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International Fertility Change: New Data and Insights From the Developmental Idealism Framework

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Abstract Many scholars have offered structural and ideational explanations for the fertility changes occurring around the world. This paper focuses on the influence of developmental idealism—a schema or set of beliefs endorsing development, fertility change, and causal connections between development and fertility. Developmental idealism is argued to be an important force affecting both population policy and the fertility behavior of ordinary people. We present new survey data from ordinary people in six countries—Argentina,

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China, Egypt, Iran, Nepal, and the United States—about the extent to which developmental idealism is known and believed. We ask individuals if they believe that fertility and development are correlated, that development is a causal force in changing fertility levels, and that fertility declines enhance the standard of living and intergenerational relations. We also ask people about their expectations concerning future trends in fertility in their countries and whether they approve or disapprove of the trends they expect. The data show widespread linkage in the minds of ordinary people between fertility and development. Large fractions of people in these six settings believe that fertility and development are correlated, that development reduces fertility, and that declines in fertility foster development. Many also expect and endorse future declines in fertility.

Keywords Fertility · Development · Developmental idealism · Globalization · Social change

Introduction

The research reported in this paper is motivated by the substantial changes in fertility occurring throughout the world. A range of explanations—including material, institutional, and ideational—have been offered for these changes. We focus here on one ideational explanation that is understudied but especially important for understanding fertility change in much of the world. This explanation focuses on developmental idealism, which Thornton (2001, 2005) has identified as emerging from the Enlightenment of the seventeenth and eighteenth centuries. Thornton has argued that developmental idealism, with its emphasis on development and the interrelationships of development with family behavior, has strongly influenced public policy, as well as the beliefs and behaviors of ordinary people concerning fertility and fertility control.

Our purpose is to present new data about the extent to which the ideas of developmental idealism as they relate to fertility are known and accepted around the world. We ask whether these ideas are widespread in parts of Argentina, China, Egypt, Iran, Nepal, and the United States—six widely diverse countries. We ask individuals in these settings if they believe that there is a correlation between fertility and development, that development is a causal force in changing fertility, and that declines in fertility enhance the standard of living and quality of intergenerational relations. We also ask about people's expectations concerning future trends in fertility and whether they approve of the trends they expect. Finally, we ask the extent to which individuals in these countries prefer having one child or three children. We address these questions using new survey data.

Our description of the ideas that individuals have concerning development and childbearing is important because the presence or absence and the endorsement or rejection of such ideas have important consequences for fertility-related behavior. However, investigation of the actual influence of these ideas on behavior is beyond the scope of this paper. Instead, we provide evidence of the extent to which individuals in diverse places are aware of these ideas, indicating the availability of such ideas for influencing fertility behavior. We

also discuss how knowing and endorsing these ideas may have influenced prior trends in fertility and may influence fertility in the future.

The Developmental Paradigm and Developmental Idealism

Ideational factors—including worldviews, belief systems, cultural models, scripts, and schemas, which we treat as similar and overlapping concepts—are important influences on human behavior. Geertz (1973) explained that cultural models provide people with at least two basic tools (also see D'Andrade 1984; Fricke 1997). First, these models provide frameworks for understanding and interpreting the world. These frameworks tell individuals how the world works and which factors cause which outcomes. Second, cultural models offer guidance on how to deal with the world by specifying what is good and to be sought after, as well as the legitimate means to achieve those goals.

Johnson-Hanks et al. (2011) synthesized much of the literature on belief systems and cultural models in terms of *schema*, an umbrella term for social scripts and mental maps. These researchers applied the schema concept to family variation and change. In this framework, schemas provide categories to conceptualize the world, procedures for how to behave and reach goals, and evaluations of what is desirable. Such schemas exist both in the minds of individuals and in the shared representations of the public. Different schemas can be mutually reinforcing or conflicting, with all of these schemas available and utilized within the same group, society, and individual. Schemas also vary in the extent to which they are believed, invoked, and influential in guiding decisions. Schemas also can change across the life courses of individuals and across historical time. Together with social and economic structures and material conditions, schemas constrain and guide decisions.

Developmental idealism is a cultural model or schema that provides an ideational model for understanding and dealing with the world. It provides a categorization of the world and its elements, a subjective evaluation of those elements, and procedures for attaining what is defined as good. Most importantly, developmental idealism provides individuals and societies with schema about fertility, including the number of births, spacing of births, and control over childbearing.

Developmental idealism grows out of the *developmental paradigm*, a schema or model of social change, which has been influential in Western thinking since the Enlightenment. The developmental paradigm suggests that all societies progress through the same natural, universal, and necessary stages of development (Harris 1968; Mandelbaum 1971; Nisbet 1969/1975; Sanderson 1990). The speed of advancement was believed to vary so that, at any time, societies at different developmental levels could be observed. Western scholars classified the societies of northwest Europe and its diasporas as the most developed or modern, and they classified other societies at lower positions on this continuum. These scholars believed that they could use this cross-sectional information to describe the developmental trajectories of individual societies, proceeding from their least to most developed state (Gordon 1994; Harris 1968; Sanderson 1990; Thornton 2001, 2005). Although the ideas of developmental hierarchies and a universal history have come under serious criticism among scholars in recent decades (Mandelbaum 1971;

Nisbet 1969/1975, 1980; Szreter 1993; Tilly 1978, 1984), these ideas remain persuasive among many elements of the scholarly and public policy communities, as well as in the general public.

Scholars observed that social, economic, and family characteristics were differentially distributed between Western and non-Western countries. The attributes in the West became associated with development or modernity, while the attributes elsewhere became associated with traditionality or the lack of development (Thornton 2005). Family solidarity, young and arranged marriage, extended households, and uncontrolled and high fertility were defined as traditional; individualism, older self-choice marriage, nuclear households, and controlled and low fertility were defined as modern. Industrial and urban societies with high levels of education, wealth, and health were defined as modern, while agricultural and rural societies with low levels of these characteristics were defined as traditional. This model interpreted as causal the correlation between socioeconomic and family-demographic factors, concluding that modern socioeconomic systems helped to produce modern family-demographic systems and that modern family-demographic systems helped to produce modern socioeconomic systems.

The developmental paradigm, empirical observations, and causal interpretations of the relationships between family and socioeconomic structures provided the foundation for a cultural model or schema—labeled *developmental idealism*—that guides and motivates behavior. This schema identifies goals, a standard for evaluating human organizations, an explanatory framework identifying the causal influences between family and social and economic life, and statements about human rights. Developmental idealism indicates that modern societies and families, as previously described, are good. It also indicates that modern family behavior, including controlled and low fertility, facilitates socioeconomic development and that development produces a modern family. Finally, developmental idealism indicates that people have the right to be free and equal and to decide their own fates without arbitrary constraints.

This schema of development also suggests a dynamic rather than a static world. Accordingly, change is described as moving away from traditionality and toward modernity, such as from higher to lower fertility and increasingly more control over childbearing. This dynamic view of the world is important because people live their daily lives based, at least partially, on their expectations for the future.

The schema of developmental idealism meshes with the existence of a world culture documented in a large literature (e.g., Barrett and Frank 1999; Meyer et al. 1997; Thomas et al. 1987). This literature shows that this world culture, with the attributes of modernity and the West, is being disseminated internationally and is helping to increase many things, including human rights, individualism, mass education, justice, and gender equality. As we discuss in the next section, the schema of low and planned fertility has become part of this world culture of modernity.¹

¹ Many scholars have argued that elements of developmental idealism, which here are proposed to have their roots in Western philosophy, have their roots in non-Western thought (see Yount and Rashad 2008). Identifying the origins of these ideas in non-Western thought is argued to have fostered their popular acceptance in some settings.

An essential element of the developmental idealism framework is that the people of the world have for centuries, even millennia, had their own indigenous schemas that defined the good life and how to achieve it. Although the specifics of these schemas often varied across societies, they generally identified uncontrolled and high fertility as good and as helpful for achieving the good life. Thus, developmental idealism and indigenous belief systems have been competing schemas within societies and for individuals (e.g., Watkins 2000; Yount et al. 2010).

The merits of indigenous schemas and the schema of developmental idealism are not our focus in this paper. Specifically, we are not concerned with whether change is necessary or uniform, whether so-called developed societies and families actually are good, or whether controlled and low fertility actually facilitates the well-being of individuals, families, and societies. Instead, our concern is whether individuals are aware of the schema of developmental idealism, have it available to them for making decisions, and accept, reject, or modify it.

Developmental Idealism and Public Policy About Fertility

For hundreds of years, many elites and ordinary people considered population growth to be a good thing that brought well-being and national power. This perspective began to change during the Enlightenment, as writers such as Hume (1742/1825) and Malthus (1803/1986) wrote that population growth brought misery and catastrophe. This negative view of population growth gained additional adherents in subsequent decades (Carr-Saunders 1936; Ross 1927; Swindlehurst 1916; Thompson 1930). This perspective, however, remained a marginal position—and many even harshly opposed it—until the mid-twentieth century, when improvements in health outside the West lowered mortality and spurred rapid population growth. Many became concerned that these countries could not absorb the additional people without reductions in living standards and health and that population growth would restrict economic development.

This perspective led to the initiation of an international family planning movement that was powered by many motivations, but probably foremost by the belief that reduced fertility would lead to socioeconomic development and improvements in the quality of life (Barrett and Frank 1999; Donaldson 1990; Harkavy 1995; Hodgson 1983, 1988; Hodgson and Watkins 1997). This movement began small and initially was often met with resistance, but in a relatively short period of time, it became a powerful element of world culture (Barrett and Frank 1999; Meyer et al. 1997). Numerous people in foundations, universities, and governments endorsed family planning programs. The United Nations and its agencies also adopted the policy that programs to control fertility would help to achieve socioeconomic development. The need to control fertility became a high priority in (often Western-influenced) international policy circles (Critchlow 1999; Donaldson 1990; Keely 1994). Family planning programs were launched with zeal, spurring the creation of new contraceptives, the provision and distribution of supplies, and the training of personnel. By 1984, 93% of the people in the so-called developing world lived in countries with policies designed to curb population growth (Johnson 1994; Nortman 1985).

One common approach of family planning programs has been to provide couples interested in limiting fertility the means to do so. Many programs also initiated efforts to increase desires for later ages at marriage, smaller families, and the use of contraceptives. Among the messages distributed were that lower fertility and development were interconnected, that reduced childbearing would facilitate development, and that the use of so-called modern contraception was desirable. Such programs included mass media campaigns and the grassroots dissemination of messages encouraging low fertility (Mita and Simmons 1995; Phillips et al. 1993). Thus, family planning programs not only emerged from the developmental idea that small families were helpful for development but also widely disseminated this principle.

Study Settings

As indicated earlier, the purpose of our study is to investigate the extent to which ordinary people know and believe in the fertility-related tenets of developmental idealism. Although we are interested in such views worldwide, budget and logistical restrictions limited us to the study of people in settings within six countries: Argentina, China, Egypt, Iran, Nepal, and the United States. Table 1 provides basic information at the national level about these countries, indicating their locations, population sizes, economic levels, mortality, fertility, adult literacy, and school enrollment.

Although these countries are not a representative global sample, they are located in a wide diversity of regions and contain a large range of population sizes. Egypt and Iran have majority Muslim populations. Buddhism, Taoism, and reverence toward ancestors have long been important in China, and the majority religion in Nepal is Hindu. Catholic Christianity has been the majority religion in Argentina, and the United States has been primarily Protestant Christian (data not shown in table).

Table 1 Basic characteristics of six countries surveyed

Country	Region ^a	Population (millions) ^a	GDP per Capita ^b (US\$)	Total Fertility Rate ^a (children per woman)	Life Expectancy at Birth ^a (years)	Adult Literacy Rate ^b (% aged 15+)	Gross Enrollment Rate ^b (%)
Argentina	South America	40	6,644	2.3	75.2	97.6	88.6
China	Eastern Asia	1,329	2,432	1.8	72.9	93.3	68.7
Egypt	Northern Africa	80	1,729	2.9	69.9	66.4	76.4
Iran	South-central Asia	72	4,028	1.8	71.2	82.3	73.2
Nepal	South-Central Asia	28	367	2.9	66.3	56.5	60.8
United States	Northern America	309	45,592	2.1	79.1	99.0	92.4

^aData are from United Nations (2009).

^bData are from United Nations Development Programme (2009).

The six countries also represent substantial diversity in education and income. Each country has experienced long-term increases in school enrollment and literacy. Particularly noteworthy is the rapid economic expansion in China following its economic reforms in 1978 (Chow 2007). Mortality levels in all six countries are quite low in historical terms.

The institutions that could propagate developmental idealism have expanded greatly in recent decades in all six countries. In addition to education becoming widespread, access to systems of communication and the media has increased markedly, as evidenced by increasing numbers of media outlets, telephone lines, and mobile phone subscribers (e.g., International Telecommunication Union 2010).

Fertility levels in each of the six countries are moderately low, especially when put in historical context. United Nations estimates indicate that China and Iran have total fertility rates that are below replacement level. The exact level of fertility in China, however, is uncertain, and it may be 1.5 or lower (Guo and Chen 2007). The total fertility rate is at near replacement level in Argentina and the United States, and is 2.9 in Egypt and Nepal.

Such low fertility levels indicate that each country has experienced substantial declines in fertility, but the timing of these declines has varied. Of these countries, the United States experienced the first long-term fertility decline, with that fall extending from the mid-1800s through the 1930s. Following the rise and fall of fertility after World War II, fertility in the United States has hovered near replacement level (Population Reference Bureau 2007). The fertility decline in Argentina began at the turn of the twentieth century, dropping from a total fertility rate of 7.0 in 1895 to 3.2 in 1947 (Pantelides 2006). The big declines in fertility occurred much later in China, Egypt, Iran, and Nepal, beginning only in the 1970s or 1980s (Abbasi-Shavazi and McDonald 2006; Abbasi-Shavazi et al. 2009; El-Zanaty and Way 2006; Guo and Chen 2007; Lavelly and Freedman 1990; Ministry of Health and Population, New ERA, and Macro International Inc. 2007). In China and Iran, the declines to below replacement level were especially rapid.

The circumstances of the fertility declines also varied across the six countries. The declines in Argentina and the United States occurred in the absence of a government-sponsored program to lower fertility and without most of the contraceptive devices currently available (Pantelides 2006). In fact, from the last few decades of the nineteenth through the first few decades of the twentieth centuries, birth control devices were outlawed in the United States. Abortion also was illegal in Argentina and the United States for decades and became legal nationally in the United States only in 1973 with a Supreme Court decision.

Each of the other four countries has experienced ambitious government programs to lower fertility. Family planning efforts were started in these countries as early as the 1950s, but vigorous implementation came later. In each country, a major motivation of the government program was to assist in the development of the country.

China's family planning efforts became especially powerful in the 1970s. Its one-child program, introduced in 1979, was especially strict and stemmed from the desire to develop the country (Greenhalgh 2008; Guo and Chen 2007). The Egyptian government has provided support for the provision of contraceptives at least since 1953, and the program has become more vigorous in subsequent decades, with mixed reactions to it from the population (Ali 1997; Bier 2008). In Iran, family planning

services were initiated as early as the 1950s, but the official family planning program was discontinued following the 1979 revolution. In the late 1980s, the family planning program was reinstated with support from Iran's religious leaders, and was energetically implemented throughout the country (Abbasi-Shavazi and McDonald 2006; Abbasi-Shavazi et al. 2009). Since the 1960s, family planning has been a high priority in Nepal's national development agenda, and both the government and the nongovernmental sector have operated large family planning programs.

Data Collections

The data for this paper were collected in surveys conducted between 2006 and 2009 in settings in Argentina, China, Egypt, Iran, Nepal, and the United States. Because of budget constraints and different methodological limitations in the different settings, we used different sampling and interviewing strategies in the six countries. Thus, strict comparability of results across settings is not possible; however, our goals are not to compare settings, but to see the general extent to which individuals from several settings endorse developmental idealism as it relates to childbearing.

Table 2 summarizes the basic attributes of the surveys. The universe for Argentina is urban agglomerates of 500,000 or more people. Approximately 60% of the population reside in agglomerates of that size. The China data were collected in Gansu Province, an area in west-central China with relatively low income and a large Muslim minority population. The Egyptian sample was drawn from one district in Qaliubia Governorate to the North of Cairo and one district in Fayoum Governorate to the South of Cairo. These districts were selected because they broadly represent areas in Upper (southern) and Lower (northern) Egypt, rural and urban areas, and various ethnic and religious groups. The survey in Iran was conducted in Yazd, a religious and conservative city of more than 400,000 people in central Iran. Yazd has a high level of industry and socioeconomic standing, but retains much of its historical religious and family culture (Askari-Nodoushan and Abbasi-Shavazi 2009). The Nepal survey was conducted in the Chitwan Valley in south-central Nepal. In addition to the main sample of respondents, the study included nonresident spouses of people aged 15–34 and nonresident parents of unmarried people aged 15–34. In addition, for one analysis, we used data from a pilot study of approximately 500 people conducted in 2003 in neighborhoods adjacent to those in the main study. The data collection for the United States was conducted via three separate 15-minute supplements appended to the Survey of Consumer Attitudes, a nationally representative monthly telephone survey of adults.

The survey samples were drawn using multistage sampling procedures, with probability sampling at each stage. In Argentina, however, at the last stage, households were chosen through a random walk to find an individual who fit a quota of gender and age previously locally established. The results presented in this paper are based on unweighted data for Egypt, Iran, and Nepal, and on weighted data for Argentina, China, and the United States.

Basic socioeconomic and demographic information for the individuals participating in the surveys is provided in Table 3. These data document a wide diversity of attributes both within and across the study settings.

Table 2 Characteristics of sample surveys

Countries Surveyed	Study Location	Respondent Ages	Respondent Sex	Interview Mode	Study Dates	Sample Size
Argentina	Urban agglomerates $\geq 500,000$	Adults	Both	Face-to-face	Mar–Apr 2008	1,003
China	Gansu Province	Adults	Both	Face-to-face	Oct–Nov 2007	633
Egypt	One district each in Fayoum and Qalubia Provinces	Women aged 18–54 and their husbands	Both	Face-to-face	Late 2007–early 2008	1,500
Iran	Yazd City	Married: Aged 15–54 Unmarried: Aged 15–29	Women	Face-to-face	Nov–Dec 2007	703
Nepal	Chitwan Valley	15 and older	Both	Face-to-face	Jan–Jun 2009	5,235
United States	National	Adults	Both	Telephone	Apr 2006, May 2007, Nov 2007	1,262

Table 3 Respondents' socioeconomic and demographic characteristics (percentages, unless otherwise indicated)

Respondents' Characteristics	Argentina	China ^a	Egypt	Iran	Nepal	United States
Sex (% Female)	52.6	51.3	58.3	100.0	58.0	54.7
Age						
Mean	41.6	41.5	36.0	34.9	34.6	50.0
(SD)	(16.7)	(14.1)	(11.6)	(12.4)	(13.6)	(17.7)
Marital Status						
Single	31.5	8.7	11.3	22.0	— ^b	15.8
Married or cohabiting	51.9	86.3	85.7	74.8	— ^b	62.7
Separated/divorced	10.4	0.9	1.1	0.1	— ^b	13.3
Widowed	6.1	4.1	1.8	3.0	— ^b	8.2
Education						
Never attended school			26.4	3.1	— ^b	
Below elementary	6.2	21.4	13.5	17.8	— ^b	
Complete elementary	16.0	23.0	3.5	8.8	— ^b	1.3
Incomplete high school	17.8	32.7	11.3	21.1	— ^b	5.0
Complete high school	27.3	12.0	29.1	31.6	— ^b	25.2
Superior	32.7	10.6	16.2	17.6	— ^b	
Some college, no degree						24.2
College/postgraduate degree						44.3
Religion Affiliation						
Buddhism	0.1	9.1		— ^c	12.4	0.9
Catholic	74.9			— ^c		24.1
Christian, not further specified	0.3	1.4	1.5	— ^c	1.6	5.9
Muslim		9.3	98.5	— ^c	0.3	0.8
Protestant	8.4			— ^c		53.8
Hinduism					83.7	
Other	0.4	0.8		— ^c	0.3	3.2
None/atheist/agnostic	15.2	79.5		— ^c	1.7	11.2
Importance of Religion						
Very important	33.0	12.7	99.1	— ^c	54.9	63.0
Somewhat important	47.5	13.1	0.8	— ^c	42.2	23.5
Not important at all	19.6	74.2	0.1	— ^c	2.9	13.5
Unweighted <i>N</i>	1,003	633	1,500	703	5,235	1,262

^aIn China, the education measure did not distinguish between level of education attended and level of education completed. Because most Chinese complete the level of education ever attended, the overestimation of education in this measure is small.

^bNot available.

^cQuestion not asked.

Our initial empirical work included informal discussions, semistructured interviews, focus group discussions, and a pilot survey in Nepal; less structured individual interviews, focus group discussions, and a pilot survey in Egypt;

focus group discussions and a pilot survey in Argentina; and cognitive interviews in the United States. Drawing from this experience, we constructed the questionnaires to be used in Argentina, China, Egypt, Iran, and the United States. The Nepal questionnaire was designed for somewhat different purposes and included slight variations, which we will note. The sections of the questionnaires we used can be found in Online Resource 1.

Our analysis focuses on five questions. The first question concerns the perceived association between fertility and development, which was addressed as follows: “Now, please think about what life is like today in countries that are not developed and compare it to what life is like today in countries that are developed. Please tell us whether each of the following things, in general, is more common in countries that are not developed or more common in countries that are developed.”² The item of interest here is “couples having many children.”

The second question shifted the focus from correlation to causality and asked whether people perceived fertility to be a consequence of development: “Now, please think about what life is like in a country where the standard of living is low, most people live in rural areas, and access to healthcare is poor. Suppose that country introduces a program to help make the country more developed. I will read a list of things this development program might change. For each one, please tell me whether it will increase in that country or decrease in that country once the development program has been successfully implemented.”³ The item of interest is “couples having many children.”

Our third question focused on the perceived effects of a fertility reduction program on development. We asked respondents to address the following issue: “Now, please think about what life is like today in a country where income is low, most people live in rural areas, access to healthcare is poor, and most couples give birth to at least six children. Suppose that country introduces a smaller-family-size program to encourage couples to give birth to no more than three children. I will read a list of things this smaller-family-size program might change. For each one, please tell me whether it will increase in that country or decrease in that country once the smaller-family-size program has been implemented.” The first five are things often associated with development: “overall standard of living”; “families having television in their homes”; “the fraction of children dying before their first birthday”; “being educated”; and “sick people visiting a local healer rather than visiting a medical doctor.” To obtain a broader picture of people’s views of the effects of fertility reduction programs, we asked about the consequences of a fertility reduction program for “love and understanding between parents and children” and for “respect for elders.”⁴

In the fourth question, we asked about fertility preferences with the following question: “I would like you to think about the different kinds of social and family arrangements around the world today. I am going to ask you to compare

² In Nepal, the question asked respondents to compare traditional versus developed places.

³ In Nepal, we asked about the expected consequences of Nepal itself becoming richer rather than referring to a hypothetical low-income, rural country.

⁴ In Nepal, we asked about the “future of wealth” rather than “standard of living,” and about “respect for parents or in-laws” rather than “respect for elders.”

a variety of social and family arrangements. Please tell me overall which one you think is better for most people around the world today.” The relevant item here is “having one child or having three children.”

Finally, to explore the extent to which people see the world as dynamic and moving in a modern direction, we asked respondents to think about the future in their own countries: “Now please think about the next twenty years in (COUNTRY). Do you think (ITEM) will increase or decrease in (COUNTRY) during the next twenty years?” This question was immediately followed by this question: “If (ITEM) does (increase/decrease) overall, will that be a good thing, a bad thing, or won’t it matter?” If the respondent said that the particular item was going to increase in her/his country, she/he was asked to evaluate that increase. If the respondent thought that a particular item was going to decrease, she/he was asked to evaluate that decrease. The item we analyze here is “on average, the number of children a woman gives birth to.”

Results

Table 4 shows the percentage of respondents who answered that high fertility is more common in undeveloped countries (Panel A), that development would decrease fertility (Panel B), that family planning programs improve society (Panel C), that having one child is better than having three (Panel D), and that fertility will decrease during the next two decades (Panel E). This dichotomization of responses is appropriate in most cases because most respondents who did not give the highlighted response gave the opposite response. However, in a few cases, especially in Argentina, substantial numbers of respondents gave “in-between” responses of “no difference,” “no change,” or “no preference.” We note in Table 4 the instances when such in-between responses exceed 10%.

Perceived Association Between Fertility and Development: Developed vs. Undeveloped Countries

The first row of Table 4 shows people’s perceptions of the association between fertility and development. Consistent with the developmental idealism hypothesis that people see development and low fertility as correlated, the vast majority of respondents in all settings said that having many children is more common in undeveloped places than in developed places. The percentage of respondents with this view is 75% or higher in each setting and is 88% or more in all countries except Nepal and the United States.

Perceived Effects of Development on Fertility

We now shift our focus from association to causality and the question asking respondents their views of the effects of changes in development on fertility. Again, consistent with developmental idealism, the vast majority of all respondents, between 73% and 95% in each setting, said that they believe development reduces fertility (Panel B, Table 4).

Table 4 Percentage of respondents endorsing various views of developmental idealism as related to fertility

	Argentina	China	Egypt	Iran	Nepal	United States
A. Perceived correlation between fertility and development						
Couples with many children are more common in not developed countries	88.3	89.7	94.5	95.1	74.7 ^a	78.1
B. Perceived effects of development on fertility						
Development would decrease couples having many children	73.1 ^b	95.0	79.9	89.9	82.7	75.3
C1. Perceived effects of fertility reduction program on development						
Increase the standard of living	83.7	98.6	92.4	94.5	94.0	83.9
Increase the fraction of families having television at home	57.3 ^b	98.5	84.8	72.0	96.6	83.3
Increase the fraction of people being educated	82.8 ^b	96.4	93.0	94.5	98.3	91.0
Decrease infant mortality	88.6	98.1	86.6	89.2	86.2	86.2
Decrease the number of sick people consulting healers	76.1 ^b	— ^c	91.5	— ^c	93.4	76.8
C2. Perceived effects of fertility reduction program on intergenerational relations						
Increase love and understanding between parents and children	57.4 ^b	86.3	85.6	82.9	— ^c	78.8
Increase respect for elders	51.2 ^b	78.9	86.3	63.7 ^b	75.9	60.3 ^b
D. Fertility preferences						
It is better, for most people, to have one child than to have three children	31.6	79.0	16.3	36.0	60.9	43.0
E. Expectations about future fertility trends						
Fertility will decrease in my country during the next 20 years	49.7 ^b	94.4	71.9	91.4	78.8	74.2

^aBased on the survey collected in 2003; the question asked respondents to compare traditional versus developed places.

^bCategory “about the same/neither/same” was chosen by 10% or more of respondents.

^cQuestion not asked.

Perceived Effects of Fertility Reduction on Development and Intergenerational Relations

We next reverse the causal arrow between development and fertility by focusing on perceptions of the effects of a fertility reduction program on things commonly associated with development (Panel C1). Consistent with the expectations of the developmental idealism model, the vast majority of respondents in all settings indicated that the standard of living, availability of television, and education would increase with the introduction of a fertility reduction program (Panel C1, Table 4). These views are particularly predominant for standard of living and education, two of the central elements commonly associated with development. Between 83% and 99% reported that a fertility reduction program would increase these two outcomes. Except for China and Nepal, the fraction saying that a fertility reduction program would increase the availability of television is lower than the fraction saying that such a program would increase education and the standard of living.

Table 4 also indicates widespread endorsement of the idea that a fertility reduction program would produce a decline in infant mortality and a shift from local healers to medical doctors (Panel C1). Between 86% and 98% said that a fertility decline would lead to a decline in infant mortality, and between 76% and 93% indicated that a fertility decline would shift the practice of healing from local healers to medical doctors.

Although differences in the surveys prevent us from making definitive comparisons across settings, we note that endorsement of the positive causal influence of fertility reduction programs is especially high in our setting in China. For each item in the Chinese survey, a minimum of 96% expected that fertility reduction would move society toward development.

Although the percentage of Argentinian respondents who indicated that family planning programs bring most aspects of development is similar to that in the other countries, they are less likely than others to say that family planning programs would increase the availability of television (57%). However, only 4% of Argentinian respondents said that family planning programs would decrease the availability of television (not shown in tables).

As noted earlier, we also asked about the consequences of a fertility reduction program for “love and understanding between parents and children” and for “respect for elders” in order to ascertain a broader view of perceptions of the consequences of fertility declines (Table 4, Panel C2). The perceived consequences of a fertility reduction program on intergenerational relations are less positive than the perceived effect on the items commonly associated with development. However, between 57% and 86% said that a reduction in fertility would increase love and understanding, and between 51% and 86% said that it would increase respect for elders.

Endorsement of the positive effects of a fertility reduction program on intergenerational relations appears to be weakest in Argentina, with only slight majorities saying that the quality of intergenerational relations will increase with fertility reduction in low-income countries. However, only 4% to 6% of Argentinian respondents said that a family planning program would decrease love and understanding or respect (not shown in tables).

Fertility Preferences: Having One vs. Three Children

Panel D of Table 4 reports the answers to the question about the choice between having one and three children. In interpreting these responses, it is important to recognize that for most of world history, the number of children born was considerably higher than three. Thus, we did not ask people to choose between low and high fertility, but between very low and low fertility.

Having one child as opposed to having three children is endorsed by the majority in only two settings: the study sites in China and Nepal. Nearly four-fifths of Chinese respondents and three-fifths of Nepalese respondents endorsed having one child rather than three. The next-highest endorsement for one child over three is in the United States, at less than one-half. In Argentina and Iran, about one-third endorsed one child over three; and in Egypt, this figure is only about one-sixth.

Expectations About Future Fertility and Evaluation of Expected Fertility Trends

Panel E of Table 4 reports data from questions asking about the future. With the exception of Argentina, a substantial majority (72% or greater) said that fertility will decline in their countries. These data are consistent with expectations that the developmental model portrays a picture of a world moving in the direction of development and lower fertility. For respondents in China and Iran, 94% and 91%, respectively, expected a fertility decline; these are substantial expectations for fertility decline, especially since these countries currently have below-replacement fertility. China and Iran also contrast with Argentina and Egypt, where fertility levels are higher but expectations for future declines are smaller.

In Argentina only 50% of the respondents said that they expected fertility to decline in the next 20 years. In addition, 29% said that they expected fertility to increase during the next two decades, and 21% said that they expected fertility to stay about the same (not shown in tables).

Table 5 shows evaluations of the desirability of expected changes in fertility. The top panel indicates, for those respondents who expected a decline in fertility, the distribution of answers evaluating such a decline. Similarly, the bottom panel indicates, for those respondents who expected an increase in fertility, the evaluations of such an increase. Because of the small number of Chinese and Iranians expecting a fertility increase, we do not show their evaluations of an increase; and Nepalis were not asked to evaluate a fertility increase.

Table 5 shows substantial variance in the evaluations of fertility change across the settings. U.S. respondents are the most split in their opinions about future trends in fertility. Less than one-half of the U.S. respondents who thought that fertility would decrease evaluated this positively. Among those who expected an increase in fertility, the percentage saying that this increase would be a bad thing (32%) is nearly counterbalanced by the percentage saying this increase would be a good thing (24%); another 45% said that it would not matter.

Table 5 Percentage distribution of respondents' evaluations of fertility trends

	Argentina	China	Egypt	Iran	Nepal	United States
Evaluations of People Expecting a Fertility Decrease						
It will be a good thing	56.7	92.2	88.5	68.7	79.3	46.9
It will not matter	26.2	0.9	1.9	11.4	12.0	35.1
It will be a bad thing	16.3	6.8	9.6	19.9	8.7	17.4
Evaluations of People Expecting a Fertility Increase ^a						
It will be a good thing	13.9		15.1		— ^b	23.5
It will not matter	24.4		3.9		— ^b	44.8
It will be a bad thing	61.5		81.0		— ^b	31.7

Note: Because of the small number of Chinese and Iranians expecting a fertility increase, we do not show their evaluations of an increase.

^aThe percentage of respondents saying that they expected a fertility increase was 29%, 5%, 26%, 7%, 20%, and 18%, respectively, in Argentina, China, Egypt, Iran, Nepal, and the United States.

^bQuestion not asked.

Argentinian respondents indicated somewhat more positive attitudes toward future fertility declines and somewhat less positive attitudes toward fertility increases. Of those expecting future fertility declines, nearly 60% evaluated this trend as positive. Somewhat more than 60% of those who expected a fertility increase evaluated this trend negatively.

In the other settings, positive endorsements of fertility declines are even greater than in Argentina. More than two-thirds of Iranians who expected a fertility decline evaluated this positively, and only one-fifth evaluated it negatively. In Nepal, 79% of those who expected a fertility decline said that this would be a good thing; the corresponding percentages in China and Egypt were 92% and 88%, respectively. Only 10% or fewer of Chinese, Egyptians, and Nepalese expecting a fertility decline said that this would be a bad thing. The high endorsement of a fertility decline is particularly noteworthy in China, where fertility already is very low. In Egypt, more than four-fifths of the minority who said fertility would increase said this would be a bad thing.

Conclusions and Discussion

This paper was motivated by the idea that fertility declines in many places have been motivated, at least in part, by developmental idealism, a schema suggesting that social change is ubiquitous, modern societies and modern fertility are good, modern societies are causes and effects of modern fertility, and freedom and equality are fundamental human rights. We believe that these ideas have been spread widely and have been important in many fertility declines.

This schema of developmental idealism is certainly applicable to international family planning programs, since it both motivated these programs and was spread by them. The main contribution of this paper, however, goes beyond family planning programs in examining the extent to which the elements of developmental idealism have spread to, and are accepted by, ordinary people. Although we are interested in developmental idealism and fertility worldwide, we studied only six countries, preventing the study's direct generalizability to other countries. In addition, in five of the countries, we included only certain regions, provinces, or cities, thereby restricting our ability to generalize to national populations. Nevertheless, we have data from six scattered and diverse settings that provide evidence about our theoretical propositions.

The data provide strong support that the ideas of developmental idealism have been widely disseminated to ordinary people in our six settings. The vast majority said that low fertility is a feature of developed societies, that development is a causal force reducing fertility, and that lower fertility fosters development. Majorities also indicated that fertility reduction improves intergenerational relations. With the exception of Argentina, substantial majorities expected future declines in fertility; and, with the exception of the United States, substantial majorities evaluated future declines in fertility positively and future increases in fertility negatively. Furthermore, the vast majority of Chinese and Nepali respondents indicated that having one child is preferable to having three. In the United States, nearly one-half expressed similar sentiments; and in Argentina, Egypt, and Iran, between one-sixth and one-third endorsed having one child over having three.

The existence of vigorous family planning campaigns in several of our study populations raises the possibility of social desirability bias in respondents' answers. The presence of such programs may lead people who understand but do not believe the messages to repeat them to interviewers in order to look good or avoid criticism. If this mechanism is widespread, the expressions of support for the ideas of developmental idealism may represent, in part, efforts to please the interviewer rather than an endorsement of the ideas.

We do not know whether answers to our questions represent only knowledge of ideas and a desire to look good in the context of the interview, or some combination of these with actual beliefs. However, the findings are important even if the expressed support for developmental idealism comes entirely from respondents knowing the ideas and wanting to look good to interviewers. At a minimum, the answers suggest that people know about the messages of developmental idealism and perceive them to be socially desirable. This interpretation would indicate that the messages have been widely disseminated with a very positive valence and are available for guiding decisions.

Although the possibility of social desirability effects on responses cannot be eliminated, we believe that the ideas are not only widely known but believed at some level by many people. This interpretation is supported by the qualitative interviews, focus groups, and informal discussions that we have had in many of our research settings. Of course, social desirability can also influence discussions in those data-gathering formats.

Although our research was motivated by the idea that the spread of developmental idealism has been an important influence on trends in childbearing, our data cannot demonstrate causal influence. Our data are very recent and cannot be used to establish a causal influence of the schema on past declines in fertility. However, the data do indicate that the ideas of developmental idealism have been disseminated widely among people living in several diverse settings and, at a minimum, are available to influence behavior.

It is also worth mentioning the obvious point that our data do not indicate when developmental idealism became widespread. These ideas may have arrived immediately before the surveys, but that possibility is unlikely. It has been argued elsewhere that the ideas of developmental idealism have been widespread among the elites of the Western world for centuries and among other elites for decades, if not a century or more (Thornton 2005). We also know that these ideas have been disseminated, sometimes vigorously, at the grassroots levels through many mechanisms. This awareness leads us to believe that developmental idealism has been increasing in both knowledge and acceptance for at least several decades and may have been an important factor in the fertility declines of these countries.

The ways in which developmental idealism has influenced fertility declines probably varies across settings because the timing and circumstances of the declines vary. In China, Egypt, Iran, and Nepal, the fertility declines occurred during the last several decades and in the presence of vigorous family planning programs that actively spread the messages of developmental idealism. These considerations give credence to the belief that these messages of developmental idealism were factors in the fertility declines of recent decades.

Although the fertility declines in Argentina and the United States began without governmental family planning programs, from the Enlightenment onward, some

writers have written that low fertility and low rates of population growth were factors producing human well-being and development (Thornton 2005). It is also likely that the developmental idealism proposition that freedom is a human right was relevant to the marital fertility declines in northwest Europe, the United States, Argentina, and other places that experienced early marital fertility declines. We know that the idea of freedom was a fundamental element of the Enlightenment as well as the French and American Revolutions and was widespread in the Western world. Ron Lesthaeghe and colleagues have argued that secularization and the decline of the influence of the church played an important role in declines in marital fertility in Belgium and elsewhere (Lesthaeghe 1977; Lesthaeghe and Wilson 1986). Secularization was important because it helped weaken the restrictions of the church against married couples interfering with conception.

Of course, coercion and the lack of freedom can work in multiple directions. Coercion can keep fertility high when it restricts the use of birth control devices, but it can lower fertility when couples are forced to control births against their will. The coercive dissemination of ideas about development also may lead to latent or overt ideological resistance and adherence to indigenous cultural models (Yount and Rashad 2008; Yount et al. 2010). Thus, the effects of coercion and freedom depend on the context and direction of coercion and its relaxation.

It could be argued that individuals make fertility decisions based only on their views about how having another child will influence the well-being of themselves and their families, and not on their views of the development-fertility relationship at the national level. Although this perspective has merit, messages about the relationship between fertility and well-being apply at both the macro and micro levels; moreover, some multilevel schemas have framed controlled fertility as an individual citizen's duty to the nation (e.g., Pollard 2003). Thus, the views that people have of fertility-development relationships at multiple levels can easily be applied to the micro-level decisions they make.

We know that the presence of the ideas of developmental idealism with the declines of fertility does not prove that the ideas caused the behavior. One possibility is that the ideas are causally impotent consequences of other causal factors, and that it was the provision of family planning services, changing socioeconomic structures, and/or other ideational forces that caused the fertility declines.

Another possibility is that the ideas of ordinary people about the relationships between development and fertility are not learned from the messages they receive, but are produced by people drawing their own conclusions about such relationships from observed trends. More specifically, people might see in their own or another country that fertility fell while economic output increased and infer a causal relationship between the two. This observation could have occurred in all of our study settings, but especially in China, which recently experienced both rapid economic growth and rapid fertility decline.

Another possibility is that people make their conclusions about fertility and development based entirely on their personal and familial experiences. That is, people observe their own lives and the lives of their family members and neighbors and make inferences about how fertility and well-being are interrelated without any reference to the larger community or to external messages.

The multiple possible causal mechanisms are not necessarily mutually exclusive or contradictory. In some cases, these mechanisms may indeed coalesce in intricate,

mutually reinforcing ways. For example, it is likely that the strong correlation of economic growth with fertility decline in China in recent decades reinforced the strong messages of the Chinese government about the connection between the two. It is also likely that the ability of ordinary Chinese people to see the temporal correlation between lower fertility and economic growth is greatly enhanced by the government messages proclaiming such a causal direction.

Although personal experience and observation may have played some role in the adoption of developmental idealism, it is undeniable that very large sums of money have been spent on family planning programs in the last several decades, with the explicit intent to promote the idea that lower fertility is a desirable way to achieve development. The money spent on these campaigns is no indicator of exposure to and endorsement by ordinary people, but such campaigns are likely to have had an effect.

The implications of our findings are not limited to understanding past fertility trends; they also help in contemplating future trends. The apparently strong commitment of ordinary people to developmental idealism suggests that this ideational force will be supportive of continuing fertility declines, even among populations that currently have below-replacement fertility.

Although we argue that developmental idealism has likely influenced fertility trends in the past and will affect trends into the future, we make no claim that it is the only force influencing fertility trends. In fact, developmental idealism interacts with changing social and economic structures and material conditions to influence decisions about childbearing and related factors.

We close by noting that research about developmental idealism is very new and much more research concerning it is needed. We have conducted research in a limited number of countries and recognize the need to collect similar national data in other settings. Particularly needed is the addition of countries with very low fertility and countries where fertility is still rather high. It is also important to understand the factors producing differences in developmental idealism across settings, considering a range of factors, including histories of family planning programs, institutional structures, competing schemas, material conditions, and susceptibilities to social desirability bias.

We also recognize the need for more evaluation and methodological work concerning the measurement of developmental idealism and how to interpret the resulting data. The interpretation of answers to complex questions about knowledge and beliefs is difficult, and it would be useful to know the extent to which answers to our survey questions result from respondents knowing and providing socially acceptable answers or result from both personal knowledge and belief. It also is important to learn why some elements of developmental idealism are more strongly endorsed than others and to measure the strength of beliefs as distinct from social desirability bias.

Also important are data and analyses examining the factors and processes producing acceptance, rejection, or modification of the ideas of developmental idealism. Important here are the roles of education, the mass media, governmental programs, family and individual experiences, and other forces in bringing knowledge and acceptance or rejection of developmental idealism. We also need research examining how and under what social, economic, and environmental circumstances such ideas influence actual levels and trends of fertility. The findings of this paper suggest that further research on these issues will be valuable.

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