Religiosity, nationalism and fertility among Jews in Israel revisited

Evgenia Bystrov

Email: evgenia.bystrov@gmail.com

Please refer to this paper as:

Bystrov, E. 2016. Religiosity, nationalism and fertility among Jews in Israel revisited. *Acta Sociologica*, 59 (2): 171-186.

Abstract

This paper focuses on competing explanations of childbearing behaviour among Jews in Israel. Despite evidence of the second demographic transition in Israel, total fertility has not declined during the last three decades, unlike most western high income democracies. Two alternative explanations in the literature address this phenomenon. One is religiosity and the other nationalist sentiment at the aggregate level as driving the high fertility rates. Using structural equation modeling, the current study tests the association of each of these two factors with fertility. Religiosity and nationalism were constructed as latent variables, based on individual level observed measures. Supporting previous studies at the aggregate level, the current analysis confirms that religiosity is the main determinant of fertility at the individual level, whereas nationalism has an effect on fertility only due to its high connection with religiosity. Parsimonious and comprehensive models of Jewish fertility in Israel and further research directions are suggested.

Keywords

Israel, fertility, nationalism, religiosity, structural equation modeling

Introduction

Worldwide economic growth is often associated with changes in fertility preferences and behaviour, leading to an eventual reduction of the birth rate (Keyfitz, 1986, 1992). Although fertility transition and convergence is considered a global process (Wilson, 2011), fertility in Israel does not follow this pattern. In contrast to the average fertility rates of high-income countries, those in Israel are unusually high, ranging from 3.11 to 3.35 for Jewish and Muslim women respectively (ICBS, 2015). These are not only the highest in the developed world, but even higher than those of some developing countries. In this way, the second demographic transition, and particularly, fertility transition in Israel seems to take a different form from what is described in western contexts (Bystrov, 2012a).

The Israeli case is interesting to examine, not only because it provides evidence of alternative processes, but also because of its socio-cultural and socio-political complexity. In spite of the deeply divided society, and the ongoing national Jewish-Arab conflict, Israel is, nevertheless, considered a stable ethnic democracy with a Jewish majority and an Arab minority. Although Israel's legislation strives to find a balance between both Jewish and democratic principles, the provision of collective rights varies for majority and minority groups, and the state is non-neutral in insuring equality of these rights. One of examples is the law of return. Israel pursues an ethnic immigration policy, granting Jews and their descendants automatic citizenship, and the right to vote for parliament immediately upon arrival (Smooha, 2002, 2005).

Two prominent theoretical strands address Israel's unusually high fertility rates in an attempt to find their ultimate causes. One emphasizes the socio-cultural factors, such as high levels of religiosity and traditionalism, and the other emphasizes the political factor of nationalistic sentiments. Due to the explanatory weakness of ethnic origin and socio-

economic status, arguments for religiosity as the decisive determinant of Jewish fertility in Israel have gained in credibility (Friedlander, 2002; Friedlander and Goldscheider, 1978; Schellekens, 2009). This is exemplified by Friedlander and Feldmann (1993), who found religiosity to explain nearly seventy-six percent of the variance in total fertility of tested urban areas. These findings are, however, contradicted by Anson and Meir (1996), who found that once nationalism and the standard of living in the analyzed areas were controlled for, the effect of religiosity on fertility was insignificant. While still recognizing the strong positive correlation between religiosity and fertility, the authors claim that national security is at least as decisive in all aspects of family related behaviour as religiosity. After all, pressing security conditions in a country might shift the publics' priorities toward greater emphasis on the family as a stable, trusted, and protected enclave distinct from the external world (Bourdieu, 1996; Welzel and Inglehart, 2008).

The goal of the present study is to investigate these two alternative explanations of high fertility of Jewish women in Israel at the end of the first decade of the new millennium, and test which factor – religiosity or nationalism – is more influential. The study explores whether these two variables mediate each other or are influenced by additional social and demographic factors. Revisiting the case of religiosity, nationalism and fertility once more after decades of academic debates on the subject is important for several reasons.

Firstly, the current research is theory-driven: it juxtaposes existing explanations, and seeks to resolve the controversy regarding two competing determinants of outstanding childbearing behaviour in a modern society. It empirically tests the theoretical premises and shows which is more valid when confronted with the most recent data.

Secondly, while previous studies compiled aggregate level data from the 1983 census and 1984 elections by geographic areas (Anson and Meir, 1996; Friedlander and Feldmann, 1993), and treated fertility, religiosity and nationalist sentiments as supra-individual phenomena, this research analyzes new individual-level survey data of 2009-2010. It is needless to say that the two levels of analysis differ, and one cannot draw conclusions regarding individual behaviour based on previous two studies without the risk of ecological fallacy (Kramer, 1983).

Thirdly, the current study defines nationalism and religiosity in a straightforward manner, thus strengthening the link between the theoretical concepts and their operationalization. The concepts of nationalism and religiosity are developed in the current study using confirmatory factor analysis. Also, much attention is paid to distinguishing between these interconnected constructs, which is especially important in light of the close relationship between Judaism as a religion and Jewishness as a nationality. To this end, indicators of internal consistency and evidence in support of construct validity are provided. This approach stands in contrast to that of Friedlander and Feldmann (1993), where religiosity was calculated solely upon the aggregated percentage of votes for religious parties in the 1984 elections (p. 297). Such measurements of religiosity can be problematic, because sometimes even non-Jewish citizens (predominantly Druze) vote for Jewish religious parties (Anson, 2010). In Anson and Meir's (1996) study, both concepts of religiosity and nationalism were derived from votes in the same 1984 elections. Although the authors described their method of typifying the studied areas by religiousness and nationalism in detail (p. 12-18), this method can be problematic as well. This is due to the difficulties in differentiating between religiosity and nationalism, and the ambiguities which arise, when looking at the voting of one single election. For it is not always clear, which party

issues, religious, nationalist or otherwise, ultimately led an individual to vote for the specific party.

Finally, using structural equation modeling (SEM), the present study investigates the relations between the variables as a complex system. SEM allows generating more comprehensive explanatory models of fertility than least squares regression analysis. Constructing latent (unobserved) variables allows using all the available information on underlying covariance structure in the models and estimating the measurement error directly.

The paper will continue in the subsequent sections with a theory-testing approach, followed by an exploratory approach. Data used and methods for constructing the measures are reported in the methodological chapter, which is followed by a presentation of the results of the SEM, a broader discussion of the findings, and finally, the concluding remarks.

Explaining fertility: concepts and frame

Fertility preferences in the developed world and in Israel

To understand fertility, two sources of complexity must be considered: the multiplicity of factors and mechanisms that underlie individual and aggregate fertility, and the system of relations, mostly endogenous, between the above factors (Huinink, Kohli and Ehrhardt, 2015). Different types of analyses are performed on various levels in an attempt to explain fertility. Generally, at the societal level, there are two types of explanations – those which focus on demographic and cultural factors, and those which emphasize economic development (Esping-Andersen and Billari, 2015).

Most of the fundamental work in examining fertility preferences and behaviours in the developed societies in the past decades can be found in demographic theoretical

overview papers (e.g. Balbo, Billari and Mills, 2013; Huinink, Kohli and Ehrhardt, 2015; Lesthaeghe and Moors, 2000; van de Kaa, 1996). These studies serve to highlight major behavioural trends such as the postponement of fertility, the overall fertility decline and the convergence of fertility rates to a level somewhat below replacement.

At the level of individual fertility preferences, several approaches have been offered. To name a few, changing fertility preferences have been explained by the shift to postmodernity (van de Kaa, 2001), the growing variety of lifestyles for women in postmodern societies (Hakim, 2003), and Ajzen's theory of planned behaviour, which emphasizes variations in intentions of having a child in the following two years based on parents' beliefs, attitudes and perceived control (Ajzen and Klobas, 2013). Also noteworthy is the value of children theory, which focuses on the varying contribution of children to their parents' wellbeing (Nauck, 2014). All these stress the importance of socio-cultural and ideational factors that affect motivations for having children.

Secularisation is not the least of the factors that fuels the second demographic transition (Lesthaeghe and Moors, 2000). Studies of childbearing behaviour in Europe and the U.S. show connections between fertility and religiosity. On average, religious women have more children than non-religious (Philipov and Berghammer, 2007; Westoff and Marshall, 2010). This general pattern has also been explained by socio-structural factors, such as social networks and community, and by traditional views of family and gender roles that are connected with religiousness. Interestingly, the strongest decline in fertility during the last decades has been shown in countries with strong traditional catholic adherence (Castels, 2003). This can be seen as a case of catch-up of the second demographic transition that is already further advanced in less traditional countries. A further explanation might be found in the increasing domestic role of the man which can be observed in some societies (Goldscheider, Bernhardt and

Lappegard, 2015), a marker of the ongoing gender revolution that is most conductive to family life.

Unlike European countries, where social status, welfare policies and women's educational attainment and employment explain childbearing decisions, in Israel, fertility is dominated by the effect of religiosity. Israel is a highly heterogeneous country, comprised of various national, ethnic and religious population groups, and maintaining exceptionally high fertility levels (Friedlander, 2002). While the Arab fertility levels are on decline, for both Muslim and Christian populations, according to the most recent official data (ICBS, 2015), Jewish fertility seems to be on a rise again. As of 2010, Jews comprised 80% of the total population in Israel (Bystrov and Soffer, 2013). In this paper, Jewish fertility is the object of study.

Fertility behaviour among Jews in Israel

Over the last three decades, Jewish fertility in Israel has been above the replacement level of 2.1 children per woman, and much higher than in other post-industrial countries. Between the 1950s and the mid 1990s, the Jewish total fertility rate (TFR) was on a decline until it halted at 2.6, and started to increase again by the beginning of the new millennium. In 2014, Jewish TFR in Israel reached 3.11 (ICBS, 2015), and is likely to continue rising.

This high rate is partially due to the extremely high fertility of the most religious group, the Ultra-Orthodox, which since 1980, has remained above 6.0 children per woman. The fertility of this group peaked between 2002 and 2006, with a rate of over 7.5 children per woman, and subsequently decreased to 6.5 by 2009 (Hleihel, 2011). The Ultra-Orthodox comprised approximately 13% of the Jewish population in 2009 (Paltiel et al., 2012). On the religious-secular continuum, this group displays the highest fertility

in contemporary Israel. The lowest contemporary levels of fertility in Israel are represented by women who are officially classified as not belonging to a religious group, the vast majority of whom emigrated from the former Soviet Union in the 1990s. Their fertility comprised 1.68 children per woman between 2010 and 2014 (ICBS, 2015).

Since the 1950s, fertility has varied among different groups in Israel, and its determinants have changed. While socio-economic status and ethnic origin (Asian-African as opposed to European-American) have been previously considered as important factors affecting fertility, religiosity has been later identified as the most important source of variation (Friedlander and Feldmann, 1993). Religiosity has also been found to be closely associated with right-wing voting (Shamir and Arian, 1999), which is one of the expressions of nationalism.

However, the lack of demographic data connected with socio-cultural variables hampered the in-depth research of the determinants of Jewish fertility (Goldscheider and Friedlander, 1981). Friedlander and Feldmann (1993) estimated fertility of religious and non-religious groups only indirectly at the aggregate level. Questions that remained unanswered are how structural determinants, as well as religious values and cultural norms, ultimately account for the differences in individual reproductive behaviour (Schellekens and van Poppel, 2006).

Religiosity, traditionalism and gender roles as determinants of fertility

Religiosity, traditionalism and nationalism, as socio-cultural factors, are frequently mentioned concepts in contemporary family research in Israel (e.g. Raz-Yurovich, 2010). In several studies, religiosity was identified as the major determinant of high fertility (Bystrov, 2012a; Friedlander, 2002; Friedlander and Goldscheider, 1978; Okun, 2000, 2013). Further analytical nuance is however required, as aggregate statistics in

Israel have been shown to conceal the highly heterogeneous fertility rates of groups varying in their level of religiosity (Friedlander and Feldmann 1993).

While the fertility rate of the secular group is similar to European rates, the rate displayed by the most religious is significantly higher. The exceptionally high fertility of the Ultra-Orthodox stems from their way of life, especially the practice of early marriage, and the accompanying extremely high marital fertility. The socio-cultural structure of this community, the internal normative influences, and the political arrangements with the Israeli governments impose strict limits on the freedom of choice in regards to alternative lifestyles (for fear of sanctions, exclusion from the community and loss of benefits). High fertility in accordance with the social norms of the Ultra-Orthodox community can be regarded as a direct consequence of living in this particularly closed society (Friedlander and Feldmann, 1993).

Traditional familism (Fogiel-Bijaoui, 2002) has been identified as another important cause for the Israelis' preference of a large number of children (DellaPergola, 2009; Gurovich and Cohen-Kastro, 2004; Manski and Mayshar, 2003). Jewish tradition emphasizes family values and traditional division of gender roles (Fogiel-Bijaoui, 2002; Lavee and Katz, 2003; Stier and Lewin-Epstein, 2000; Stier and Yaish, 2008). The breadwinner role of the ‘main provider’ is argued to be the prerogative of the man (Fogiel-Bijaoui, 2002), although the increasing number of postmodern families might eventually break the traditional gender stratification patterns. Since the restructuring of traditional family and gender roles occurs at a different pace among the various social groups (Anson, 2010), it might affect differently the consequent fertility preferences of those groups.

Nationalism as a determinant of fertility

Nationalism has been suggested in the mid-nineties as an alternative explanation of the high Jewish fertility. Anson and Meir (1996) asserted that nationalistic sentiments are a more sociologically complete explanation than religiosity. Here, the variance in fertility of urban areas was explained by the differentiation in voting for the political parties, which represent more or less nationalistic standpoints of the electorate. Although high fertility was correlated with high degrees of both nationalism and religiosity in the respective geographic units, nationalism was found a better predictor of fertility than religiosity.

The main argument was that nationalistic sentiments are derived from the '*conscience collective'* of the Israeli society within the geopolitical setting of the Middle East. The salience of the national security issues in Israel emphasizes the importance of group strength. Hence, the groups that tend to support the nationalistically oriented parties prefer to have a larger number of children and indeed actually have more children. This explanation has been empirically supported at the aggregate level, but the authors admit that they have not tackled the micro-question of exactly how such ideology impacts fertility (Anson and Meir, 1996). These arguments have been repeated in various forms (Anson, 2006; Berkovitch, 1997; Landau, 2003; Nahmias, 2004), without being re-tested empirically.

The concept of nationalism suggested in the current study might provide the missing link at the individual level. Following the concepts of Anson and Meir (1996), this paper asserts that nationalism is manifested in voting and is based on political preferences. Nationalism is concerned with the most prominent issues of national character on the political agenda that are being promoted by the political parties, mainly, the issue of external relations with the Arab countries and Palestinian neighbours in particular.

This research also follows the terminology used by Shamir and Arian (1999) in addressing the external aspect of national collective identity. While the internal national identity concerns the nature of the state and society, the external national identity involves the question of the state's borders and relations with the Palestinians. The issue of the territories captured in the 1967 Six-Day War and the Israeli-Arab conflict is a major dimension in Israeli politics, and a basic collective identity dilemma. Because of this, resolving the issues of the territories and relations with the Palestinians is a prominent theme on the Israeli political agenda, and each government has to assure its legitimacy by clarifying its standpoint on these sensitive topics. Moreover, political decision-makers have to ensure that public opinion is not polarized on these issues to the degree that endangers Israel's democracy as a whole (Arian, 2005).

The issue of Israel's geographical boundaries, and especially attitudes regarding the annexed territories, were found to be important in electoral choice between the seventies and mid-nineties (Shamir and Shamir, 2008). Individual political attitudes were found predictive of voting (Philippov and Bystrov, 2011; Shamir and Arian, 1999), and nationalistically oriented individuals were found likely to object to the institution of civil marriage in Israel (Bystrov 2012b). In light of these insights, the current research seeks to further develop the concept of individual-level nationalistic outlook by building on these previously tested ideas.

Current research and methodology

The main questions of the current research are: Which factor, religiosity or nationalism, is more decisive in explaining Jewish fertility in Israel? What are the relations between religiosity, nationalism, traditional views of gender roles and fertility, and how are they structured? How do other socio-demographic factors influence

fertility? Here three basic models are suggested, two deriving from the previous research of Friedlander and Feldmann (1993), and Anson and Meir (1996), and a third, a less restrictive alternative offered for further exploration.

1) *Restricted model* states that religiosity influences fertility. According to Friedlander and Feldmann (1993: 300), '…religiosity is invariably the most important explanatory variable, making the largest contribution to the explained variance'. Nationalism was not tested in that study. The purpose of including this model in the current research is to generate a baseline for comparison with more comprehensive models. The restricted model estimates the effects of religiosity on fertility without controlling for nationalism.

2) *Full mediation model* tests whether nationalism instead of religiosity influences fertility. Anson and Meir (1996: 23) suggest '… that much of the religiosity recorded in fertility surveys is an expression, in consciousness and in the mode of daily living, of a strongly felt nationalist sentiment, and that once this nationalist sentiment is controlled for, there is no direct effect of religiosity on fertility'. The full mediation model tests whether the effect of religiosity on fertility is fully mediated by nationalism.

3) *Partial mediation model* presumes that both factors, religiosity and nationalism, affect fertility. This model combines both features of the previous two models in the sense that it allows for direct influence of both religiosity and nationalism on fertility, as well as an interconnection between religiosity and nationalism.

Fertility modeling proceeds as follows: first, the impact of each latent factor of interest (religiosity and nationalism) on fertility is isolated. This allows empirically resolving the theoretical dispute described above. Next, other latent and observed variables are tested as additional factors potentially affecting fertility. Although traditional attitudes towards gender roles are connected with high religiosity, they differ

as a concept, and therefore, require a separate analysis. Including this concept in the modeling is intentional: as a distinct socio-cultural variable, attitudes towards gender roles might shed light on the structures and mechanisms behind the major determinants of fertility in Israel.

Finally, more complex and comprehensive models are introduced. These control for other important socio-economic and demographic variables (age, education, socioeconomic status, and migration from the former USSR), which have been previously found influential in Israel's fertility research (Bystrov, 2012a; Friedlander, 2002; Friedlander and Feldmann, 1993; Nahmias, 2004; Okun and Kagya, 2012). The most elaborate model comprises all three factors – religiosity, nationalism and gender roles – as well as socio-demographic controls. The purpose is to test the robustness of the initial results, isolate additional effects of interest, offer a comprehensive model of fertility that accounts for the socio-cultural as well as socio-demographic factors, and highlight the complexity of relations between the determinants of Jewish fertility in Israel.

Data and methods

The data used originate from the 2009 and 2010 Guttman Center Democracy Surveys[1]. The samples were designed to represent the adult population of Israel. The data sets were compiled into one; the wording of the relevant items in both surveys was the same. The item of interest for this research is the number of children born, where the contemporary fertility of Jewish society is modelled. Women in their main childbearing ages and those who have recently completed their reproductive career are included in the sample, i.e. women aged 25-55 (N=588). Some models include or exclude alternatively two population groups, namely, 1990s migrants from the former USSR (N=88), and the

Ultra-Orthodox (N=64), for sensitivity analyses[2]. To test the robustness of findings, completed fertility of women above the age of 50 is additionally analyzed (N=358).

The surveys included items on political attitudes, religious identity, level of observance of the religious tradition and socio-demographic characteristics. In the current research, the socio-demographic characteristics are: age (ranged from 25 to 55; mean=40.9; SD=8.8), years of schooling (recoded into binary variable: 63% had above 12 years of schooling), academic degree (42% without degree), household income compared to an average household in Israel (13% far below, 21% slightly below, 33% average, 21% slightly above and 11% far above the average), belonging to a social class (3% low, 12% low-middle, 59% middle, 21% upper-middle and 5% upper), migration after 1990s from the former USSR (15% immigrants) and number of children born (ranged from 0 to 10 and above; mean=2.5; SD=1.8), with the following frequencies: 14% never gave birth, 12% gave one birth, 29% gave two births, 35% gave three to four births and 10% gave five and above births.

Measuring religiosity, nationalism and traditional views of gender roles at the individual level

Religious identification and the level of observance of Jewish religious tradition represent religiousness at the individual level and are commonly accepted as a valid measure of religiosity in Israel (Arian, Ventura and Philippov, 2008; Goldscheider and Friedlander, 1983). In the sample, 47% described themselves as secular, 30% as traditional, 13% as religious and 10% as Ultra-Orthodox. When asked ‘To which extent do you observe Jewish religious tradition?’ on a 4-point Likert scale, 18% answered ‘not at all’, 41% ‘observe to a certain extent’, 25% ‘observe to a large extent’ and 16% ‘totally observe’.

The latent measure of nationalism is constructed from four survey items on political attitudes: left-right political affiliation (7-point Likert scale), relations with the Arabs and attitudes towards giving the annexed territories of Judea and Samaria and parts of eastern Jerusalem to the Palestinians. In the sample, inquiry regarding the political affiliation of Jewish women provided the following distribution: extreme left 4%, left 6%, center-left 15%, center 26%, center-right 18%, right 12% and extreme right 19% (N=545). When asked whether the government should encourage Arab emigration from Israel (4-point Likert scale), 39% totally agreed, 15% agreed, 19% disagreed and 27% totally disagreed (N=563). In regards to a possible withdrawal from Judea and Samaria as a part of a potential agreement with the Palestinians (3 categories), 14% stated that Israel should withdraw from all settlements including major ones, 36% stated that Israel should withdraw from small and isolated settlements, and 50% stated that Israel should not withdraw (N=279). As to the degree of agreement in giving the Arab neighbourhoods of Jerusalem to the Palestinians as a part of the agreements (4-point Likert scale), 15% totally agreed, 17% agreed, 18% disagreed and 50% totally disagreed (N=276). Note that the number of respondents in the last two items is small because these questions were not asked in 2010. Nonetheless, numerous sensitivity tests that interchangeably exclude the items with partially missing data indicate that the latent measure of nationalism, as constructed in this research (Table 1), is robust across various CFA models, and is therefore, a valid instrument for SEM[3].

Traditionalism in regards to gender roles is constructed from the following items: 'Do you agree that men are better political leaders than women?' (4-point Likert scale), and 'Do you agree that men should provide and women take care of the house?' (5-point Likert scale). The latent construct of gender roles requires estimation due to the strong evidence of its relevance in the process of social and cultural change (Inglehart, Norris

and Welzel, 2002). Although the second item was available for 2009 only, and therefore, the latent factor is constructed from partially missing data (see Note 5), attitudes toward gender roles are theoretically important, and hence, they were included in the current study. The results should be interpreted with caution, however, because of data limitations and the fact that these are cross-sectional data, based on self-reporting.

Procedure

As the first step, confirmatory factor analysis (CFA) was performed to establish convergent and discriminant validity of the constructs by measuring the degree to which the items are relevant components of the latent variables (Table 1). Since factor loadings are sufficiently high (0.5 and above), with low standard errors, it is confirmed that the choice of items representing the theoretical variables is adequate, and that they reliably reflect the underlying covariance structure of the data.

SEM was implemented as the second analytical step. Here, the number of children born was regressed on various latent factors (religiosity, nationalism, gender roles, education, socioeconomic status) and observed control variables (log of age, migration from former USSR). Maximum likelihood estimator was applied to model the incomplete fertility of women aged 25-55 (Poisson regression), and the completed fertility of women above 50 (logistic regression), using M*plus* Version 6.12 (Muthén and Muthén, 2010).

Table 1: Confirmatory factor analysis of the latent variables of religiosity, nationalism and views of gender roles

Latent variable	Constructed from items	Factor loading (Standard error)
RELIGIOSITY	• Religious identity by self definition	0.99 (0.01)
	• Self-perceived level of traditional observance	0.89 (0.02)
NATIONALISM	• Left-right political affiliation	0.72 (0.04)
	• Standpoint regarding government encouragement of Arab emigration from Israel	0.50 (0.05)
	• Standpoint regarding withdrawal from Judea and Samaria as a part of agreements with the Palestinians	0.88 (0.04)
	• Support for giving the Arab neighbourhoods of Jerusalem to Palestinians as a part of agreements	0.60 (0.06)
GENDER ROLES	• Believe men are better political leaders than women	0.70 (0.10)
	• Believe men should provide and women should take care of the house and family	0.55 (0.09)

Notes: Entries are standardized estimates ($p<0.001$); estimator maximum likelihood; the observed variables were specified as categorical; N=588; latent variables (capitalized) are continuous and scaled to a variance of one; global fit measures for this analysis are: Loglikelihood=-4404; Akaike Information Criteria (AIC)=8883; sample-size adjusted Bayesian Information Criteria (BIC)= 8929

Results and discussion

The role of religiosity vs nationalism

In line with the previous studies at the aggregate level (Friedlander and Feldmann, 1993), a strong positive effect of religiosity on incomplete fertility 0.89 (0.15) (see Figure 1), and completed fertility 0.35 (0.12), is found at the individual level, whereas the direct effect of nationalism is insignificant. In sensitivity tests, where the sample included migrants from the former USSR and excluded the Ultra-Orthodox interchangeably, the results remain robust. The conclusion is that the association between religiosity and fertility is straightforward. Religious identity, which implies belonging to a certain community, and the degree of observance of Jewish religious

tradition, are the decisive socio-cultural factors in explaining the number of given births by Jewish women in Israel.

Nationalism influenced fertility only indirectly via connection with religiosity. Notably, the partial correlation between religiosity and nationalism is very high both in models of incomplete fertility 0.79 (0.04) and completed fertility 0.75 (0.05). Only when religiosity is omitted from the regression equation, does nationalism have an impact on fertility. However, omission of an important factor from the model creates biased estimates and increases the error term, as indicated by the comparison of the goodness-of-fit measures (AIC and BIC) between the models. Therefore, the importance of religiosity as a crucial factor in the analysis of fertility in Israel has been reaffirmed.

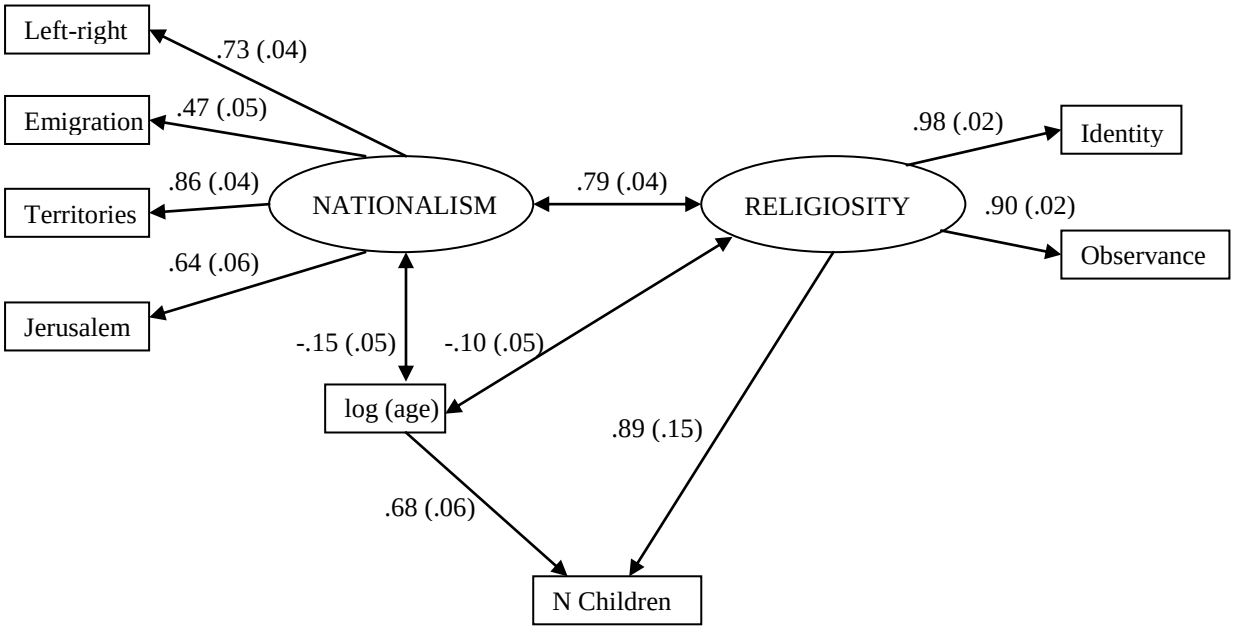

Figure 1: Religiosity and nationalism as determinants of fertility among Jewish women aged 25-55 in Israel 2009-2010

Notes: Entries are standardized estimates; in parentheses are standard errors; latent variables (capitalized) are scaled to a variance of one; global fit measures are: Log-likelihood=-5507 AIC=11087 Sample-size adjusted BIC=11126; the variable 'number of children' was specified as a count variable; other observed variables were specified as categorical or binary; Poisson model was estimated; all parameters are free; estimator maximum likelihood. N=500

The weak negative association found between age and religiosity (-0.15 (0.05)), as well as between age and nationalism (-0.10 (0.05)) in the incomplete fertility model (Figure 1), and respectively (-0.16 (0.06)) and (-0.19 (0.06)) in the completed fertility model, may be explained by a population composition effect. Due to the exceptionally high fertility rates of the religious and Ultra-Orthodox population groups in the last decades, the share of births given by religious and Ultra-Orthodox is disproportional and substantively higher than their share in total population. Thus, younger cohorts in Israel report a higher religiosity than older ones (Bystrov, 2012a, 2012b). Since religiosity highly correlates with nationalism, this can explain the association of age and nationalism as well.

The role of socio-demographic and socio-cultural factors in influencing fertility

Figures 2-3 display the effects of the most important markers of fertility in contemporary Israel. Figure 2 offers a parsimonious model of current fertility that includes the main socio-cultural and socio-demographic individual characteristics. Again, in order to analyze how sensitive the effects of various determinants are to the changes in population composition, the sample in this model excludes 1990s migrants from the former USSR and the Ultra-Orthodox. This model can be compared with the comprehensive model in Figure 3, which does include the migrants and the Ultra-Orthodox.

In these models, endogenous system of relations between socio-cultural variables can be identified, where religiosity is not independent from other predictors, such as nationalism, traditional attitudes towards gender roles, and education. The complex interrelations between these characteristics are clear evidence of a strong social and cultural structure, which affects the individuals' life course and childbearing decisions.

The following effects are depicted in Figure 2: the highly religious tend to be nationalistically oriented and hold traditional views of gender roles; they are also likely to bear more children. In contrast to this, the highly educated hold less traditional views of gender roles, are less religious and also less nationalistically oriented. The fact that the individual level of education is negatively correlated with religiosity, nationalism and traditional views of gender roles is, in light of general theories of modernization, unsurprising, and a point which has been made frequently in the academic discourse on the subject (e.g. Goldscheider, Bernhardt and Lappegard, 2015; Welzel, 2013).

Due to the restricted sample in the model in Figure 2, one cannot make credible generalizations about the total Jewish population in Israel. Therefore, a comprehensive model is used to complete the study (Figure 3), which includes also the Ultra-Orthodox and 1990s migrants. The main results are robust – religiosity is the strongest predictor of the number of births. The interconnections between religiosity, nationalism and views on gender roles remain robust as well.

Importantly, migration background from the former USSR is a factor that has significant associations with most endogenous variables: positive with education, nationalism and traditional views of gender roles, and negative with religiosity. The notion that 1990s migrants are more educated and secular, comparatively less affluent than the rest of Israeli public, have a nationalistic outlook and support a traditional division of gender roles, is also described by Philippov and Bystrov (2011). Fertility of 1990s migrants from former USSR is generally much lower compared to fertility of the rest of Jewish women in Israel, regardless of whether the births occurred in former USSR or in Israel (Bystrov, 2012a; Nahmias, 2004; Okun and Kagya, 2012).

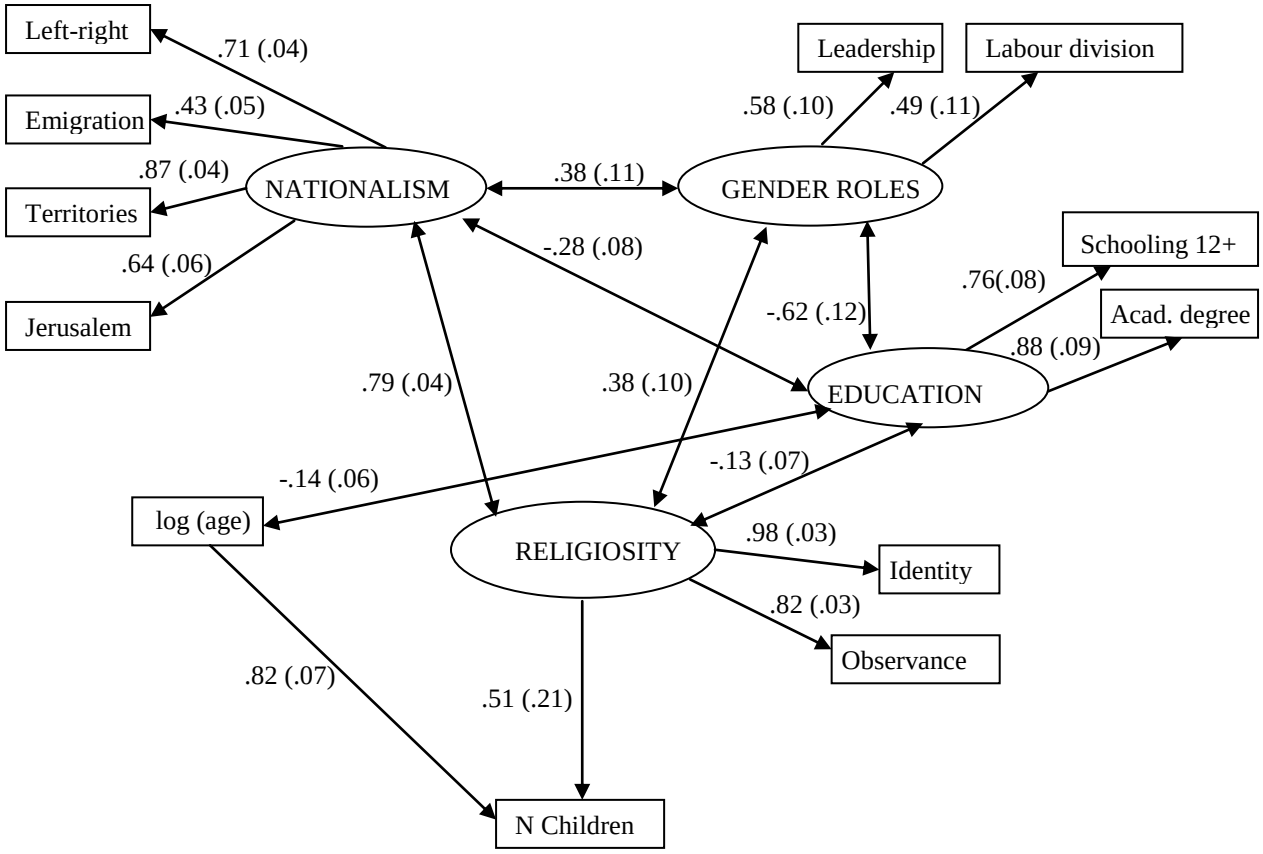

Figure 2: Parsimonious model of fertility among Jewish women aged 25-55 in Israel 2009-2010 (without 1990s former USSR migrants and without the Ultra-Orthodox)

Notes: Entries are standardized estimates; in parentheses are standard errors; latent variables (capitalized) are scaled to a variance of one; global fit measures are: Loglikelihood=-5946 AIC=12009 Sample-size adjusted BIC=12061; the variable 'number of children' was specified as a count variable; other observed variables were specified as categorical or binary; Poisson model was estimated; all parameters are free; estimator maximum likelihood. N=436

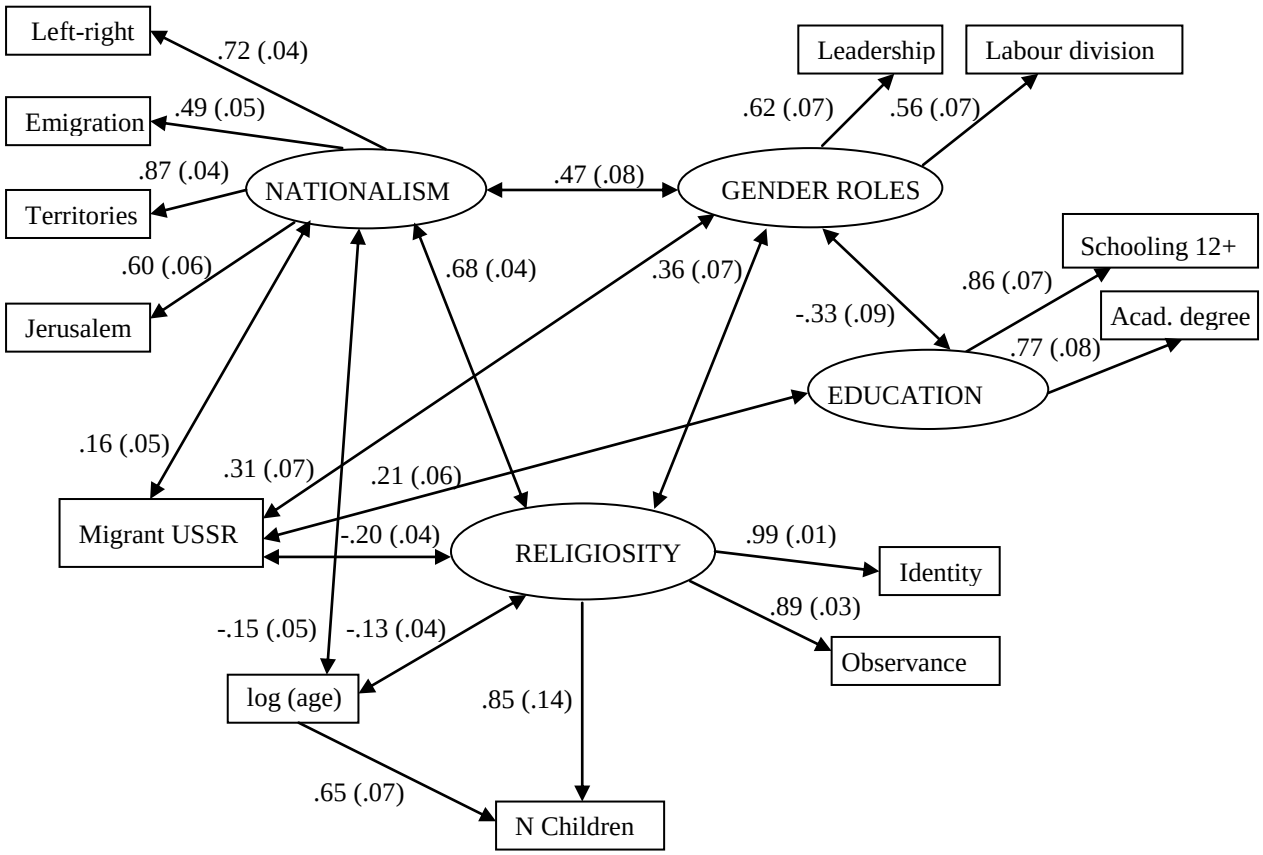

Figure 3: Comprehensive model of fertility among Jewish women aged 25-55 in Israel 2009-2010

Notes: Entries are standardized estimates; in parentheses are standard errors; latent variables (capitalized) are scaled to a variance of one; global fit measures are: Loglikelihood=-8315 AIC=16763 Sample-size adjusted BIC=16844; the variable 'number of children' was specified as a count variable; other observed variables were specified as categorical or binary; Poisson model was estimated; all parameters are free; estimator maximum likelihood. N=588

Socioeconomic status as a latent measure (constructed from indicators household income and social class) was tested as well but showed no significant influence on the number of children born. The associations of socioeconomic status with other endogenous variables were shown to be similar to those of education; however, these two factors are not used simultaneously in the models because of multicollinearity. Socioeconomic status was shown to be negatively associated with religiosity (-0.18

(0.09)), nationalism (-0.35 (0.08)) and gender roles (-0.40 (0.11)). Furthermore, a negative connection (-0.30 (0.07)) was found between socioeconomic status and migration background from the former USSR. Ultra-Orthodox respondents' household income is also lower than the average, although they reported belonging to a higher social class than the rest.

To summarize, despite the pitfalls of a cross-sectional design where the measurements are taken as a snapshot, this study still allows drawing some direct comparisons between various age and population groups. From the reported number of children, one can reconstruct incomplete fertility as well as completed fertility among these groups, and thus, account for at least some of the temporal dynamics. Other important covariates that may change over time, such as religiousness or nationalistic outlook, are assumed to be stable characteristics of adult women. Education is also assumed to be completed in the main childbearing ages. This makes it possible to show unequivocally the endogenous system of relations between the factors that shape the social, political and population structure of Israel. Doubtless, socio-cultural factors play a tremendous role in Israel's demography. The interconnections between fertility behaviour, mass beliefs and values, with other socio-cultural, socio-political and socio-demographic markers, remain promising areas for future research.

Summary and conclusions

This article provides with some new insights into the old debate on the causes of high fertility in Israel. By focusing the discussion on the socio-cultural factors and pointing at their connection to the social structure, this article describes more accurately the reproductive behaviour of Jewish Israelis. In particular, by using a direct approach to measuring individual religiousness, nationalistic outlook and views of gender roles from

large-scale national survey data, it isolates the most important determinants in this regard. The precision in identifying these factors and their interrelations enables establishing important links between them and fertility. In the case of Israel, the endogenous system of socio-cultural factors, rather than socio-economic ones, seems to play the decisive role.

Clear evidence of religiosity being a major determinant of fertility compared to other factors at the individual level was presented. The alternative explanation of nationalism as a determinant of fertility at the aggregate level, as suggested by Anson and Meir (1996), did not find any further support at the individual level. Furthermore, in line with the findings of Guetto et al. (2015), gender attitudes have not been found decisive for fertility. What was found, is that high levels of religiosity, nationalistic attitudes and traditional attitudes toward gender roles are intertwined. While the latter two factors have no direct effect of their own, as was the case with religiosity, they are still part of the social and cultural climate that affects childbearing behaviour.

It is important to emphasize that the concept of religiosity in Israel captures more than merely the beliefs and behaviour which reflect the Jewish religious tradition. In contemporary Israel, a high degree of religiosity means belonging to a separate community with shared worldviews and value orientations. Some of the most religious Ultra-Orthodox communities are characterized by sharp distinctions from the other social groups in a number of domains, such as language, educational system, residence, labour force participation, tax-payment, welfare benefits claims, consumption patterns, and voting behaviour. This might be the reason why the factor of religiosity is found so incredibly decisive in various studies of individual behaviour, including childbearing behaviour.

To finalize, van de Kaa describes the postmodern fertility preferences as follows: "The emotional satisfactions of parenthood can be achieved most economically by having one or perhaps two children" (van de Kaa, 1987: 6). Populations that are not part of the postmodern world but have the same aspirations tend to reduce their fertility levels. In Israel, some groups do not wish to be postmodern or modern at all (Smooha, 2005); in this case, high fertility is not a thing of the past, but one of the present and foreseeable future as well.

Acknowledgements

The author thanks Peter Schmidt, Johannes Huinink, Eduard Ponarin, Christian Welzel, Peter Meißner and anonymous reviewers for their advice and valuable comments on earlier versions of this article. The author is grateful to Nate Breznau and Wesley Merritt for help in editing. The article was prepared within the framework of a subsidy granted to the Higher School of Economics by the Government of the Russian Federation for the implementation of the Global Competitiveness Program, and is part of the research conducted at the Bremen International Graduate School of Social Sciences (BIGSSS), Jacobs University Bremen and University of Bremen, Germany.

Notes

[1] Data are courtesy of the Guttman Center of The Israel Democracy Institute. Democracy Surveys were conducted in March 2009 and March 2010, in Hebrew, Arabic and Russian, among individuals aged 20 and over; landline telephone survey. For detailed description of background, methods and sampling see Arian, Philippov and Knafelman (2009) and Arian et. al (2010)

[2] Gender was not found predictive in a sample that included both men and women, controlling for religiosity, in a previous study on political attitudes that used the same data (Bystrov, 2012b).

[3] The working assumption is that these missing data are independent of other data in the analysis. Maximum likelihood approach is considered effective in the presence of missing data and produces unbiased estimates when the data are missing completely at random or at random, i.e. without connection to any of the research variables (Asparouhov and Muthén, 2008). Mplus estimates each latent variable directly with frequentist analysis based on covariance structure without filling in values for missing cases (Muthen and Muthen, 2010).

References

Ajzen I and Klobas J (2013) Fertility intentions: An approach based on the theory of planned behavior. *Demographic Research* 29: 203-232.

Anson J and Meir A (1996) Religiosity, Nationalism and Fertility in Israel. *European Journal of Population* 12: 1-25.

Anson J (2006) Religion, Nationalism and Demography: False Consciousness, Real Consequences. Paper presented at the Association for the Study of Ethnicity and Nationalism conference, London School of Economics, September 29-30, 2006.

Anson J (2010) Beyond Material Explanations: Family Solidarity and Mortality, a Small Area-level Analysis. *Population and Development Review* 36 (1): 27-45.

Arian A (2005) *Politics in Israel: The Second Republic*. Washington DC: CQ Press.

Arian A, Hermann T, Lebel Y, Philippov M, Zaban H and Knafelman A (2010) *Auditing Israeli Democracy – 2010: Democratic Values in Practice.* Jerusalem: The Guttman Center of The Israel Democracy Institute.

Arian A, Philippov M, and Knafelman A (2009) *The 2009 Democracy Index: Auditing Israeli Democracy Twenty Years of Immigration from the Soviet Union.* Jerusalem: The Guttman Center of The Israel Democracy Institute.

Arian A, Ventura R and Philippov M (2008) Israeli Secularism in the Guttman Center Polls 1990 – 2008. *The Guttman Center Articles*. The Israel Democracy Institute.

Asparouhov T and Muthén B (2008) *Auxiliary Variables Predicting Missing Data*. Technical appendix to Mplus. http://www.statmodel.com/download/AuxM2.pdf Accessed 24.02.2014.

Balbo N, Francesco CB and Mills M (2013) Fertility in Advanced Societies: A Review of Research. *European Journal of Population* 29(1): 1-38.

Berkovitch N (1997) Motherhood as a National Mission: The Construction of Womanhood in the Legal Discourse in Israel. *Women's Studies International Forum* 20 (5/6): 605-619.

Bourdieu P (1996) On the Family as a Realized Category. *Theory, Culture and Society* 13(3): 19-26.

Bystrov E (2012a) The Second Demographic Transition in Israel: One for All? *Demographic Research*, 27: 261-298.

Bystrov E (2012b) Religion, demography and attitudes toward civil marriage in Israel 1969-2009. *Current Sociology* 60(6): 751-770.

Bystrov E and Soffer A (2013) *Israel: Demography 2013-2034. Challenges and Chances*. Haifa: Chaikin Chair in Geostrategy, University of Haifa.

Castels FG (2003) The world turned upside down: below replacement fertility, changing preferences and family-friendly public policy in 21 OECD countries. *Journal of European Social Policy* 13(3): 209-227.

DellaPergola S (2009) Actual, Intended, and Appropriate Family Size Among Jews in Israel. *Contemporary Jewry* 29: 127-152.

Esping-Andersen G and Billari FC (2015) Re-theorizing Family Demographics. *Population and Development Review* 41 (1): 1-31.

Fogiel-Bijaoui S (2002) Familism, Postmodernity and the State: The Case of Israel. *Journal of Israeli History: Politics, Society, Culture* 21(1-2): 38-62.

Friedlander D (1973) Family Planning in Israel: Irrationality and Ignorance. *Journal of Marriage and the Family* 35(1): 117-124.

Friedlander D (2002) Fertility in Israel: is the Transition to Replacement Level in Sight? *Population Bulletin of the United Nations*, 48/49: 403-410.

Friedlander D and Feldmann C (1993) The Modern Shift to Below-Replacement Fertility: Has Israel's Population Joined the Process? *Population Studies* 47(2): 295-306.

Friedlander D and Goldscheider C (1978) Immigration, Social Change and Cohort Fertility in Israel. *Population Studies* 32(2): 299-317.

Goldscheider C and Friedlander D (1981) Patterns of Jewish Fertility in Israel. In Ritterband P (Ed.) *Modern Jewish Fertility*. Leiden: Brill Academic Publishers, pp. 232-254.

Goldscheider C and Friedlander D (1983) Religiosity Patterns in Israel. In Himmelfarb M and Singer D (Eds.) *American Jewish Yearbook 1983*. New York: American Jewish Committee, pp. 3-39.

Goldscheider F, Bernhardt E and Lappegard T (2015) The Gender Revolution: A Framework for Understanding Changing Family and Demographic Behavior. *Population and Development Review* 41(2): 207-239.

Guetto R, Luijkx R and Scherer S (2015) Religiosity, gender attitudes and women's labour market participation and fertility decisions in Europe. *Acta Sociologica* 58(2): 55-172.

Gurovich N and Cohen-Kastro E (2004) Ultra Orthodox Jews - Geographic Distribution and Demographic, Social and Economic Characteristics of the Ultra-Orthodox Jews Population in Israel: 1996- 2001. *Working paper series*, 5. Jerusalem: Central Bureau of Statistics.

Hakim C (2003) A New Approach to Explaining Fertility Patterns: Preference Theory. *Population and Development Review* 29 (3): 349-374.

Hleihel A (2011) Fertility among Jewish and Muslim Women in Israel, by Level of Religiosity, 1979-2009. *Working paper series*, 60. Jerusalem: Central Bureau of Statistics.

Huinink J, Kohli M and Ehrhardt J (2015) Explaining Fertility: The potential for integrative approaches. *Demographic Research* 33: 93-112.

Inglehart R, Norris P and Welzel C (2002) Gender Equality and Democracy. *Comparative Sociology* 1(3-4): 321-344.

Inlgehart R and Welzel C (2005) *Modernization, Cultural Change and Democracy; The Human Development Sequence.* New York: Cambridge University Press.

Israel Central Bureau of Statistics (ICBS) (2015) *Statistical Abstract of Israel 2015*. Jerusalem: Central Bureau of Statistics.

Keyfitz N (1992) Completing the Worldwide Demographic Transition: The Relevance of Past Experience. *AMBIO* 21(1): 26-30.

Keyfitz N (1986) The Family That Does Not Reproduce Itself. *Population and Development Review*, 12: 139-154.

Kramer GH (1983) The Ecological Fallacy Revisited: Aggregate- versus Individual-level Findings on Economics and Elections, and Sociotropic Voting. *The American Political Science Review*: 92-111.

Landau R (2003) Religiosity, Nationalism and Human Reproduction: The Case of Israel. *International Journal of Sociology and Social Policy* 23: 64-80.

Lavee Y and Katz R (2003) The Family in Israel: Between Tradition and Modernity. *Marriage and Family Review* 35(1/2): 193-217.

Lesthaeghe R and Moors G (2000) Recent Trends in Fertility and Household Formation in the Industrialized World. *Review of Population and Social Policy* 9: 121-170.

Manski CF and Mayshar J (2003) Private Incentives and Social Interactions: Fertility Puzzles in Israel. *Journal of European Economic Association* 1(1): 181-211.

Muthén LK and Muthén BO (2010) *Mplus Statistical Analysis With Latent Variables: User's Guide*. Sixth edition. Los-Angeles, CA: Muthén&Muthén.

Nahmias P (2004) Fertility behaviour of recent immigrants to Israel: A comparative analysis of immigrants from Ethiopia and the former Soviet Union. *Demographic Research* 10: 83-120.

Nauck B (2014) Value of Children and the social production of welfare. *Demographic Research* 30: 1793-1824.

Okun BS (2013) Fertility and marriage behavior in Israel: Diversity, change, and stability. *Demographic Research* 28: 457-504.

Okun BS (2000) Religiosity and Contraceptive Method Choice: The Jewish Population in Israel. *European Journal of Population* 16: 109-132.

Okun BS and Kagya S (2012) Fertility Change among Post-1989 Immigrants to Israel from the Former Soviet Union. *International Migration Review* 46(4): 792-827.

Paltiel A, Sepulchre M, Kornilenko I and Maldonado M (2012) Tahaziot Ochlusia Le-Israel Letvah Aroch 2009-2059. [Long-Range Population Projections for Israel: 2009-2059]. *Technical paper 27*. Jerusalem: Central Bureau of Statistics.

Philipov D and Berghammer C (2007) Religion and fertility ideals, intentions and behaviour: a comparative study of European countries. *Vienna Yearbook of Population Research 2007*: 271-305.

Philippov M and Bystrov E (2011) All by myself? The paradox of citizenship among the FSU immigrants in Israel. In Ben-Porat G and Turner BS (eds.) *The Contradictions of Israeli Citizenship: Land, Religion and State*. Milton Park, Abingdon, Oxon: Routledge, pp. 258-277.

Raz-Yurovich L (2010) Men's and women's economic activity and first marriage: Jews in Israel, 1987-1995. *Demographic Research* 22: 933-964.

Schellekens J (2009) Family Allowances and Fertility: Socioeconomic differences. *Demography* 46(3): 451-468.

Schellekens J and van Poppel F (2006) Religious differentials in marital fertility in The Hague (Netherlands) 1860-1909. *Population Studies* 60(1): 23-38.

Shamir M and Arian A (1999) Collective Identity and Electoral Competition in Israel. *American Political Science Review* 93: 265-277.

Shamir M and Shamir J (2008) What were the Elections about, and Why We Should Ask about it in Election Surveys. *International Journal of Public Opinion Research* 20(2): 211-223.

Smooha S (2005) Is Israel Western? In Ben-Rafael E and Sternberg Y (eds.) *Comparing Modernities: Pluralism versus Homogeneity: Essays in Homage to Shmuel N. Eisenstadt.* Leiden and Boston: Brill Academic Publishers, pp. 413-442.

Smooha S (2002) Guest editor's introduction: Types of democracy and modes of conflict management in ethnically divided societies. *Nations and Nationalism* 8(4): 423-431.

Stier H and Lewin-Epstein N (2000) Women's Part-time Employment and Gender Inequality in the Family. *Journal of Family Issues* 21(3): 390-410.

Stier H and Yaish M (2008) The Determinants of Women's Employment Dynamics: The Case of Israeli Women. *European Sociological Review* 24(3): 363-377.

Strum P (1989) Women and the Politics of Religion in Israel. *Human Rights Quarterly*, 11: 483-503.

van de Kaa DJ (1996) Anchored Narratives: The Story and Findings of Half a Century of Research into the Determinants of Fertility. *Population Studies* 50(3): 389-432.

van de Kaa DJ (2001) Postmodern Fertility Preferences: From Changing Value Orientation to New Behavior. *Population and Development Review* 27: 290-331.

Welzel C and Inglehart R (2008) The Role of Ordinary People in Democratization. *Journal of Democracy* 19(1): 126-140.

Welzel C (2013) *Freedom Rising: Human Empowerment and the Quest for Emancipation.* New-York: Cambridge University Press.

Westoff CF and Marshall EA (2010) Hispanic Fertility, Religion and Religiousness in the U.S. *Population Research and Policy Review* 29(4): 441-452.

Wilson C (2011) Understanding Global Demographic Convergence since 1950. *Population and Development Review* 37(2): 375-388.

Author biography

Evgenia Bystrov obtained a PhD in sociology from the University of Bremen and Jacobs University Bremen in 2013. Her research concerns family sociology, political attitudes and cultural change. She recently joined an international project, which studies the transition to adulthood in a comparative perspective, as a senior researcher at the Institute of Sociology, Chemnitz University of Technology.