.381	.046	.023	-.171
	it is not good for the relationship if the woman earns more than the man	.171	.255	.042	-.450	-.255	.056	.054	.475
	men are generally better political leaders than women	.068	.156	.044	.115	-.021	.000	-.014	.714
	women should be able to decide how to spend the money they earn without the agreement of their partner	.111	-.056	-.328	-.045	-.095	.736	.059	.122
	looking after the home and family is equally fulfilling as working for money	.119	-.017	.003	.046	-.588	.287	.051	.248
	a child up to the age of three will probably suffer if the mother works full-time	.776	-.147	.166	.239	-.093	.096	.095	.032
	a child up to the age of three will probably suffer if the mother works – even if it's only part-time	.853	-.036	.094	.113	.012	-.023	.093	.092
	children often suffer because their father is too work-orientated	.713	.252	-.073	-.179	.101	.154	-.072	-.032
	if the parents divorce and one parent gets custody it is better for the child to stay with the mother than the father	.217	.154	.286	-.128	-.063	.555	-.106	-.231
	if the parents divorce it is better for the child if the court decides that childcare should be shared rather than one parent having custody	.178	.069	-.090	-.072	.783	.115	.006	-.026

Note 1. Extraction performed using principal component analysis, Varimax factor rotation and Kaiser normalisation.

Note 2. Only loading of 0.5 and higher were accepted (emboldened to make it easier to read).