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**USING MIXED METHODS RESEARCH TO STUDY
REPRODUCTIVE BEHAVIOUR**

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Abstract

Recent political and economic problems in Russia have sadly pushed pertinent demographic challenges into the background. Yet according to demographic forecasts, population growth in the next 3-5 years will give way to population decline, which will only increase with every year. Thus the study of the reproductive plans and intentions of young people in Russia is highly topical today.

The paper presents the results of quantitative (a survey) and qualitative (essay about future family) research among female students. We analysed the young women's perceptions about family composition, the number of children they assumed they would have and the time they expected to devote to parental commitments. Our study was created using convergent design, one of the basic types of mixed methods designs.

The results of our research showed that young women have strong, persisting views on the family size and structure, and the number of children they intended to have. The qualitative and quantitative data showed a modal tendency towards two children. Yet as far as substantive ideas about parenting, the students hold quite contradictory, non-specific and superficial views.

We believe that the use of mixed methods to study young women's views on family and parenting enabled us to obtain well-rounded and relevant results. The use of mixed methods to study young people enables researchers to obtain a deeper understanding of demographic prospects.

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1. Introduction

Combining qualitative and quantitative analytical methods, also known as the mixed methods research, enables harnessing the advantages of both methods and to a certain extent mitigates the disadvantages of each. As noted by researchers, “both post-positivist and interpretive methods of gathering information have limitations” (Betzner et al. 2016). In particular, whereas quantitative studies are hampered by “limited understanding of the context of participants”, qualitative research offers “detailed perspectives” (Creswell 2014). One of the positives of quantitative analysis is that they “appeal to people’s preference for numbers”, while qualitative research “provides only soft data” (Creswell 2014). Moreover, if qualitative studies “focus on the depth of information generated by the cases” without much concern for the range of research participants, quantitative studies, conversely, “focus on breadth of information generated by the sampling unit” (Teddle and Yu 2007).

Young people are often the subjects of mixed methods research. This approach was applied to explore life satisfaction (Edwards and Lopez 2006); to study matters related to their sex lives (Mustanski et al. 2011); to look at immigration (Suarez-Orozco et al. 2010), drug use (Ravn 2012) and so on. Mixed methods are often used in studies on education (for example, Bamber 2014; Mao 2014). Clarke and Yaros (1988) note that combining research methods can be particularly effective in areas concerned with complex phenomena, which call for the use of data from a large number of perspectives. We believe that in studying young people, such complex phenomena include behavioural motives, deviant behaviour, life prospects, personal plans, views on family and children.

2. Problem Statement

Recent political and economic problems in Russia have sadly pushed pertinent demographic challenges into the background. Yet according to demographic forecasts, population growth in the next 3-5 years will give way to population decline, which will only increase with every year. Thus official Russian statistics service Rosstat estimated that between 2016 and 2030, natural decrease in Russia will be between 1.6 million (best-case scenario) and 7.9 million (worst-case scenario) people. There are also pessimistic forecasts with regards to the total fertility rate as well. Even the best-case predictions have a maximum total fertility rate of 1.818, which is 13.4% less than the simple reproduction threshold (calculated based on: Demographic Forecasts 2015).

Given the adverse demographic trends, there is currently great interest in studying the reproductive plans and intentions amount young people in Russia. Traditionally, these plans are scrutinized using quantitative methods, with a particular focus on people’s perceptions about the optimal number of children. We note that analysing the preferred numbers of children to evaluate reproductive plans and intentions is often insufficient for at least two reasons. Firstly, researchers have differing interpretations of the notion of ‘ideal’, ‘desired’ and ‘expected’ numbers of children. There is also variability in the way that the respective questions are phrased. This violates conditions for the comparability of the results of such studies. Secondly, analysing the desired numbers of children does not lend itself to identifying the underlying substance of reproductive attitudes, the potential of their dynamics and their determinants. Questions about the number of children are convenient for respondents, are easy to analyse and interpret,

but they leave much to be desired in terms of how reliable they are and particularly how these numbers translate into reproductive attitudes and subsequent actions.

In light of this, we propose supplementing the study of parental plans and intentions held by young people with qualitative analysis. Such methods can significantly enrich and deepen the results of the related quantitative research, highlighting latent factors and correlations, and surfacing the substance of the respondents' understanding of parenthood.

3. Research Questions

Within this context, there are two research questions in our paper:

- 1) What are the Russian female university students' perceptions about parenthood?
- 2) Do mixed method research contribute to deeper understanding of these perceptions?

4. Purpose of the Study

The objective of the study is to explore perceptions about parenthood held by Russian female university students using a mixed methods approach. We believe these perceptions can be considered as determinants of reproductive behaviour. Our research focused on analysing the young women's perceptions about family composition, the number of children they assumed they would have and the time they expected to devote to parental commitments. We supposed that the use of mixed methods would enable deeper penetration into the issue, which could be used to develop social and demographic policy measures that would be more appropriate in today's Russia.

5. Research Methods

Our study was created using convergent design, one of the basic types of mixed methods designs. It entails collecting and analysing quantitative and qualitative data separately, subsequently synthesising the results of these analyses. Sale notes that "in order to synthesize results obtained via multiple method research, people often simplify the situation under study, highlighting and packaging results to reflect what they think is happening" (Sale et al. 2002). We tried to avoid this. We tried to identify both similarities and differences between the qualitative and quantitative results. Sale comments on this aim: "The truth is we rarely know the extent of disagreement between qualitative and quantitative results because that is often not reported" (Sale et al. 2002).

Our research included two studies (Study 1 and 2). Study 1 is quantitative. It was part of a large project that investigated perceptions of future family and parenthood held by female university students in Russia, Kazakhstan and Austria. The research identified factors that affect these perceptions and evaluated the informational environment in which these perceptions take shape. For the Russian round of Study 1, we surveyed young women from five Russian universities, who are in the first and final years of bachelor degrees. We used stratified sampling (N=520) and sampling error did not exceed 5%. Data was collected using questionnaires. SPSS 20.0 was utilized to process and analyse the data.

Study 1 included three sets of questions:

1. Open-ended questions about the amount of time required to care for a child at different stages of his or her life. We asked the young women to estimate the number of hours (minutes) per day required

for a baby in the first year of life. Similar questions were asked about a pre-school aged child, and a school pupil. These questions convey the young women's ideas about their future parenthood from the point of view of time spent on fulfilling parental duties.

2. Questions about the desired number of children. We used three indicators in our research:
 - ✓ the expected number of children (the question was phrased as: "I believe that I will have ... children");
 - ✓ the desired number of children ("I want to have ... children");
 - ✓ the desired number of children in a perfect situation ("If all the right conditions were in place, I would want ... children").
3. These questions provide insight into the participants' reproductive plans and intentions.

Questions about what the women associate with the process of raising children. We asked them to choose one option which best describes the emotional, psychological and financial aspects of parenthood. Thus the participants identified the primary associations they have with raising children: is it uplifting or stressful; is it hard work or a pleasure; is it an investment in their future or a financial burden. These questions enabled us to understand the women's ideas about the process of raising children.

Let us remark on the particular methodological issues related to Study 1:

- ✓ primary data were assessed for violations of statistical assumptions and replacement of missing data;
- ✓ in the course of our analysis, we observed a large spread of responses as regards numbers of children (the relative standard deviation was 25% with a threshold value of 33%) and thus decided it was not appropriate to rely solely on mean values in our research;
- ✓ we believe that it is statistically valid to compare numbers of children using the following indicators: the mean, median and modal values, and the share of respondents who chose a particular option;
- ✓ we used non-parametric tests (median test and test for distribution differences) to confirm the significance of the differences for all numbers of children.

Study 2 is a qualitative study. We asked 50 female first-year and final-year bachelor degree studies to write an essay about their future family, covering the following questions:

1. How they see their own family in 10 years' time – its composition, the activities of each family member and so on.
2. How they see their average work day in 10 years' time.
3. How they see their average leisure day in 10 years' time.

We note that the respondents had no particular trouble with this. The young women generally gave fully formed, detailed answers. They were not limited in time and on average took 30 minutes to complete the task.

Thus the participants in both studies come from the same population of Russian female university students. For the quantitative study, we selected respondents through random sampling; and used purposeful sampling for the qualitative selection. The sample sizes were not equal (we were proceeding from the opinion held by researchers that "equal size is unnecessary because the data tell different stories (i.e. general trends on the quantitative side and detailed perspectives on the qualitative side)" (Creswell 2014). Data was collected and analysed in parallel: collection in February and analysis in March-May 2015.

6. Findings

6.1. Research results

In the course of our study we obtained the following results.

1. The modal tendency for all three questions regarding numbers of children (expected, desired and desired in a perfect situation) is 2 children (table 1). At the same time, a comparison of the proportion of respondents who chose one of the possible options showed that modality becomes less pronounced in the transition from the “expected number of children” to the “desired number of children” and onwards to the “desired number of children in a perfect situation”. Thus if the mode is unambiguous for expected number of children (around 64% of the women said 2 children), the modality is less strong for the desired number of children (around 57% said they wanted 2 children), with a competitive alternative of 3 children emerging for the ideal number in perfect circumstances (around 50% of respondents said 2 children and 42% said 3 children).

Table 01. Statistical characteristics for “number of children” variables

		Number of children		
		Expected	Desired	Desired in a perfect situation
Mean		2.18	2.33	2.55
Std. Deviation		0.644	0.690	0.649
Relative Std. Deviation, %		30	30	25
Median		2.19	2.34	2.52
Mode		2	2	2
Proportion of students (valid %) who said ...	2 children	64.2	56.6	49.6
	3 children	24.1	33.6	41.8
	4 and more children	2.2	3.5	7.1

2. An evaluation of the responses in Study 2 confirmed that the modal tendency in the young women’s reproductive plans and intentions was also 2 children (table 2). At the same time, we found a certain inconsistency (contradiction) in some of the responses: some girls mentioned a single child in one part of their essay and two in another. Here is a description of one of the young women’s future working days: “a sunny morning and a smile on my face – my little son runs up to me to hug and kiss me”. And here is her description of a weekend, which features several kids: “My husband is with me, the kids are here and they are excited about going to the water park with mum and dad”.

Table 02. Number of children in the descriptions provided by respondents in Study 2

Number of children	Valid %
1	6
2	58
3	28
Several (no specific number given)	8

3. An evaluation of the responses in Study 1 also highlighted that in moving from “expected number of children” to “desired number of children” and onwards to “desired number of children in a perfect situation”, the share of females who want three or more children increases. Moreover, the mean and median values for these grow as well (see table 1).

4. When answering open-ended questions in Study 1 about how much time is required to take care of a child at various stages of their life (from birth to leaving school), the young women noted that this consumes the greater part of the day. Thus, most respondents said taking care of a new-born takes all 24 hours in the day. When it comes to pre-school children, there were two different modes: 12 and 24 hours. As regards a school-aged child, the respondents most often estimated 10 or 12 hours’ care effort.

5. Conversely, Study 2 did not show that the young women appreciate the significance of the time required to fulfil parental duties. In describing their future workdays and weekends, the young women either did not mention time they planned to spend with their children, or mentioned it indirectly in terms of overall time spent with their family. For example, one of the respondents described her weekend day thus: “The weekend must not be wasted on sitting at home. There should be plenty of activities – perhaps a nice walk outdoors, or a stroll around the city or a visit to the park. One could spend time with other family members. Or maybe travel to another city or even go overseas. The most important thing is that this isn’t just boring old time at home”. Interestingly, in describing her future family, this young woman said: “it is a large family – husband, wife, three children and a dog”.

Here is another example: talking about her future family in 10 years’ time, the young woman presented a very detailed description, down to the age gaps between the children: “The family comprises four people – husband, wife and two children. They love and respect each other. The husband is a builder and the wife looks after the house and children, and does some part-time work in a manicure salon. The children – a boy and a girl – are pre-school age. The girl is two years older than the boy and is already in kindergarten”. However, in describing her workdays and weekends, this young woman makes no mention of the children, despite the fact that “the wife looks after the children”. This is what her workday looks like: “I start work at 9 and finish at 6. When I get home, I only do housework”. And here is her weekend: “One should put the weekend to good use. A bit of a sleep-in in the morning, then I will cook breakfast, lunch and dinner. Then we can spend time together as a family – go to the movies or the park, or maybe do some shopping”.

Here is another telling illustration: in describing her workday, the young woman essentially showed that she would not have time for her kids: “It is an insanely busy day. I have an extremely tight schedule and I’ll spend hardly any time at home (I start work at 8 and get back closer to midnight). But at

the weekend, I will put all thoughts of work out of my mind and spend all of my time with my family”. However in describing her weekend, she does not place much special emphasis on spending time with her children, compared to other activities she envisages: “I spend the weekend with my family. We will go to the zoo, the water park, the circus or maybe just take a nice walk around the city. We will invite friends over for dinner. We will also visit our relatives in the countryside and sit around as a family, eating delicious treats that grandma baked”.

6. Study 2 enabled us to identify the types of activities that young women associate with children. It proved to be a rather limited list. Most of the time, workday activities boil down to “dropping the kids off at kindergarten and school”, with a few mentions of “helping them with their homework”. There is little mention of much else. For example, one of the few young women who specifically highlighted the “presence” of children in her workday described it thus: “Drop the children off at school and go to work. Pick the kids up after work and help them with their homework, if they need it”. Here is an excerpt from another essay: “In the morning, I will take the kids to kindergarten (school)... in the evening, I will come home to my family, help the children with their homework, play with them, have dinner and put them to bed”.

7. Our analysis of the young women’s associations with the process of raising children in Study 1 showed that:

from an emotional standpoint, the young women see the process of raising children as an uplifting experience, rather than a tiring and stressful one;

from a psychological standpoint, the young women have an intrinsic need to raise children and do not see it as a duty or obligation;

from a financial standpoint, the young women see this as more of an investment in their future, rather than a financial burden (table 3).

Table 03. Female university students' views on the process of raising children

			Valid %
Raising children is ...	uplifting	emotional component	88
	tiring and stressful		12
	an intrinsic need	psychological component	64
	an obligation		36
	an investment in my future	financial component	80
	a financial burden		20

8. The responses to Study 2 showed that the young women’s perceptions of being a parent are all about joy, ease and a sense of pleasure. Not one of the essays gave any hint at the great deal of hard work and obligations that come with parenthood. Here is a typical example from one of the essays: “At the weekend, we spend all day playing, having fun, eating ice cream and giving the kids little presents”.

6.2. Discussions of the Research Results

We can suggest the following explanations of our findings:

1) Both the qualitative and quantitative studies saw a clear modal tendency in the women's reproductive plans and intentions: 2 children. Given that the preferred number of children is always less than the actual number of children, this is a rather low number, which will not allow to subsequently overcome the adverse demographic trends.

At the same time, it can be noted that the data we obtained somewhat differs from the results of 2012 Rosstat research on reproductive plans (Brief results of sample statistical observation 2012). This study surveyed Russian women aged 18 to 45. The results of both studies are compared in Table 4.

Table 04. Desired and expected number of children from two studies (selected indicators)

		Desired number of children		Expected number of children	
		OR*	RR**	OR*	RR**
Proportion of respondents (valid %) who said ...	1 child	4.9	12.3	8.4	24.2
	2 children	56.6	51.7	61.5	50.3
	3 children	33.6	24.9	23.1	13.3
	4 or more children	3.5	6.7	2.1	3.0
No answer (%)		0	3.6	4.2	7.2
Mean number of children		2.33	2.28	2.18	1.92

* - data from our research;

** - data from Rosstat research

The data in Table 4 shows:

- ✓ the proportion of female university students who said they wanted and expected to have only one child is considerably less than for the overall female population in Russia;
- ✓ the proportions of female university students who said they wanted, and particularly expected, to have 2 or 3 children is considerably higher than among the overall female population in Russia;
- ✓ the mean number of children among female university students is overall higher than for women in Russia in general;
- ✓ the female students are less unsure about numbers of children – the share of respondents in our research who gave no answer here is considerably less than for the entire population of Russian women.

The only unfavourable difference when it comes to reproductive plans among the students is the share of those who want to and expect to have 4 or more children (this indicator is less among university students than for all of Russia). But on the whole, a comparison of these two datasets showed that the reproductive plans of female university students are more positive and have a greater potential to come to fruition than the plans of the wider female population.

We believe that the difference between the expected and desired numbers of children we uncovered in our research is largely borne of external factors. Indeed the discrepancy between the intention “to have a certain number of children” and the same intention but “in a perfect situation” shows that the respondent is not currently in this situation. Thus if such a perfect set of circumstances is attained, one can expect to see the birth of the corresponding number of children.

In turn, the difference we found between the desired number of children and the desired number of children in a perfect situation highlights a gap that can and should be overcome through the implementation of effective demographic policy measures. Moreover, the greater that gap, the greater the potential for effective mitigation. It is precisely the state, with its legislative, financial and informational resources, which is “responsible” for creating favourable or unfavourable conditions for the birth and upbringing of children.

Accordingly, the difference between the desired number of children and the number of children desired in a perfect situation shows that demographic policy measures can shape the process of establishing reproductive attitudes and parenting intentions among future mothers. At the same time, given that the overall reproductive intentions of female university students are higher than those of fertile-aged women in Russia generally, the potential for positive impact for stimulating birth-rates could also be greater.

2) The results of the quantitative research showed that young women have an appreciation of the amount of time required to carry out parental duties. At the same time, the respondents believe that the time spent on parenting duties become less as the child gets older. However the results of the qualitative research do not support this.

We believe that the divergence of the results of Studies 1 and 2 could be related to the fact that at this age, the young women do not yet have a profound and structured understanding of future parenthood. According to Rosstat data, the average age for having a first child in Russia is 22.5 (Births, deaths and natural increase 2014) with an overall upward trend. Our respondents were aged 17 to 20, so their reproductive attitudes are presently weak for objective reasons. At the same time, one must not dismiss the impact that existing societal stereotypes about parenting have on our respondents. Perhaps this is the reason why Study 1 participants speak of a great amount of time spent on carrying out parental duties, without describing them in substance in their Study 2 essays about their future life.

3) Study 1 showed that parenthood is imbued with particular emotional, psychological and economical traits. The young women see the process of raising children as having a certain utility: for most of them, it enables them to self-actualize (“raising children is an intrinsic need”), to obtain emotional benefits in the present (“raising children is uplifting”) and also expect economic benefits in the future (“raising children is an investment in my future”). The results of Study 2 extend these conclusions through a deeper understanding of the nature of the girls’ views about parenthood. We consider these results to highlight a certain childishness among the young women and an immaturity of their ideas about parenthood.

7. Conclusion

We believe that the use of mixed methods to study ideas held by female university students about future family and parenthood enabled us to obtain well-rounded and relevant results. If we relied solely on quantitative research, we may have ended up with an exceedingly optimistic view about how the young women see future parenthood. Yet the results of the qualitative research on their own would point to exceeding naiveté among the respondents and a total lack of awareness of the challenges that they will encounter in the near future. Thus the use of mixed method to study young people enables a more profound understanding of reproductive behavior and possible demographic prospects. Our results can be used as the basis for engaging with female university students as potential and future mothers through informational and pedagogical programmes.

We see our research evolving by undertaking a deeper exploration of the underlying reasons for the discrepancy in the results between Studies 1 and 2 as regards parenting the amount of time spent on parental duties and their substance. We consider this to be a highly topical study. A lack of understanding of the nature of parenting means that young women today are not prepared for the challenges of parenthood. This can in turn have a negative impact on birth-rates in the country, when, having encountered unforeseen difficulties with their first child, women decide against giving birth again.

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