Attitudes toward Overpopulation and Their Influence on Fertility Preferences

by

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Abstract

Beginning in the 1960’s, the American public became aware that population estimates for the not so distant future predicted a dramatic increase in the population. Around this same time the higher fertility rates of the baby boom began to plummet into what we now know as the baby bust. This paper attempts to address the question: was the worry of overpopulation related to the dramatic fertility decline of late 1960’s and 1970’s? Using yearly cross sectional data between 1976 and 2002 I examine trends in attitudes toward overpopulation, the role of the government in population growth and individuals perception of how overpopulation affects their personal fertility preferences. Findings suggest that there has been an overall decline in worrying about overpopulation since the mid 1970’s. There is also some evidence suggesting that people are now supporting less government intervention in individual’s fertility plans than in the past. Finally, it appears that in general there has been a gradual decline in the number of people reporting that population worries are influencing their fertility preferences. In conclusion, there may be evidence that concerns about overpopulation may have contributed to the substantial decline in fertility often called the baby bust.

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Attitudes toward Overpopulation and Their Influence on Fertility Preferences

Beginning in the 1960’s, right after the apex of the baby boom, the American public became aware that population estimates for the not so distant future predicted a dramatic increase in the population. Quickly, researchers, leaders and activists warned of difficult times ahead and some predicted an impending doom. Around this same time the higher fertility rates of the baby boom began to plummet into what we now know as the baby bust. Considering the temporal juxtapositions of the two events (i.e. heightened apprehensions regarding overpopulation and the beginning of the baby bust) one hypothesis is that they are related. That is, was the worry of overpopulation related to the dramatic fertility decline of late 1960’s and 1970’s?

Using data from the Monitoring the Future project (Johnston, O’Malley, Bachman, and Schulenberg, 1993), this paper provides the first empirical examination of this subject by analyzing trends in attitudes toward overpopulation, and most importantly trends in attitudes on the extent that worries of overpopulation affect individual fertility preferences. Yearly cross sectional data between 1976 and 2002 provide a unique opportunity to examine these trends. This is especially true since the individuals within the sample (high school seniors) are at a point in their lives when fertility attitudes have a significant influence on pathways chosen (with some pathways encouraging childbearing, while others discourage or delay it) (Barber 2001).

On a broader scale, this paper continues a line of inquiry into the effect of population beliefs and attitudes on fertility. Recently Thornton (2001) suggested that concerns about development and progress have lead (and continue to influence) individuals to modify their fertility preferences, attitudes and behaviors. Although not directly tied to his “Developmental Idealism” this paper does address that concept that attitudes toward overall global (or at least country level) well-being may be seen by some members of the population as directly tied to their own preferences and actions. Though not a specific test of the Developmental Idealism hypotheses, this paper may shed some empirical light on the feasibility of a theory based on individuals being knowledgeable and interested in population matters.
Trends in US Fertility

After the end of WWII the total fertility rate (TFR) of the United States rose substantially, from 2.2 children per woman in 1940 to nearly 3.6 in 1956. This fertility has been widely accepted as a period effect as all ages and parities increased fertility at the same time (Morgan 1996). The historical phenomenon of the baby boom may well be the most significant US demographic event of the last 100 years, and arguably, it is also the most well-known population concept in the general public. It is this knowledge, through both research and the first hand experience of people living through the baby boom (i.e. the crunch for school space, for jobs, etc), that encouraged people to focus even more on overpopulation as an issue for not just the United States, but for the entire world.

Another well-known demographic phenomenon was the baby bust. The baby bust was the time period after the baby boom when the TFR dropped dramatically and for nearly a decade remained below the replacement level of 2.2 children per woman (Morgan 1996). This occurred from the end of the 1960’s to the end of the 1980’s, reaching a low of about 1.7 in 1975. Much of this baby bust is due to fewer higher parity (3+) births, but there were lower fertility levels in general (Morgan 1996).

The Issue of Population Growth and Overpopulation

These incredible changes in fertility lead to a surge in the study of population—particularly population growth (Wilmoth and Ball 1995). Wilmoth and Ball provide a detailed outline of how from the mid 1950’s until the 1980’s activists and scholars began to work together concerning population growth. The authors describe how the issue of population growth became the problem of population growth; and that this problem was not just an issue for the poor, but for all nations. Despite some reticence from some professional demographers (Coale 1970), most researchers began to follow the negative view of population growth (Demeny 1988).

It was also during this time that population predictions, usually information used only by professional demographers and some of the leading elite, started to become more public (Caldwell and Schindlmayr 2002). And despite warnings of certain error in the estimates (Hajnal 1955), these
predictions not only increased in number, but also in accessibility to the public (Demeny 2004). Estimates that were once considered educated guesses soon became an almost certain destiny, at least in public discourse.

The combination of these estimates, activists and scholars with specific goals to slow population growth, and the baby boom provided the perfect tinder for the fire of overpopulation to ignite as a central issue in the United States. It was at this time that two publications, both produced by non-demographers, entered the popular culture. William and Paul Paddock wrote *Famine 1975! America’s Decision: Who Will Survive?*, an apocalyptic prediction of starvation as a product of overpopulation (Paddock and Paddock 1967). Even more famous may be the biologist Paul Ehrlich’s powerfully titled book *The Population Bomb*, which again points to the dismal future of the American future due to unchecked population growth (Ehrlich 1968). Suddenly, overpopulation moved from being an issue of the few to a crisis of the many (Wilmoth and Ball 1992; 1995).

By the late-1960’s articles were already commonplace in America’s public media; the majority of these articles describe overpopulation not as a positive or even neutral issue for the future, but rather as one of the major crises of the era. Wilmoth and Ball (1992) document that from the early 1950’s until the end of the 1960’s there was a constant supply of articles addressing overpopulation. By far the most prolific year was 1970 (the year of the first Earth Day). Other major peaks in the number of articles clustered around the World Population Conference (1974) and the International Conference on Population (1984). However, the authors also note a noticeable decline after 1970 leading to nearly half as many articles by the end of the 1980’s as where in the 1960’s.

It has been well documented that governments, scholars and even the media had accepted the idea of population growth as an important issue, but less is known concerning the American public (Wilmoth and Ball 1992; 1995, Demeny 1986; 1988, Schindlmayr 2001, Donaldson 1990, Finkle and Crane 1975; 1985; Preston 1987). Schindlmayr (2001) provides a summary of few polls from the 1950’s until the end of the century. The polls discussed by Schindlmayr suggest that although there was some fluctuation due
to media attention (i.e. the 1974 Bucharest Conference, the 1984 Mexico City Conference, the 1992 Earth Summit in Rio de Janeiro and the 1994 conference in Cairo) interest in population growth grew tremendously in the late 1960’s and early 1970’s with over 60% of the population agreeing that overpopulation was a major national issue during those years. After this time despite the sparse data it appears that concern regarding overpopulation declined, although even in late 1990’s a majority of Americans saw overpopulation as a serious national issue (see also Grammich, Da Vanzo, and Stewart 2004).1

For the evidence above, it appears that since the early 1960’s until the present overpopulation has been a significant (although somewhat variable) issue for the American public, and for the most part the public appears to have been interested in population growth. Based on the evidence presented above I contend that from the mid 1960’s until at least the middle of the 1980’s the substantial negative view of the population growth may have contributed to the baby bust.

**Trends in Family Attitudes**

One possibility is that trends in overpopulation may follow trends of other family related issues. Thornton and Young-DeMarco (2001) explain that over the last few decades there has been a transformation of the meaning of marriage (see also Thornton 1989; Axinn and Thornton 2000). That is although people may still hold marriage, and fertility in high regard, they no longer expect everyone to follow that same family patterns. The greatest changes occurred in the 1960’s and 70’s and these trends coincided with behavior trends. Despite the dramatic changes in tolerance of different family types, people still hold marriage and family life in very high regard, and most people still plan to marry and have children.

More specifically fertility attitudes have seen significant changes over the last few decades (Thornton and Young-DeMarco 2001). For example in 1962, 84.5 percent of mothers said that all couples

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1 It is important to note that in September 2004 The Population Reference Bureau released new population projections for 2050 and 2250, and a great deal of press was produced (Wilson 2004). One reason for this attention was that for the first time, the scholarly community appeared to agree that a stable (but still larger) population was a strong probability by 2050 and beyond.
should be parents, but by 1993 this had decreased to 41.1 percent. In fact, for the children of these women there is evidence of even higher levels of tolerance toward childlessness, with only 21.9 of the daughters and 30.6 percent of the sons saying that all couples should be parents (Thornton and Young-DeMarco 2001). Nevertheless, there has been an increase in saying that both fatherhood and motherhood is fulfilling (from almost 65% in 1976 to 75% in 1998). During that same period there was a fairly constant proportion of people having strong desires to have children of about 60 percent. From the mid 1970’s until the late 1990’s women have increased their tolerance of nonmarital childbearing (from 24.6 to 18.2 percent saying it violates a moral principle), while men have remained fairly stable in their level of tolerance (21.2 to 19.3 percent) of nonmarital childbearing (Thornton and Young-DeMarco 2001).

**Sample**

This study will draw on data from the Monitoring the Future Study (MTF) conducted by the Survey Research Center of the University of Michigan. Every year since 1976 the survey has used a nationally representative sample of high school seniors in the United States who answer a self-administered questionnaire in the classroom during school hours (Johnston, O’Malley, Bachman, and Schulenberg 1993). Data is weighted to represent the US population using the weights provided by the study to account for the complex sample design and nonresponse. In the MTF age is controlled for precisely as every respondent is a senior in high school. Also important to note is that historical period and birth cohort are confounded as each new year of high school seniors also represents a new birth cohort.

**Measures**

I focus my attention on three sets of attitudes regarding overpopulation. The first deals with general feels about overpopulation. The second focuses on the role of the government in population growth and the third set reports attitudes concerning the effect of overpopulation on fertility. It is important to note that the data does suffers from some historical problems because it begins in 1976,
when it may have been better to have data from prior to the major focus in population growth in the 1960’s.

Within the first set of attitudes, general attitudes towards overpopulation, there are four attitudes, each of which is measured for every year from 1976 to 2002. The first attitude comes from the question: “Of all the problems facing the nation today, how often do you worry about each of the following? Population growth” and response alternatives are: Never, Seldom, Sometimes or Often. The percent that answered sometimes or often are tracked in the trend. The second measure is from the question “If you have at least an average income in the future, how likely is it that you will contribute money to the following organizations? Organizations concerned with population problems (Planned Parenthood, ZPG, etc.)” with response categories: Definitely Not, Probably Not, Don’t Know, Probably Will, Definitely Will, Have Already Done. The percent reporting probably will and definitely will donate money are tracked for this trend study.

The second set of attitudes has two attitudes examine the students’ acceptance of population policies and programs. One measure is from the statement “Our government should help other countries to control their population,” and the second is “Governments should avoid making policy about population and let the individual decide.” Both of these measures use a standard five-point scale 1="Disagree" 2="Mostly Disagree" 3= "Neither Agree nor Disagree" 4="Mostly Agree" 5="Agree". For both variables, the percent that agree or mostly agree to the above statements are measured in the trend.

The third set of attitudes specifically addresses the concept that worrying about the population boom (or bomb) influences fertility expectations with three statements. The first is “I feel strongly enough about preventing overpopulation that I’d be willing to limit my family to two children,” and the second is related, “I feel strongly enough about preventing overpopulation that I’d be willing to have no children.” Both of these measures use the same five-point response scale: 1="Strongly Disagree" 2="Disagree" 3="Neither" 4="Agree" 5=" Strongly Agree," and only those strongly agreeing are recorded. The final measure is “If not for the population boom would you want to have more children?” and the response
categories are: I am sure I would not want more, It is possible I might want more, I certainly would want more. The percent reporting “I am sure I would not want more” is used as the measure to track.

**Analysis Strategy**

By graphically and statistically representing the trends of the seven measures represented above, I provide evidence of the trends in population attitudes. It is important to note that not all questions were asked for the entire length of the study. Specifically, the question about limiting fertility to having no children was only asked from 1976 until 1996. However, since there is still so much time trend information, the small loss of comparability is dwarfed by the gain in information.

Trends are analyzed by performing independent sample t-tests for each consecutive year. That is 1976 is compared to 1977, then 1977 is compared to 1978 and so on until 2001 is tested against 2002. Those years with significantly different proportions at p<.05 level are indicated with an asterisk (*). Although longer time trends (e.g. from 1976 to 1990) are not shown in the table, all significant differences will be at the p< .05 level.

When testing for differences in proportions large samples are preferred. Larger samples compensate for heterogeneity in the variances (Healey 1999). Considering the large samples sizes any unequal variances of the proportions should not bias the statistical tests. Also, considering no additional covariates are used in the analysis missing data comes only from the measure. For most years missing data for the measure is less than 5% and is assumed to be ignorable. Each year the sample changed slightly and because some of the questions were on different forms the samples sizes are not equal between items even within the same year.

**Results**

**Concern about Overpopulation**

--Table 1 and Figure 1 about here--

Figure 1 implies there has been a substantial decline since 1976 in the concern of overpopulation. However, there has been some fluctuation in that decline. Also plans to contribute, although also
declining, did not start nearly as high, decline as fast, or even vacillate as much. Overall however, it appears that young adults are not as concerned with overpopulation as they were in the 1970’s.

More specifically, in 1976 well over half (56.5%) of seniors in high school reported worrying often or sometimes about overpopulation. However, soon after this percentage began to drop, with both 1979 and 1980 having statistical lower reports than the previous years. This quick decent continued until around 1986 when it reached its lowest point in recent history of 24.1 %. It is interesting to note however, that from the mid 1980’s until the early 1990’s concern toward overpopulation actually began to increase again, peaking in 1993 at 38.9% saying they worry often or sometime about population growth. Although there has been some decline since the mid 1990’s, it has not been as substantial as it was in the early 1980’s.

The second measure of concern over population asks how likely respondents think it is they will donate money to organization that deals with population problems. In 1976, over a third of respondents indicated that they would probably donate some money. Entering the 1980’s there was a significant decline to 29.1% (1980). For much of the next decade there was little change in that percentage, with 30% reporting they would definitely or probably donate money in 1990. For the next seven years there were fluctuations of at most ± 3.5% around 30%. Then at the end of the 1990’s and into the 2000’s there was the beginning of a significant decline, ending with 22.8% in 2002.

The evidence from both these measures suggest an overall decline in worrying about overpopulation. That being said there were some shorter trends of a steep drop in concern from the mid 1970’s to the mid 1980’s. Then for both measures there appears to be a smaller increase in concern until the mid 1990’s, when again concerns appeared to peak (although at much lower levels than in the mid 1990’s). Finally, since the mid 1990’s the evidence suggests that worrying about population growth has declined for young adults, ending in some of the lowest levels of concern over the last quarter century.
The role of governments in Overpopulation

--Table 2 and Figure 2 about here--

Figure 2 shows that there has been a decline in the support of government policy and aid in addressing overpopulation as an issue. The strong support for the US helping other countries was cut by nearly half between 1976 and 1994. However, after 1994 there appears to be some rise in support. On the other hand the decline of support of governments (not just the US government) apparently occurred mostly in the mid to late 1980’s and then over the last couple of years. In general this implies that the greater support for freedom and individual choice has decreased support for government mandated policies and programs (Thornton and Young-DeMarco 2001).

In 1976, for example, nearly 40% of high school seniors agreed or mostly agreed to the statement “Our government should help other countries to control their population.” However, by the end of the decade significant decreases in support can be seen. This decline reversed direction in 1985, just after the 1984 Mexico City conference, and reached a peak of 35.4%. Later, as Schindlmayr (2001) suggested, though, as the media attention died down, so too did support for US help for other countries, reaching a low of 20.8 in 1994. Despite some slight increases in support in recent years, overall support has significantly declined since 1976.

Although one possible argument for the preceding trend is that over the past several decades there have been increasingly positive attitudes toward personal freedom and personal choice (Thornton and Young-DeMarco 2001); another is that people are less concerned with foreign issues and believe domestic issues are more pressing.

In fact the analysis of the second measure “Governments should avoid making policy about population and let the individual decide,” suggests that both arguments may apply. This measure attempts to focus not on US aid to other countries, but rather to government versus individual fertility decisions. In 1976 nearly 40% of seniors disagreed or mostly disagreed that governments should avoid making policy on population. This suggests strong support for governments making policy on population in the mid
1970’s, but by 2002 this support had waned to just fewer than 30%. However, it is important to note that much of this change actually occurred in the late 1970’s and early 1980’s. In fact the changes in both measures discussed in this section are fairly similar between 1976 and the mid 1980’s. It is after the mid-1980’s that support for US aid to other countries for population growth problems continues to drop while attitudes toward policy making remain fairly constant.

Using both of these measures, the data suggests that there may well have been some change associated with both positive attitudes toward individual freedom of choice and at the same time less concern on international population issues. That is, if I take the measure of attitudes toward avoiding making population policy, but rather allowing the individual to decide as the true indicator of effect of increasingly positive attitudes toward individual freedom, than much of the change in both indicators between 1976 and 1986 may be due to the drive for more personal freedom and less societal control (Thornton and Young-DeMarco 2001). However, after 1986 the policy attitude remains fairly constant, while the support toward US aid for population problems continues to drop substantially, thus suggesting a move to get a way from international issues altogether.

**Concerns of Overpopulation and Fertility**

--Table 3 and Figure 3 about here--

The two preceding sections have documented a decline in concern of overpopulation, and greater support of individual fertility decision-making. This current section uses three measures of self-reported concern about overpopulation and its effect on fertility desires. These measures attempt to indicate the change in how many young adults consider overpopulation in their fertility calculus.

The first measure examines the percent of people who strongly agreed that to prevent overpopulation they were willing to limit their fertility to only two children. In 1976, just over 34% of high school seniors reported that they strongly agreed that they were willing to limit their family size to two children. By 2002 this percent had plummeted to fewer than 14%. As both Table 4 and Figure 3 present, this decline was a nearly linear decline and although there were some significant changes
between years, most changes were small enough not to be significantly different from year to year. One possible nonlinearity maybe that from 1985 to 1993 attitudes appeared to remain constant and flat, with more steady declines located in the years both before and after this period. It may be interesting to note that this period coincides with the time period between the 1984 Mexico City and 1994 Cairo conferences on world population.

A more drastic response to overpopulation than limiting fertility to two children would be to elect not to have any children at all. The second measure in this section is similar to the first, but instead asks if the students would be willing to completely forego having children to prevent overpopulation. Clearly students were even initially less likely to respond in the affirmative to this question, pointing to the still strong U.S. norms of bearing children (Thornton 1989, Thornton and Young-DeMarco 2001). Beginning at nearly 10% in 1976, we see that there were still a substantial number of people willing to not have children. However, by 1996 this percent had still been halved to 5.2%. This suggests that even amongst the few on whom the overpopulation concern had an apparently strong effect, this effect also declined as it did in the first measure.

The final measure provides even more evidence that, although worries about overpopulation may have affected fertility preferences in the mid to late 1970’s, the number of people whose fertility preferences were affected by population concerns has decreased over time. The final measure asks, “If not for the population boom, would you have more children?” This question directly attempts to understand if overpopulation is playing an effect on young adult’s fertility preferences. Again both Table 4 and Figure 3, suggest that in 1976 nearly a third of students did not feel that overpopulation affected their fertility plans. This percentage remained fairly constant until the early 1980’s when it began a steady increase, or in other words fewer people were considering overpopulation in their fertility plans. This steady climb peaked at the end of the century at over half of students reporting that they were sure they would not want more children if not for the population boom.
The three measures analyzed in this section all suggest in the mid 1970’s it is certainly plausible the many young adults adjusted their fertility plans due to concerns about overpopulation. However, since that time there is a documented decline in the number of seniors in high school reporting that overpopulation concerns had effects on their fertility preferences. That is, although some young adults may have worried enough about overpopulation to adjusted their reported fertility preferences, this group has grown smaller every year until at least the beginning of the new millennium.

Discussion

In summary I find that there has been an overall decline in worrying about overpopulation. There is also some evidence that trends in overpopulation attitudes may have followed along with increasingly positive attitudes toward individual freedom in other family attitudes (Thornton and Young-DeMarco 2001); suggesting that people support less government intervention in individual’s fertility plans. At the same time there is some evidence that people are increasing feel that the US government should not help other countries with their population growth issues. Finally, it appears that in general there has been a gradual decline in the number of people reporting that population worries are influencing their fertility preferences.

Considering the age of the respondents, many of whom are the verge of entering their childbearing years, these preferences suggest possible future pathways. Considering the large number of people worrying about population two and a half decades ago, it is not surprising that many of these young adults apparently accounted for overpopulation in their fertility preferences. Then as the concern died down, fewer people included it into their fertility calculus. Thus we may very well expect that concerns over fertility still may have an effect on fertility and later fertility choices, but now since so many fewer people worry about overpopulation it may not be as apparent in the population’s fertility level.

For example if only a fraction of the people who said they would limit their fertility to two kids really kept their fertility to two instead of their higher parity desire, we may well expect lower completed
fertilities of these cohorts. Thus one possible factor explain the baby bust and later rise from the baby bust may be that concerns of overpopulation lead people to limit their fertility to two children (or less) when normally more would have been desired. This seems reasonable considering that from the mid 1960’s to the mid 1980’s first and second order births moved from accounting from about 50% of the total fertility rate to accounting for nearly 70% of the fertility rate (Morgan 1996).

Another argument is that even if overpopulation did not affect competed fertility levels, it affected the timing of initiating childbearing. As Barber (2001) explains these attitudes lead some people to begin pathways (school, work, etc) that are not as conducive to childbearing, thus delaying their first childbirth. This mass delaying would also help explain part of the baby bust. That is, some cohorts who were generally more concerned with population, may have initially planned on having fewer children and thus decided to delay the first birth in lieu of other activities. Therefore even if the overall completed fertility remained the same, there would be a substantial period effect showing a lower total fertility rate. There is also some evidence of the delay in childbearing occurring in years surrounding 1975, as well as an apparent attempt to “catch up” on fertility later in life (Morgan 1996).

Finally, this paper also provides some limited US evidence of Thornton’s (2001) argument that people’s interest in the general population can have an influence on their own fertility preferences. When overpopulation was a major concern, many people may have adjusted their personal fertility expectations, in order to compensate for overpopulation. An important issue in this argument is that people really need not see the effects of overpopulation first hand (many of these effects—i.e. starvation, over-crowding, etc—of course never really appeared in the US), but rather through scholars, and the leading elite people are given facts and models of what will happen, and what they can do to achieve the desired population type. Is it possible then, that Demographers were influencing the phenomena they wanting to study? And if so, is it still occurring today?
References


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<td>55.9</td>
<td>50.4*</td>
<td>43.3*</td>
<td>36.1*</td>
<td>39.8*</td>
<td>34.1*</td>
<td>31.5*</td>
<td>25.3*</td>
<td>25.7</td>
<td>24.1</td>
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<td>27.5</td>
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<td>30.6*</td>
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<td>35.4*</td>
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<td>% Definitely and Probably Will Organizations concerned with population problems</td>
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<td>33.5</td>
<td>33.5</td>
<td>29.5*</td>
<td>29.1</td>
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### Table 2 Role of governments in Overpopulation

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<td>38.8</td>
<td>38.0</td>
<td>34.3*</td>
<td>31.9*</td>
<td>32.4</td>
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Figure 1 Concern about Overpopulation

Figure 2 Role of Governments in Overpopulation

Legend:
- Often or sometimes worry about population growth
- Definitely or probably will contribute money for population problems

Legend:
- Agree or Mostly Agree-US should help other countries with population problem
- Disagree or Mostly Disagree that governments should avoid population policy/let individual decide
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<td>2,649</td>
<td>3,157</td>
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<td>3,153</td>
<td>3,195</td>
<td>2,895</td>
<td>2,794</td>
<td>2,841</td>
<td>2,778</td>
<td>2,932</td>
<td>2,974</td>
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I feel strongly enough about preventing overpopulation that I'd be willing to limit my family to two children.

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</table>

I feel strongly enough about preventing overpopulation that I'd be willing to have no children.

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If not for the population boom would you want to have more children?

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Figure 3 Concern of Overpopulation and Fertility

- Strongly Agree - to prevent overpopulation willing to limit to two children
- Strongly Agree - to prevent overpopulation willing not to have any children
- Sure would not want more children if no population boom