

WORLD CULTURE AND INDIVIDUAL LIFE COURSE

by

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To Annie

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ABSTRACT

This dissertation consists of three studies on world culture and the individual life course. The first study (Chapter 2) accesses the grassroots-level prevalence of world culture's schema of national development. Using survey data from the Developmental Idealism project, I find substantial similarities among the national developmental hierarchies constructed by respondents in eight culturally diverse countries, which strongly conform to the versions based on the United Nations' Human Development Index. Furthermore, such conformity is positively associated with one's educational attainment and the number of international organizations in one's country.

The second study (Chapter 3) continues to examine the role of developmental thinking in the making of family values. Using data collected in Gansu Province in China, I show that individuals' endorsement of neolocal residence, self-choice marriage, gender egalitarianism, late marriage for women, and low fertility depends on the conjunction of preference for development and beliefs in its association with those family attributes. In addition, the impact of developmental thinking on family values holds robust in the presence of local Islamic religion and does not differ significantly between Muslims and non-Muslims.

The third study (Chapter 4) examines the opportunity structure of adult higher education which accounts for at least 40% of China's college credentials production. Using retrospective life histories from the 2003 Chinese General Social Survey, I find that while family obligations

(i.e., marriage, parenthood) prevent people from attending colleges at ages 18-45, having a job increases the hazard of going back to college. The positive effect of work, however, is entirely attributable to institutional sponsorship based on affiliations with Party/government agencies and state-owned professional services, cadre leadership, and Party membership. I also find that the state sponsorship became even stronger in the post-1978 Reform era.

CHAPTER 1

Introduction

My dissertation research is driven by an interest in understanding the worldwide convergence toward the Western life course model, such as prolonged education, late marriage, neolocal residence, and low fertility. I am particularly interested in the role of the idea of societal development in facilitating such behavioral changes. The three studies of my dissertation examine, respectively, the international prevalence and diffusion of developmental thinking, its influences on attitudes toward family matters, and higher education in the presence of alternative adulthood engagements.

Chapter 2 of my dissertation assesses the degree of consensus on national developmental hierarchies perceived by individuals in eight culturally diverse countries. Using data from the Developmental Idealism project, I find substantial similarities among respondents' evaluations of different countries' levels of development. In general, respondents' evaluations strongly conform to the United Nations' Human Development Index (HDI), and such conformity is positively associated with one's educational attainment and the number of international organizations in one's country. I draw on the world society theory and argue that, through formal education and international association, the world culture script of national development (as represented by HDI) gives rise to a standardized worldview at the individual level. While

developmental thinking has been well documented at the nation-state and organizational level, this paper is the first study of its prevalence and diffusion at the individual level. The implication is that, as common people around the world agree on which countries are more developed, social attributes of those countries are likely to be endorsed and adopted.

In Chapter 3 I investigate the influence of developmental thinking on family matters in the context of contemporary China. Specifically, I ask if the endorsement of development leads to the endorsement of certain family attributes that are believed to be common in more developed countries. Using data from a DI survey in Gansu Province, China, I ascertain that positive views of development increase the likelihood of endorsing neolocal residence, self-choice marriage, gender equality, and fewer children. Furthermore, these positive effects are robust in the presence of local Islamic beliefs, which operate in the opposite directions. In this study, I apply a version of the expectancy-value model in psychology to articulate how the formation of various family values hinges on the unifying idea of development.

Chapter 4 is a historical analysis of Chinese adulthood higher education (AHE). While direct progression from secondary to tertiary education was never universally successful, many who missed their first opportunities managed to resume higher education at older ages. This chapter, for the first time, examines Chinese people's life course dynamics in AHE enrollment. Using life history data from Chinese General Social Survey 2003, I found that while marriage and parenthood reduced the likelihood of AHE enrollment, employment had a positive effect, which went beyond simple life course logics and found an institutional explanation in work-based state sponsorship (i.e., affiliations with Party/government agencies and state-owned

professional services, cadre leadership, and Party membership). Furthermore, certain institutional effects became stronger in the context of educational expansion during the post-1978 reform period—a finding consistent with previous research on China’s institutional changes as well as the “maximally maintained inequality” proposition in the literature on educational stratification.

CHAPTER 2

World Culture at Individual Level:

Individual Conformity to the Schema of National Development

2.1 Introduction

A theory of world society has been articulated (Krücken and Drori 2009; Meyer et al. 1997a) and used to account for many global-scale phenomena in contemporary times, such as state organizational isomorphism (Meyer et al. 1997a), rise of international non-governmental organizations (Boli and Thomas 1997), mass schooling (Meyer et al. 1992), expansion of higher education (Schofer and Meyer 2005; Frank and Meyer 2007), dissemination of environmentalism (Longhofer and Schofer 2010; Meyer et al. 1997b), diffusion of human rights (Koo and Ramirez 2009), and spread of family and individual attributes defined as modern (Meyer 1986, 1988; Thornton et al. 2012c). Under the world society framework, these processes of globalization are conceptualized as enacting various cultural models of a world society (Boli and Lechner 2001, 2008; Lechner 2009).

While most empirical research in the world society literature was conducted at nation-state or organizational levels, it has been theorized that world cultural models have been disseminated and enacted globally at both macro and micro levels (Meyer et al. 1997a). Proponents of world society theory have maintained a clear emphasis on the

importance of individual actorhood (Frank and Meyer 2002; Frank et al. 1995; Meyer 2010; Meyer and Jepperson 2000; Thomas et al. 1987)—it has been theorized that in the post-war period, individuals were empowered by the idea of the “legitimated self” and have replaced states, corporations, and other elite organizations to be the ontological foundation of the new world society (Meyer 2010). This paper seeks to expand world society scholarship by assessing and understanding the impact of world culture at the individual level. Specifically, we investigate lay people’s conformity to world culture’s schema of national development.

Development has a central place in world culture’s scripts for nation-states (Meyer et al. 1997a). To illustrate how world culture gives rise to similar national orders and isomorphic changes in different countries, Meyer et al. (1997a: 145-146) hypothesized a newly discovered island society and predicted that “...*without knowing anything about the history, culture, practices, or traditions that obtained in this previously unknown society, we could forecast many changes that, upon ‘discovery,’ would descend on the island under the general rubric of ‘development’.*” In other words, the notion of development yields a highly rationalized and teleological worldview which prescribes the trajectory of societal change. As states, organizations, and individuals are constructed to accept that all countries should and would progress from “undeveloped” origins to “developed” status, which has clearly defined societal characteristics, this idea unleashes powerful agency that leads—at least partially—to global convergences toward various developmental goals of modern nation-states, including bureaucratic governance, connections to world society, scientific research, mass education, human rights, and so on.

The global diffusion of and consensus on national developmental ideals since WWII have been documented at nation-state and organizational levels (e.g., Chabbott 1999).

However, institutional authority is not equal to individual prevalence. It is therefore important to empirically assess to what extent the ideas of lay people in different parts of the world are constructed by world culture's schema of national development—after all, it is individuals, more so than elite organizations, that constitute the ontological basis of the increasingly stateless world society (Meyer 2010; Meyer et al. 1987).

In this sense, this paper makes distinct contributions to world society scholarship by examining whether and how individual actors are influenced by the world culture. We do so by comparing lay respondents' evaluations of national development of certain countries to those offered by the world culture. We also investigate how the outcome depends on major diffusion mechanisms of the world culture.

2.2 Conceptual Framework

2.2.1 Historical Versions of Societal Development

World culture is not the only or the first script that defines societal development. The conceptualization of development, or progress, has existed across people, space, and time (e.g., Nisbet 1980; Sanderson 1990; Sztompka 1993; Thornton 2005: 13-44). Explicit ideas of societal development can be traced back to Western classical thoughts. The ancient Greeks typically imagined a model of cyclic history where individual societies went through birth, maturation, decline, and death—a simple metaphorical inference

from the individual life-cycle (Thornton 2005: 16). However, the notion of linear progress was already seen in the work of such major thinkers as Plato (c. 428-427 BC), Aristotle (384-322 BC), Lucretius (c. 99-55 BC), and Seneca (c. 4 BC-65 AD) (Nisbet 1980: 10-46). A key assumption that was articulated by Greco-Roman thinkers was the *perfectibility* of human conditions (i.e., politics, economy, culture, and social organization) through human efforts (Sztompka 1993).

In the Judeo-Christian tradition, which was heavily influenced and best represented by the work of St. Augustine (354-430 AD), the earthly history (i.e., before the Judgment Day) is destined to be a non-repeated progressive journey of all humanity through distinct stages toward an earthly paradise in the future. In this and various versions of millennialism in many centuries to come, human development has become an *inevitable* course of history determined by the universal power of God.

The Greek human-based historical models were typically subject to degeneration as in individual life-cycle, while the optimism of linear progress was mainly a product of Christian faith. However, since medieval times a reasoning of linear societal development had been championed on the basis of continuous accumulation of human knowledge (e.g., Roger Bacon in the 13th century), which was believed to transcend individual life and is not bound to the fate of human demise. Though individuals die, mankind, declared many Enlightenment thinkers, would never degenerate. In other words, the basis of societal development was now shifting from divine providence to human genius. Although many developmental models conceived during this period remained part of the Divine Plan, relatively secular utopian ideals began to gain

increasing attention, famous examples including *The City of the Sun* by Tommaso Campanella (1568-1639) and the “universal history” by Turgot (1727-81). This trend of secularization culminated in Condorcet’s (1743-94) *Sketch for a Historical Picture of the Progress of the Human Spirit*. The book formulated a nine-stage schema of historical development leading to an auspicious future of freedom, equality, and justice, which, importantly, was determined by knowledge and human nature rather than any godly forces (Baker 2004).

The 19th century is regarded as an era of triumph of the idea of development—at least among elite intellectuals in Western Europe. Its central story—advancement in human conditions—was being convincingly proven by everyday experience during the political and industrial revolutions in the 18th and 19th centuries. Such credibility greatly enhanced the teleological power in the idea of development and made it a popular tool of argument or advocacy. For example, Auguste Comte (1798-1857) promoted a positive science by associating it with human development; Herbert Spencer (1820-1903) used it to exemplify an “evolutionary” view of society whose essence was structural and functional differentiation, a view to which Emile Durkheim (1858-1917) also adhered; Karl Marx (1818-83) also built teleological development into his historical materialism and called for communist society.

Clearly, teleology so far had been a persistent trait of developmental stories—religious or secular. Another feature, which became increasingly salient since geographical discoveries, has been the ethnocentric assumption that all human societies would pass through the same developmental trajectory as had the “developed” Western

countries, albeit at different rates (Thornton 2005). This seemingly parsimonious developmental paradigm offered a convenient explanation for the observed heterogeneity between societies (or nation-states as they later “developed” into)—that they were simply at different stages of development. By thinking so, the qualitative differences among societies were all boiled down to a single (though composite) scale of development. Developmental thinking had thereafter become, at least partially, a hegemonic discourse and been used to deprive non-Western societies of their cultural identities and to force global convergence toward the Western model.

2.2.2 World Culture’s Rationalization of National Development

Contemporary scholarship has critically reflected on the historical influences of the idea of development or modernization in recent centuries (Amin 1989; Baker 1998; Bock 1956; Böröcz 2000; Böröcz and Sarkar 2005; Chakrabarty 2000; Comaroff and Comaroff 1992; Hodgson 1964; Jennings 1975; Mandelbaum 1971; Nisbet 1969; Szreter 1993; Tilly 1984; Wallerstein 1991). Along with its teleology and uniformity assumptions, the developmental model has been a popular tool of persuasion. It has been manipulated by proponents of racism, radical nationalism, and totalitarianism, to have resulted in, at least in part, colonial and racial injustice, world wars, economic depressions, despotic regimes, depletion of natural resources and other contemporary problems.

After the WWII, instead of being wholly rejected, developmental model gained a new life in the world culture of the post-war era. Development as an essentialized

unilineal form was largely preserved. Its teleology, though widely discredited in academic thoughts (e.g., Nisbet 1969; Popper 1957, 1971; Thornton 2005; Tilly 1984; Wallerstein 1991), remained traceable in the foregrounds of social policy and lay understanding (e.g., Allendorf 2013; Chabbott 1999; Ferguson 1999; Latham 2000; Osella and Osella 2006; Pigg 1992). Its obviously harmful implications (e.g., racism, radical nationalism) were removed, with its content now concentrated on values that were believed to be universal to all mankind—values such as health, literacy, and standard of living (e.g., Sen 2000; United Nations Development Programme 1990-2013). In addition, the new conception of national development left cultural idiosyncrasies out of its scope—that is, development remains a single dimension, but it represents universal human wellbeing and does not claim to reduce everything to this single dimension.

To sum up, today's schema of national development can be understood, in a social scientific manner, as a continuous or at least ordinal variable. The unit of analysis is usually the nation-state (but see Frank et al. 2000). Though stagnation and retrogression are allowed as undeniable empirical facts, there is usually strong advocacy for forward movement, sometimes with a teleological rhetoric. As a composite dimension, national development addresses the welfare of the people, such as longevity, education, and material well-being, which are assessed with social scientific data provided by national accounting systems. Nevertheless, plenty of social attributes that have no intrinsic relations with human welfare have taken free rides with the idea of societal development, including but not limited to familial attributes like later marriage and low fertility (Thornton 2005; Thornton et al. 2012a, c), and even income inequality

(Xie et al. 2012). As it was explicitly rationalized on the basis of public good and social science, this schema of national development has become a central part of the culture of a new world society during the post-war era (Meyer 2010).

2.2.3 Individual-level Prevalence

Today's schema of national development is clearly a human construct. However, once formed, the idea transcends particular individual agents and acquires its own life. We argue that the schema of national development is now prevalent on a global basis as part of world culture. World society theory is strongly predictive of consensus and homogenization (Meyer et al. 1997a). Resting on the tradition of sociological institutionalism which assumes the primacy of contextual influences of macro environment, world society theory champions causal attributions to macro-level cultural processes. Essentially, it posits worldwide subsistence of various highly rationalized cultural models (e.g., schema on national development, but also those on nature, national order, human rights, and life course), which provide identities, legitimacy, blueprints, and guidelines for actors at different levels (i.e., nation-states, organizations, individuals) around the world. As actors are all embedded in and trained by the same exogenous world culture, they are predicted to show a considerable amount of agreement upon the nature and value of major substantive matters.

Such consensus, of course, does not mean complete homogeneity and often is in principle only—when local actors' motivations conflict with world culture principles,

decoupling between purpose and practice is common (e.g., Hafner-Burton and Tsutsui 2005; Levitt and Merry 2009). However, for the most part, as world culture gained great institutional authority in most countries (e.g., law, public policy, school curriculum, INGO advocacy), its cultural models have constructed similar realities across the world. For example, researchers have found worldwide similarities in missions and structures among state organizations (Meyer et al. 1997a) and international associations (Boli and Thomas 1999); also, there have been extensive adoptions of mass schooling (Meyer et al. 1992), population control policies (Barrett and Frank 1999), and human rights principles (Elliot 2007; Koo and Ramirez 2009).

Specifically, the rise and prevalence of national development model among states and organizations has been well documented (e.g., Chabbott 1999; Hall 1989; Latham 2000). We now go further down to the individual level and propose the following hypothesis according to the theory.

***Hypothesis 1:** In general, individuals around the world show strong conformity to world culture's schema of national development, though considerable amount of heterogeneity exists.*

2.2.4 Mechanisms of Diffusion

In the world society literature, the two topics that have been most written on were education and organization (Cf. bibliography compiled by Boli et al. 2009). What make them special are their crucial roles in bridging world culture scripts and the actors (Meyer

2009: 46). In other words, it was through educational and organizational pathways (among others) that world culture exerted influences on various actors at different levels. Mass education, which itself is an enactment of world culture and thus highly globalized and isomorphic (Schofer and Meyer 2005; Frank and Meyer 2007; Meyer et al. 1992), was found to have adopted similar curricula in many diverse countries (Benavot 1992; Kamens et al. 1996; McEneaney and Meyer 2000). Besides a scientific understanding of nature, school curricula also cover materials that reflect social rationality and public good (e.g., Cha et al. 1988; Meyer et al. 1992; Wong 1991), such as more inclusive world history (Frank et al. 1994; Frank et al. 2000), international communication (Cha 1991), individualism (Meyer 2006), and human rights (Ramirez et al. 2006; Suárez 2007). In particular, the rationalized schema of national development, as a central concept in world culture, has been tightly associated with education (Chabbott 2003). Given the population coverage, formal education is likely to be the most penetrative mechanism that distributes world culture's schema of national development among ordinary individuals around the world, which leads to our second hypothesis:

Hypothesis 2: School education increases one's conformity to world culture's schema of national development.

Besides education, an equally dramatic and standardized expansion has taken place in the field of international organizations (Boli and Thomas 1997; Drori et al. 2006). Established on hyper-rationalized world culture principles, they permeated through national boundaries and spread ideas, resources, and actions among participatory individuals (e.g., Boli and Thomas 1997). Such international associational processes had

been particularly active under the theme of national development (Chabbott 1999). In terms of influence, it was argued that corporate structures of state bureaucracies, business companies, and families all have declined relative to this society of international organizations. Of course, international organizations are not possibly comparable to education in individual-level density of influence—most people go to school but only a fraction of people are directly involved in international organizations’ activities. Therefore, while education functions directly on individuals, international organizations are usually conceptualized at the country level as the country’s linkage to the world society, which then influences individuals living in that country in a cross-level manner (Givens and Jorgenson 2013; McAdam and Rucht 1993; Meyer et al. 1997a: 161).

Hypothesis 3: The country’s connection to world society, as operationalized as population-adjusted number of international organizations, positively influences its citizens’ conformity to world culture’s schema of national development.

2.3 Data and Methods

2.3.1 Data

We use data from an international survey program referred to as Developmental Idealism Studies (Thornton et al. 2010). One of the main purposes of the program is to examine the understanding of development by common individuals in different societies. Our analysis is based on twelve studies in eight diverse countries, including Argentina,

Bulgaria, China, Egypt, Lebanon, Malawi, Saudi Arabia, and the U.S. All studies were conducted between 2006 and 2011, yielding nationally representative adult samples except for Argentina, China, and Malawi. In Argentina, the sampling frame included urban agglomerates with at least 500,000 residents. In China, a random sample was collected in Gansu Province. The Malawi sample consists of male respondents only, who were mostly married and living in rural Kuntumanji in Zomba District. National studies were done twice in Lebanon in 2008 and 2011, and twice in the U.S. in 2006 and 2007. In Bulgaria, three versions of questionnaires were randomly administered to three national samples of equal size, yielding three independent samples (see Melegh et al. 2012). The sizes of raw country samples vary from 336 (Bulgaria samples) to 3,496 (Egypt) and add up to 16,156 cases in total. After data restriction, the analytic country sample sizes range from 199 (Bulgaria) to 2,818 (Lebanon 2008). Collectively, the pooled analytic sample contains a total of 13,851 individuals. Descriptive statistics of all twelve study samples are summarized in Tables 2.1a.

[Table 2.1a]

2.3.2 Dependent Variables

The major concept of interest of this paper is individual conformity to world culture's schema of national development. As a relational concept, its measurement necessarily involves two pieces of information—individual perception of national development around the world and the world culture version. The first component can be directly

obtained from Developmental Idealism Studies. We posit that lay people generally assume an essentialized, one-dimensional, and quantitative understanding (i.e., one single continuous variable) of national development. To reveal such understanding, in each study the respondents were asked to rate the levels of development of a set of countries using a numeric value from 0 to 10.¹ Respondents from the same study rated the same set of countries, but the rated countries varied across studies (Cf. Appendix Table 2.1). As it turned out, an overwhelming majority (87.3%) of all 16,156 respondents complied and willingly rated all the countries included in the surveys. The study-specific ratings full-response rates are reported in Table 2.1a. It is worth noting that lower response rates are strongly associated with higher numbers of countries to be rated (Cf. Table 2.1b), and therefore might be due to survey fatigue rather than genuine resistance to the quantitative conception of national development. Thus, for each of the responding individuals a quantitative perception of the development levels of multiple countries is obtained on an interval scale.

But it is not individuals' perceptions per se that we are interested in. What we care about is to what extent those perceptions are influenced by world culture. To find this out, we need a world culture yardstick for comparison. The United Nation's Human Development Index (HDI) provides such a yardstick. The United Nations itself was a product of world culture and has functioned as one of its most authoritative agents (Chabbott 1999). Since 1990, the United Nations Development Programme (UNDP), in

¹ In four studies (Egypt 2011, Lebanon 2008, Lebanon 2011, and Saudi Arabia 2011), respondents were asked to perform the task using the scale 1-10. For standardization, those ratings were all rescaled to 0-10.

the spirit of world culture, has been computing and publishing HDI scores for all countries in the world (Sen 2000; United Nations Development Programme 1990-2013). The HDI is a one-dimensional numerical measure reduced from three key developmental themes of contemporary nation-states—health, education, and standard of living. Its construction is based on data produced by national accounting systems. It has been used to evaluate different countries' achievement of national developmental goals. It also enables cross-sectional country comparisons that lead to national developmental hierarchies. Thus, the HDI score provides an ideal approximation of world culture's schema of national development.

Consequently, for each individual respondent, we have two vectors of national development—one consisting of her own ratings of a number of countries and the other consisting of HDI scores for the same set of countries, both on interval scales and restricted to the range 0-10 (see Appendix Table 2.1 for the parallel structure). To assess the world culture's impact on individuals' perceptions—in other words, individuals' conformity to world culture's schema of national development—we need to measure the concordance pattern between the two vectors. To do so, we regressed each respondent's rating scores on United Nations' HDI scores. That is, each individual yields a mini sample—the units of analysis are the rated countries, and the number of rated countries is the sample size. As a result, for each individual we retrieved a regression coefficient (slope), which was interpreted as the amount of change in her rating in response to one unit increase in the HDI rating. With such interpretation, the slope coefficient naturally represents one's conformity to world culture's developmental schema. For each

individual, we estimated such a bivariate regression and recorded the slope coefficient, which we named “raw conformity score” and treated it as a continuous variable indicating one’s degree of conformity to world culture’s schema of national development.

Thus constructed, the raw conformity score has the advantage of natural interpretation. However, as is standard with regression analysis, the slope is affected by the respondent’s idiosyncratic scale of her rating scheme. For example, if one’s evaluative system conceives one-unit difference twice as significant as one-unit difference in HDI rating, she would seem less responsive to world culture’s schema of national development even if her ratings are perfectly correlated with the HDI ratings. To solve this problem, we also calculated standardized regression coefficient for each respondent, which we called “standardized conformity score”. The standardization procedure cancelled the scale difference between individual respondent’s ratings and the HDI scores. The relationship between the two sets of scores is now interpreted on standard deviation basis. We note that, mathematically, the standardized regression coefficient in a bivariate regression is simply Pearson’s correlation coefficient. Although the correlation coefficient is free from the scale problem, it loses the property of directional interpretation—it measures the co-varying patterns between respondents’ ratings and HDI scores, rather than how the former depend on the latter.

While this paper is the first to apply regression slope to measure the concordance between survey ratings and HDI scores, previous literature on developmental hierarchies has used Pearson’s correlation as an indicator for proximity between the two scores (Binstock et al. forthcoming; Melegh et al. 2012; Thornton et al. 2012c; Xie et al. 2012).

We emphasize that the raw (slope) and standardized (correlation) conformity scores have advantages and disadvantages. This paper adopts both to capitalize on the raw score's interpretation property as well as the standardized score's measurement property. In addition, by including both we provide a robust check for our findings.

The HDI scores and the averages of respondents' ratings are summarized in the Appendix Table 2.1. The distributions of raw and standardized conformity scores for each study are reported in Table 2.2, which gives straightforward answers to our first hypothesis. They were also used as the dependent variables in the tests for the second and third hypotheses.

2.3.3 Key Independent Variables

Our key independent variables measure two diffusion mechanisms of world culture—education at the individual level (H2), and the nation's linkage to the world society at the societal level (H3). Most education variables in the original survey data measure the highest levels of educational attainment. As educational credentials in different countries were not entirely comparable, all of the education variables were harmonized to years of schooling.

Hypothesis 3 has to do with the degree to which the study site is integrated into the world society. We operationalized this concept with the number of international organizations per thousand population. As world culture models were explicitly theorized to have spread through cultural and associational processes (Meyer et al.

1997a), the number of associational connections have been commonly used in previous empirical studies of world society (e.g., Tsutsui 2004), with higher values meaning tighter connection between a country and the world society above. The international organization data were based on various issues of the *Yearbook of International Organizations* published by the Union of International Associations (2007-2012).

2.3.4 Control Variables

Our analysis included both personal and study-specific control variables. At the individual level, we controlled for age and gender, where male is coded 1 and female 0.

At the study level, rather than simply estimating fixed effects for each study, we included four control variables—import/GDP ratio, logged GDP per capita, number of countries rated, and a dummy variable for Muslim-majority countries (Cf. Table 2.1b). These covariates account for two major sources of heterogeneity at the study level—the twelve studies took place in different country-year regimes of different socioeconomic characteristics, and in each study the conformity score was operationalized using different materials (albeit with the same methodology).

The import/GDP ratios (in percentage) were retrieved from the World Bank's World Development Indicators database to measure the countries' economic dependence on the world economy. We also included logged GDP per capita, which can be interpreted as the country's average standard of living at the time of data collection. The unit of measurement is standardized to be purchase power adjusted constant 2005 U.S.

dollars, so that the values are comparable between countries and over years. Data on GDP per capita for all country-years come from Penn World Table Version 7.1 (Heston et al. 2012).

Besides regime characteristics, study design effects also need to be taken into consideration because respondents in different studies were asked to rate different sets of countries (though with considerable overlap), and the number of rated countries varied across studies. The number of rated countries was easily controlled for. The difficulty lies in the qualitative differences among the different sets of rated countries, but we were nevertheless able to control for a most striking pattern—namely, studies conducted in Muslim-majority countries (i.e., Egypt, Lebanon, and Saudi Arabia) rated essentially the same countries, which disproportionately came from the Islamic world (Cf. Appendix Table 2.1). How would this change the results is unknown, but it is highly likely to be a source of systematic variation in the outcome. Therefore, a dummy indicator was created to mark out the studies done in Muslim-majority countries.

[Table 2.1b]

2.3.5 Analytic Procedures

Our statistical analysis consists of three components. First, we computed raw and standardized conformity score for each of the 13,851 respondents who answered all the development rating questions and socio-demographic questions (i.e., age, gender, education). We examined the distributive properties of the conformity scores (Cf. Table

2.2) to assess the level of individual conformity to world culture's schema of national development (H1). Second, for each of the twelve study samples, a regression model was estimated to predict raw and standardized conformity scores with age, gender, and education (Cf. Tables 2.3a and 2.3b). We did so to examine study-specific relationships between the conformity level and people's sociodemographic features. Finally, we conducted analyses with the pooled sample. To test the diffusion mechanisms, conformity score is regressed on years of education (H2) and population-adjusted number of international organizations (H3) with controls at both individual and study levels (Cf. Table 4).

When analyzing the pooled data, two decisions were made. First, the small number of study-level units (i.e., twelve) ruled out the possibility to model mixture distributions for multilevel analysis. Instead, we estimated cluster standard errors to adjust for the clustering effects at the study level. Second, we weighted the twelve samples to have equal size impacts, so that the results would not be over-dominated by studies with large sample sizes.

2.4 Results

Our results are summarized in Figures 2.1a and 2.1b, and Tables 2.2-2.4. Figures 2.1a and 2.2b visualize the distributions of raw and standardized conformity scores, respectively, for each study using box plots. Table 2.2 summarizes the mean, standard deviation, and median of those distributions. Table 2.3a reports study-specific

regressions with individual-level predictors, showing the effects of age, gender, and education on the raw conformity score in each study. Table 2.3b reports the same findings on the standardized conformity scores. Table 2.4 summarizes the findings based on the pooled sample, which include both individual-level and study-level processes.

2.4.1 Distributions of Raw and Standardized Conformity Scores

Based on the conformity scores computed as described above, we interpret the direction and magnitude of world culture's influence on individuals' perception of national development. As standardization does not change the sign of regression coefficient, the raw and standardized conformity scores have the same directions, which are mostly positive in all twelve studies (Cf. the last column of Table 2.2). Not surprisingly, each study has a minority of non-conformers, who rated countries in some opposite ways to how the UN did and ended up with negative conformity scores. However, positive scores prevail in all studies, with sample proportions ranging from 91.1% to 99.5%. This means that most individuals everywhere conform to world culture's developmental schema.

The scores are also high in level. As both respondents' ratings and HDI scores were set to the same range 0-10, a raw score around 1 could be interpreted as perfect 1:1 conformity. However, due to inconsistent scales between survey ratings and HDI scores, raw conformity scores are not theoretically bounded to a closed interval. When individuals' responses are extremely sensitive to HDI scores (whose ratings respond to HDI scores but shift by a greater level), the raw conformity score can exceed 1 or fall

below -1. In fact, in ten out of twelve samples, the third quartile of raw conformity score exceeds 1 (Cf. Figure 2.1a). As shown in Table 2.2, the mean levels of raw scores range from 0.52 to 1.12, and medians from 0.49 to 1.10. Intuition tells us that these represent strong conformities, but to resolve the scale issue, we now move on to the standardized scores. Comparing Figures 2.1a and 2.1b, we can see that although the proportions above and below zero remain the same, the standardized scores are compressed between -1 and 1, as a result of re-centering and re-scaling, and therefore become more comparable across studies (note that since this is bivariate analysis, the standardized regression coefficients are mathematically equivalent to Pearson's correlations). After standardization, the mean conformity scores range from 0.47 to 0.79, and medians from 0.51 to 0.83. Given the theoretical boundaries of -1 and 1, these values clearly indicate moderately strong to very strong concordances.

[Table 2.2]

[Figure 2.1a] [Figure 2.1b]

Overall, these results support our first hypothesis that individuals' perceptions of national development are effectively constructed by world culture. For example, in our 2011 Egypt sample, individuals' ratings on development closely correlated with HDI scores (average correlation = 0.62), where one unit increase in HDI score would shift respondents' ratings up by an average of 0.89 point. Based on our Table 2.2, similar evidence can be seen in all other studies.

2.4.2 Influences of Education and Linkage to World Society

Given immense social heterogeneity at the individual level, consensus can only be a matter of degree. World culture theory predicts high levels of consensus but not complete absence of variation. Indeed, our conformity scores are mostly positive and large, yet there are also considerable amounts of variation. We now turn to capitalize on these variations to test the diffusion mechanisms that get the developmental schema into individual persons' heads. To achieve this, we estimated regression models predicting conformity scores using independent variables at both individual and study levels.

We first examine study-specific results. We do so because our outcome variables, conformity scores, are constructed in a study-specific manner (i.e., calculations based on different sets of countries). For each study, we estimated two regression models predicting raw and standardized conformity scores, respectively, with three identical individual-level independent variables—gender, age, and years of education. Results of the twenty-four regressions are summarized in Tables 2.3a and 2.3b. While the effects of sex and age are rather mixed and statistically insignificant in a majority of studies, years of education are consistently positive and mostly statistically significant. Note that the effects due to education are reported in single-year metric, the effect sizes of education are more appreciable than the coefficients seem to be. By a factor of 10, the influences of education outperform practically all the effects due to maleness or 10 years of age.

The above findings yield two conclusions. First, our second hypothesis, that school education contributes importantly to the diffusion of developmental ideas and

hence stronger individual conformity to world culture's schema of national development, gains support. The second conclusion is less definitive—although the conformity scores in different samples are generated with different sets of rated countries, it is very likely that they have measured the same construct, as they show relatively comparable relationships with individual sociodemographic traits, particularly education. Therefore, we see no compelling reasons that prevent further analysis using the pooled sample, to which we now turn.

[Table 2.3a] [Table 2.3b]

Table 2.4 reports the results of regression models based on the pooled sample. Now that we have merged all twelve samples, variations at both the individual and study levels can be identified. This allows us to include not only individual traits but also study-specific variables as independent variables. Two regression models were estimated—one predicting the raw conformity score and the other predicting the standardized score. As discussed above, we estimated cluster standard errors to correct for the clustering effect at the study level. Also, the samples were weighted to have equal sizes to avoid dominance by large samples.

For the raw score model, the theoretically interesting predictors—years of education and logged number of international organizations per thousand population—both operate in the expected positive direction, and are both statistically significant at the 0.001 alpha-level. Net of covariates, one year of education would increase the raw conformity score by 0.016 points. At the same time, an 100% increase in the number of

international organizations per thousand population would drive the raw conformity score up by 0.097 points.

For the standardized score model, the coefficients on education and international organizations remain positive but shrink in magnitude. One year of education would increase the standardized conformity score by 0.009 points, and doubling the number of international organizations would increase the standardized conformity score by 0.025 points. In addition, the standard error for the international organization effect increases substantially but it remains significant at 0.5 level.

Since the independent variables are measured on many different metrics, it is difficult to compare their effect sizes based on the values of coefficients. To get a better idea of their distinct contributions, we also computed incremental R^2 s (denoted ΔR^2 in Table 2.4) to examine their net explanatory powers. For the raw score model, for example, to determine how much variation is uniquely attributable to education, we calculate the difference between the R^2 of the full model and the R^2 of the model with all predictors but the education variable. This way, we identified an incremental R^2 of 1.49% for education, which means 1.49% of the variation in raw conformity score are accounted for by the variation in years of education, net of other independent variables. As shown in Table 2.4, the two largest net explanatory powers were due to number of international organizations ($\Delta R^2 = 3.21\%$) and years of education ($\Delta R^2 = 1.49\%$). For the standardized score model, the ΔR^2 is 1.72% for education and 0.77% for international organizations, which are smaller only than that of import/GDP ratio (2.72%). Once again, we find that education and international organizations make important differences.

Taken together, we may conclude that, consistent with our Hypotheses 2 and 3, years of education and the nation's linkage to the world have important impacts on individuals' conformity to world culture's schema of national development.

[Table 2.4]

2.5 Conclusions and Discussion

World society theory posits (relative) consensus on such matters as development, science, and human rights among actors at aggregate as well as individual levels. While much work has been done at the state or organizational levels, this paper offers the first empirical support for the individual presence of world culture's schema of national development. Drawing on survey data from twelve studies in eight diverse countries, we have shown that lay people around the world were able to apply the rationalized concept of development to evaluate different countries in very similar ways as the United Nations, an authoritative agent of the world culture.

World society theory also offers a diffusion model to account for the dissemination of rationalized cultural scripts among actors. Our paper conducted tests on the two most theorized and empirically assessed pathways of world culture diffusion—school education and a society's connection to the world society. Consistent with previous literature (e.g., Baker and LeTendre 2005, Givens and Jorgenson 2013; Tsutsui 2004), both mechanisms were found to be important factors contributing to individual conformity to world culture's developmental schema.

For a study on world culture, the ideal aggregate-level sampling frame would include all countries in all post-war years. Given a reasonably large random sample of country-years from such a spatial-temporal universe, we would be able to estimate mixture models (i.e., multilevel analysis). However, we have only twelve data points based on eight countries between 2006 and 2011, which makes it impossible to make statistical inferences to the ideal universe. In other words, our findings are confined to the specific eight countries in those specific years. However, within those boundaries, our sample results are generalizable to the population at the individual level.

Another analytic problem to be solved in the future is the reliance on cross-sectional surveys (albeit repeated ones in Bulgaria, Lebanon, and the U.S.), which unavoidably invokes concerns about endogeneity—is one's conformity to world culture's developmental schema the cause or effect of her education and her country's number of international organizations? Panel data might be helpful in answering causal questions, but a more fundamental issue is that world society theory does imply recursive causations. By treating conformity score as the outcome, we aim to provide tests for its diffusion mechanisms. Can the analytic direction be reversed? Yes, but then the question would be about the effectiveness of individual agency (i.e., individual commitment in developmental ideas) in promoting her own educational attainment and her country's integration into the world society, which goes beyond the scope of this paper.

Such being the case, world culture scholars have repeatedly emphasized the rise of individual actorhood. In a recent review article, Meyer (2010) pointed out the stateless tendency of the world polity in the post-war period, and proposed that individual persons

were increasingly legitimated as the “primordial actor.” So far, empirical research on individual actorhood—including this paper—have mainly focused on how world culture trained the individuals. Now that individuals become equipped with various rationalized cultural scripts, they are bound to play an increasingly significant role in the enactment of world culture, which provides great promise for future empirical work.

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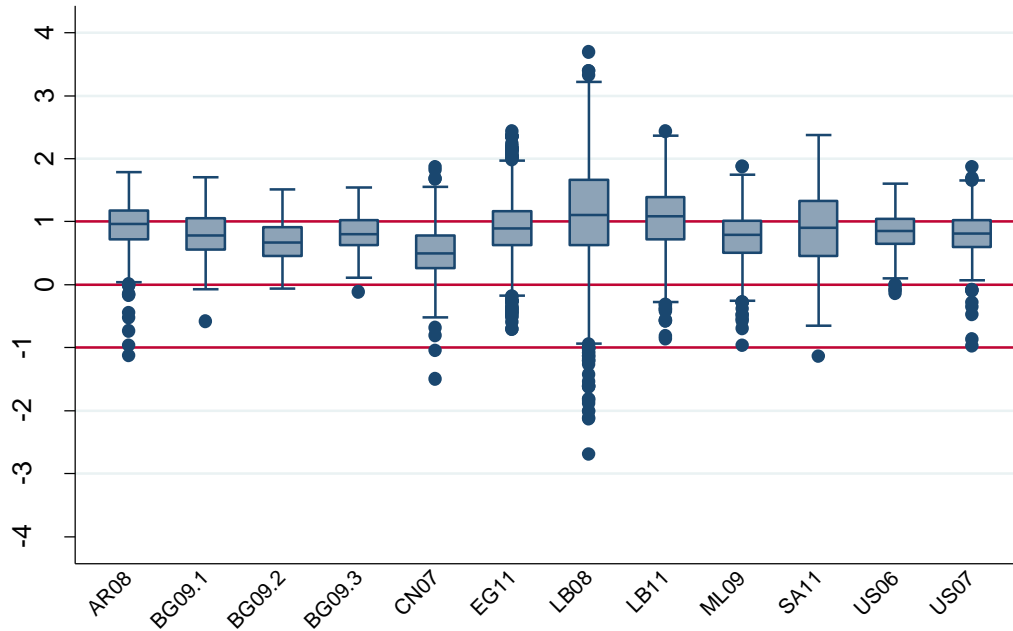
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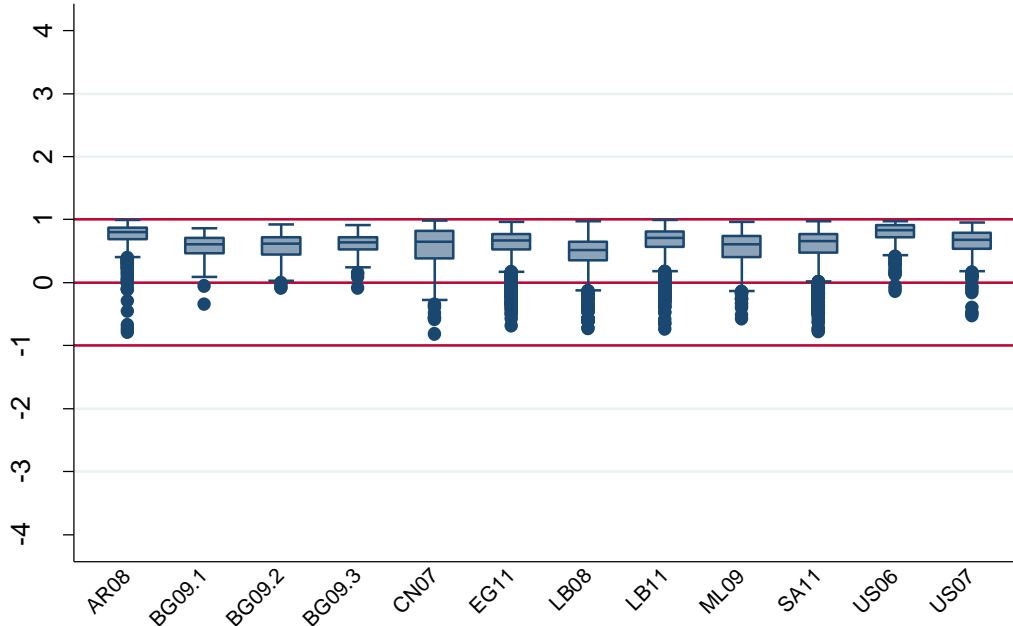
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Figure 2.1a. The distribution of raw conformity scores, by study



Source: Developmental Idealism Studies, 2006-2011.

Figure 2.1b. The distribution of standardized conformity scores, by study



Source: Developmental Idealism Studies, 2006-2011.

Table 2.1a. Descriptive statistics of individual-level variables, by study

	Raw <i>N</i>	Ratings full-response rate (%)	Analytic <i>N</i>	Raw conformity score		Standardized conformity score		Male (%)	Age		Years of education	
				Mean	SD	Mean	SD		Mean	SD	Mean	SD
Argentina 2008	1,003	93.0	897	0.94	0.36	0.75	0.20	48.3	41.4	16.3	11.0	3.5
Bulgaria 2009-A	336	60.7	204	0.81	0.36	0.57	0.19	54.9	51.2	14.5	12.1	3.2
Bulgaria 2009-B	336	59.2	199	0.67	0.32	0.57	0.21	54.3	49.6	14.5	11.8	3.3
Bulgaria 2009-C	336	65.2	219	0.81	0.29	0.61	0.16	48.4	49.4	15.0	11.9	3.6
China 2007	633	99.1	625	0.52	0.39	0.56	0.32	44.8	43.1	13.7	7.3	3.5
Egypt 2011	3,496	73.7	2,576	0.89	0.44	0.62	0.23	56.3	37.8	14.1	9.3	5.5
Lebanon 2008	3,039	94.1	2,818	1.12	0.78	0.47	0.27	56.1	32.7	12.9	12.4	4.2
Lebanon 2011	3,039	88.8	2,594	1.05	0.51	0.66	0.23	60.6	35.1	12.6	12.5	3.4
Malawi 2009	955	99.3	936	0.74	0.39	0.55	0.26	100.0	32.9	6.5	5.9	3.6
Saudi Arabia 2011	2,003	95.0	1,849	0.87	0.57	0.56	0.31	51.1	33.6	13.2	11.3	3.4
United States 2006	486	96.7	463	0.85	0.31	0.79	0.17	45.1	51.1	16.8	14.1	2.5
United States 2007	494	96.4	471	0.79	0.36	0.64	0.22	43.3	52.3	16.0	14.2	2.4
Pooled sample	16,156	87.3	13,851	0.84	0.47	0.61	0.25	55.3	42.5	14.6	11.2	4.3

Notes: The pooled sample is weighted so that all studies have equal impacts.

Source: Developmental Idealism Studies, 2006-2011.

Table 2.1b. Summary of study-level variables, by study

	Number of IO ^a per thousand population	Import/GDP (×100) ^b	GDP per capita (PPP USD, 2005) ^c	Number of countries rated	Muslim-majority country ^d
Argentina 2008	0.135	20.7	11,483	10	No
Bulgaria 2009-A	0.624	56.3	10,399	14	No
Bulgaria 2009-B	0.624	56.3	10,399	14	No
Bulgaria 2009-C	0.624	56.3	10,399	14	No
China 2007	0.003	29.6	5,512	9	No
Egypt 2011	0.049	30.2	4,854	9	Yes
Lebanon 2008	0.532	53.5	11,335	7	Yes
Lebanon 2011	0.543	50.4	12,700	9	Yes
Malawi 2009	0.099	39.0	619	10	No
Saudi Arabia 2011	0.081	30.6	20,189	9	Yes
United States 2006	0.033	16.8	43,215	10	No
United States 2007	0.033	17.0	43,512	12	No

Sources: ^a Yearbook of International Organizations (2007-2012)

^b World Development Indicators (2006-2011).

^c Penn World Table (V7.1).

^d Pew Forum on Religion & Public Life (2009).

Table 2.2. The distribution of raw and standardized conformity scores, by study

	Raw score			Standardized score			% positive
	Mean	SD	Median	Mean	SD	Median	
Argentina 2008	0.94	0.36	0.96	0.75	0.20	0.80	98.8
Bulgaria 2009-A	0.81	0.36	0.78	0.57	0.19	0.61	99.0
Bulgaria 2009-B	0.67	0.32	0.66	0.57	0.21	0.62	98.5
Bulgaria 2009-C	0.81	0.29	0.81	0.61	0.16	0.64	99.5
China 2007	0.52	0.39	0.49	0.56	0.32	0.65	93.8
Egypt 2011	0.89	0.44	0.89	0.62	0.23	0.67	97.4
Lebanon 2008	1.12	0.78	1.10	0.47	0.27	0.51	91.1
Lebanon 2011	1.05	0.51	1.09	0.66	0.23	0.71	97.3
Malawi 2009	0.74	0.39	0.79	0.55	0.26	0.61	96.0
Saudi Arabia 2011	0.87	0.57	0.90	0.56	0.31	0.66	92.9
United States 2006	0.85	0.31	0.85	0.79	0.17	0.83	98.9
United States 2007	0.79	0.36	0.81	0.64	0.22	0.68	98.3

Source: Developmental Idealism Studies, 2006-2011.

Table 2.3a. Regression models predicting raw conformity score, by study

	Male (ref. = female)		Age ($\times 10$)		Years of education		Intercept		R^2 (%)
	Coef.	s.e.	Coef.	s.e.	Coef.	s.e.	Coef.	s.e.	
Argentina 2009	0.038	0.023	0.027 ***	0.007	0.020 ***	0.004	0.588 ***	0.058	4.23
Bulgaria 2009-A	0.016	0.035	-0.047 **	0.012	0.004	0.006	1.001 ***	0.101	3.94
Bulgaria 2009-B	0.026	0.032	0.017	0.011	0.021 **	0.005	0.331 **	0.088	4.68
Bulgaria 2009-C	0.007	0.039	0.013	0.013	0.016 **	0.006	0.558 ***	0.101	3.90
China 2007	0.077 *	0.031	0.014	0.012	0.030 ***	0.005	0.211 **	0.073	8.18
Egypt 2011	0.048 **	0.018	0.004	0.007	0.005 **	0.002	0.802 ***	0.034	0.77
Lebanon 2008	-0.080 **	0.030	0.036 **	0.012	0.018 ***	0.004	0.824 ***	0.070	1.19
Lebanon 2011	0.018	0.020	-0.024 **	0.008	0.026 ***	0.003	0.795 ***	0.055	4.05
Malawi 2009	(omitted)		0.032	0.020	0.013 ***	0.004	0.561 ***	0.075	1.46
Saudi Arabia 2011	0.122 ***	0.027	-0.003	0.011	-0.004	0.004	0.868 ***	0.069	1.12
United States 2006	0.023	0.028	0.027 **	0.008	0.034 ***	0.006	0.225 *	0.095	8.68
United States 2007	0.108 **	0.032	0.021 *	0.010	0.033 ***	0.007	0.167	0.112	7.99

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: Developmental Idealism Studies, 2006-2011.

Table 2.3b. Regression models predicting standardized conformity score, by study

	Male (ref. = female)		Age ($\times 10$)		Years of education		Intercept		R^2 (%)
	Coef.	s.e.	Coef.	s.e.	Coef.	s.e.	Coef.	s.e.	
Argentina 2009	0.032 *	0.013	0.013 **	0.004	0.011 ***	0.002	0.560 ***	0.033	4.23
Bulgaria 2009-A	-0.031	0.026	-0.025 **	0.009	0.000	0.004	0.716 ***	0.075	2.86
Bulgaria 2009-B	0.002	0.030	0.006	0.010	0.014 **	0.005	0.370 ***	0.083	2.16
Bulgaria 2009-C	-0.006	0.022	0.002	0.007	0.003	0.003	0.561 ***	0.057	0.61
China 2007	0.069 **	0.026	0.002	0.010	0.023 ***	0.004	0.354 ***	0.060	7.97
Egypt 2011	0.007	0.009	0.006	0.003	0.003 ***	0.001	0.560 ***	0.018	0.73
Lebanon 2008	0.003	0.010	0.008 *	0.004	0.007 ***	0.001	0.359 ***	0.024	1.02
Lebanon 2011	0.008	0.009	-0.015 ***	0.004	0.009 ***	0.001	0.587 ***	0.025	3.21
Malawi 2009	(omitted)		0.033 *	0.013	0.014 ***	0.002	0.354 ***	0.049	3.70
Saudi Arabia 2011	0.043 **	0.014	-0.001	0.006	0.002	0.002	0.524 ***	0.037	0.57
United States 2006	0.001	0.015	0.003	0.005	0.024 ***	0.003	0.436 ***	0.053	11.53
United States 2007	0.048 *	0.020	0.009	0.006	0.028 ***	0.004	0.177 *	0.069	10.47

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: Developmental Idealism Studies, 2006-2011.

Table 2.4. Regression models predicting raw and standardized conformity scores using pooled data

	Raw score		Standardized score	
	Coef.	ΔR^2 (%)	Coef.	ΔR^2 (%)
<i>Individual-level variables</i>				
Male (ref. = female)	0.031 (0.016)	0.10	0.012 (0.008)	0.05
Age (×10)	0.011 (0.007)	0.12	0.003 (0.004)	0.02
Years of education	0.016 *** (0.003)	1.49	0.009 ** (0.002)	1.72
<i>Study-level variables</i>				
Logged number of IOs per thousand population	0.097 *** (0.004)	3.21	0.025 * (0.011)	0.77
Import/GDP (×100)	-0.005 ***	0.59	-0.005 * (0.002)	2.72
Logged GDP per capita	-0.007 (0.008)	0.02	-0.004 (0.014)	0.01
Number of countries rated	-0.044 *** (0.008)	1.16	-0.001 (0.015)	0.00
Muslim-majority country	0.052 (0.035)	0.09	-0.044 (0.051)	0.21
Intercept	1.477 *** (0.117)		0.796 *** (0.160)	
R^2 (%)		11.46		8.71

Notes: All analyses are performed with the weighted pooled sample so that all component studies have equal impacts on the pooled outcome.

Clustered robust standard errors are reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: Developmental Idealism Studies, 2006-2011.

Appendix Table 2.1. United Nations Human Development Indices (HDI) and mean ratings of development, by study

Rated country	Argentina 2008	Bulgaria 2009-A	Bulgaria 2009-B	Bulgaria 2009-C	China 2007	Egypt 2011	Lebanon 2008	Lebanon 2011	Malawi 2009	Saudi Arabia 2011	United States 2006	United States 2007
	HDI Mean	HDI Mean	HDI Mean	HDI Mean	HDI Mean	HDI Mean	HDI Mean	HDI Mean	HDI Mean	HDI Mean	HDI Mean	HDI Mean
Albania		7.2 3.3										
Argentina	7.7 5.6											
Armenia			6.9 3.9									
Austria		8.5 7.8										
Azerbaijan				7.1 3.6								
Belarus			7.3 4.5									
Bosnia/Herzegovina				7.1 4.2								
Brazil	6.9 6.6				6.9 5.6				6.9 6.7		6.8 6.1	6.9 5.7
Bulgaria		7.4 3.4	7.4 3.3	7.4 3.2								7.3 4.5
Central Africa Republic	3.1 3.5	3.1 3.5	3.1 3.2	3.1 3.3	3.1 4.8						3.0 3.3	3.1 3.5
China	6.5 7.8				6.4 7.1	6.9 8.8	6.5 7.9		6.6 7.6	6.9 8.0	6.3 7.4	6.4 6.9
Congo									4.8 5.1			
Croatia		7.7 5.0										
Czech Republic			8.4 5.8									
Denmark				8.6 7.7								
Egypt						6.4 5.5		6.4 3.2		6.4 4.8		5.9 5.5
England		8.5 8.2										
France	8.7 7.8		8.7 7.7		8.6 6.6	8.8 8.0	8.7 8.2	8.8 8.0	8.7 7.1	8.8 8.3		8.6 7.3
Georgia		7.0 3.9										
Germany				8.8 8.4								
Hungary				8.0 6.0								
India	5.1 3.7	5.1 4.6	5.1 4.3	5.1 4.4	5.0 5.2				5.1 6.2		4.9 5.4	5.0 5.0
Iran						7.1 5.7	6.9 6.2	7.1 6.2		7.1 6.0		
Italy		8.5 7.2										
Japan	8.8 8.8				8.8 7.1				8.8 7.7		8.8 8.9	8.8 8.6
Kyrgyzstan		5.9 3.4										
Lebanon							7.3 4.4	7.4 4.4				
Malawi									3.8 2.6			
Netherlands			8.9 6.3									
Nigeria	4.2 3.6	4.2 3.3	4.2 3.5	4.2 3.5	4.1 4.5				4.2 6.0		4.1 3.2	
Norway			9.4 7.3									
Pakistan	4.8 3.9				4.8 5.1						4.7 4.1	4.8 4.0
Poland		7.9 5.8										
Portugal				7.9 6.0								
Russia		7.1 7.1										7.0 5.9
Saudi Arabia						7.7 6.8	7.5 4.4	7.7 5.2		7.7 6.4		7.4 5.6
Slovakia			8.2 5.4									
Slovenia				8.3 5.6								
South Africa									5.9 7.1			
Spain			8.6 7.1									
Sudan						4.1 3.8		4.1 2.3		4.1 4.1		
Sweden		8.8 8.4									8.9 7.4	
Switzerland				8.7 8.8								
Syria							5.8 3.9					
Tajikistan				5.8 3.3								
Turkey			6.7 5.5									
United Arab Emirates						8.5 6.4		8.5 5.2		8.5 6.3		
Ukraine				7.1 4.6								
United States	9.0 8.4				9.0 8.3	9.1 9.0	9.0 8.7	9.1 8.3	9.0 9.3	9.1 8.4	9.0 8.8	9.0 8.7
Uzbekistan			6.1 3.5									
Yemen						4.6 4.0		4.6 3.0		4.6 3.6		
Zimbabwe											1.6 2.8	
Pearson's correlation b/w HDI's and mean ratings	0.90	0.70	0.79	0.74	0.87	0.82	0.62	0.87	0.82	0.86	0.94	0.85
Number of countries rated	10	14	14	14	9	9	7	9	10	9	10	12

Notes: For each study, the HDI scores of the rates correspond to the study year. In study Lebanon 2008, the HDI for Lebanon is missing. HDI 2009 is used.

Reported HDI scores are scaled by a factor of 10 to have the same range as the ratings of development (0-10).

In all studies, respondents were asked to rate development from 0-10, except Egypt 2011, Lebanon 2008, Lebanon 2011, and Saudi Arabia 2011, which asked respondents to rate development from 1-10. The rating scores from those four studies are rescaled to range from 0 to 10.

Sources: Mean ratings are calculated based on Developmental Idealism study samples.

HDI ratings are retrieved from UNDP's online database (<https://data.undp.org/dataset/Human-Development-Index-HDI-value/8ruz-shxu>).

CHAPTER 3

The Making of Family Values: Developmental Idealism in Gansu, China²

3.1 Introduction

Ideational explanations of international family change have become increasingly common in the literature. For example, the worldwide family planning movements (Barrett and Frank 1999) and the efforts to improve women's status (Berkovitch 1999; Boyle 2002; Yount 2004) have been due at least partially to the enactment of a "world culture", which promoted concepts such as progress, individuality, human rights, freedom, and equality (Meyer et al. 1997). In demography, cultural changes toward individualism and freedom in postwar Europe play a central role in the second demographic transition model offered by Lesthaeghe (2010) and van de Kaa (1987). In addition, Johnson-Hanks et al. (2011) have attributed family changes and variation to various "schemas"—the mental structures that provide roadmaps for everyday behavior. In this paper, we take a particular interest in how individuals' family values are influenced by ideas concerning development.

² Chapter 3 is co-authored with Arland Thornton.

Over the past two centuries, there has been a rise of family values endorsing such attributes as nuclear families, self-choice marriage, romantic love, equal spousal relationships, late marriage, and lower fertility (see, for example, Gubenskaya 2010; Inglehart 1997; Lesthaeghe and Meekers 1986; Thornton 1985, 1989; Thornton et al. 1983; Thornton and Philipov 2009; Thornton and Young-DeMarco 2001; Dorius and Alwin 2011; Esteve et al. 2012; Surkyn and Lesthaeghe 2004; van de Kaa 1987, 2002). Parallel to the rise of these family values has been a worldwide dissemination of developmental thinking, which puts the idea of development at a central place in people's minds (e.g., Ferguson 1999; Osella and Osella 2006; Pigg 1992). Thornton (2001, 2005) argued that those two streams of ideational changes have been closely connected and have reinforced each other.

According to Thornton (2001, 2005), family scholarship from the 18th century has been dominated by a developmental worldview that has posited human societies going through stages of progress and that those stages of development are associated with different family behavior. This family scholarship associated the highest levels of development with nuclear families, self-choice marriage, romantic love, equal spousal relationships, late marriage, and lower fertility, which it labeled as developed or modern family dimensions. Thornton has labeled the ideas of this societal and familial model *developmental idealism* (DI). He has argued that these ideas about modern societies and modern families have been spread widely around the world, both among elites and non-elites, with implications for family behavior. Within the ideas of developmental idealism Thornton has identified both beliefs and values as important components, with values also being seen as belief statements that contain evaluations of the goodness or badness of an attribute. Thornton summarized the ideas of developmental idealism into four fundamental beliefs and values: (1) developed society is good; (2) the modern family is good; (3)

development and the modern family are causally associated; and (4) individuals have the right to be free and equal, with social relationships being based on consent.

Since its initial formulation, DI theory has informed empirical research in numerous countries. The topics range from DI measurements (Thornton et al. 2010a; Thornton et al. 2012a) to the distribution of DI beliefs and values among different social groups (Abbasi-Shavazi et al. 2012; Binstock and Thornton 2007; Thornton et al. 2010b), and to their influences on family behaviors (Cammack and Heaton 2011; Guend 2011; Kavas and Thornton, 2013; Thornton and Philipov 2009; Yount and Rashad 2008). However, previous literature has treated the DI beliefs and values as separate issues rather than considering their interrelationships. This paper, for the first time, weaves the DI beliefs and values into a psychological mechanism producing the family values that DI language labels as modern (labels that we also use in our discussion of the framework³). Patterning on the well-established expectancy-value model in psychology (e.g., Fishbein 1963, 1967; Fishbein and Ajzen 1975), we articulate a micro-level value formation process called *DI associational evaluation*—namely, that values about the positivity of development (DI idea 1) and belief in the associations between development and certain modern family behaviors (DI idea 3) jointly lead to positive values concerning those family behaviors (DI idea 2).

Of course, the idea of development is not the only source of legitimacy. Religious doctrines and organizational capacities are some of the most important alternative structures to DI as they provide their own long-standing schemas and authority. Several empirical

³ We use the language of developmental idealism and modernity in our discussion in order to describe and analyze developmental idealism in its own terms. However, we do not endorse certain societies or attributes themselves as modern or traditional. See Thornton (2005) for a discussion of the language and labels used in describing developmental idealism as a belief and value system and the language and labels used in describing real societies and attributes.

investigations of DI have acknowledged the roles played by indigenous ideologies, yet so far no study has formally assessed DI's influences net of strong local ideologies (Allendorf 2013; Guend 2011; Cammack and Heaton 2011; Kavas and Thornton, 2013; Thornton and Philipov 2009; Yount and Rashad 2008; Yount et al. 2010).

This study offers the first empirical investigation on the influence of DI associational evaluation on family values. Using survey data from Gansu Province in China, where a large Muslim population dwells, we assess the impact of DI associational evaluation on individuals' endorsement of living arrangements, parental involvement in spouse choice, gender equality, fertility, and age at marriage. We also consider the local Islamic religion in juxtaposition with DI beliefs and values to examine the influence of Muslim religion and the net effect of DI associational evaluation. Finally, we examine whether DI associational evaluation influences are modified by the local Islamic religion.

3.2 Theoretical Formulations

3.2.1 Developmental Paradigm

The world, especially since WWII, has experienced the rise of a world culture (Barrett and Frank 1999; Krücken and Drori 2009; Meyer et al. 1997; Thomas et al. 1987). Ideas like individuality, rights, freedom, and equality have been disseminated around the world and gained great institutional authority (e.g., governments, non-governmental organizations, laws, and school curriculums). One key element of this world culture is the idea of progress or development (Meyer et al. 1997). Thornton (2001, 2005; also see, Melegh et al. 2012; van de Kaa 2010) has argued that at least since the Enlightenment a developmental paradigm has characterized the

worldviews of many scholars, policy makers, and other elites in the West. The paradigm specifies an essentialized uni-linear trajectory of history, along which all countries progress at different rates (also see Harris 1968; Mandelbaum 1971; Nisbet 1969/1975; Sanderson 1990). Consequently, at any given moment different societies can be ranked into a developmental hierarchy. For recent centuries northwest Europe and its overseas diaspora have generally been assigned to the top of the hierarchy, while other societies are viewed as less modern or developed and occupy lower positions on the scale.

Such worldview, which boils qualitative differences between countries down to a single dimension of development or modernity, has been challenged by many social scientists in recent decades (e.g., Amin 1989; Baker 1998; Bock 1956; Böröcz 2000; Böröcz and Sarkar 2005; Chakrabarty 2000; Comaroff and Comaroff 1992; Hodgen 1964; Jennings 1975; Mandelbaum 1971; Nisbet 1969; Szreter 1993; Tilly 1984; Wallerstein 1991). Nevertheless, the existence of developmental hierarchies in people's minds has been real and prevalent. Since the Age of Discovery, the developmental paradigm was distributed by colonialists, revolutionaries, missionaries, academics, educators, rights advocates, business entrepreneurs, and media agents from its northwest European origin to numerous societies (Thornton 2005). Throughout the world, the developmental doctrine has won extensive promotion by state governments and elite organizations (Boli and Thomas 1997; Chabbott 1999; Latham 2000; Meyer et al. 1997; Nisbet 1969). At the individual level, recent surveys in thirteen diverse populations show that developmental hierarchies are widely perceived by the ordinary respondents, and that the perceived hierarchies well conform to the version constructed by the United Nations (Thornton et al. 2012d; also see Binstock and Thornton 2007; Melegh et al. 2012).

The global triumph of the developmental paradigm and its product, perceived developmental hierarchies, have profound implications for social thinking at the individual level. Psychologically, the salient idea of development functions as a cognitive hub from which people infer knowledge about unknown things and derive value preferences (see Ajzen and Fishbein 1980 and Fishbein and Ajzen 1975 for discussions on salient ideas). In China, for example, when asked about economic inequality in other countries, which was not a familiar topic to most lay Chinese people, they were able to give answers based on what they believed about the level of development in those countries and what they believed about the relationship between development and inequality (Xie et al. 2012).

3.2.2 DI Associational Evaluation

With regard to family, an ideational system, termed developmental idealism (Thornton 2001, 2005), has grown out of the conception of development. Surveys conducted in Argentina, China, Egypt, Iran, Nepal, and the United States all ascertained that DI beliefs and values were widely accepted in those countries (Abbasi-Shavazi et al. 2012; Binstock and Thornton 2007; Thornton et al. 2012 a, b, and c). While the strength of beliefs and values varies by countries and socio-demographic groups, the levels of acceptance are generally high.

In the initial formulation, the four DI beliefs and values were theorized as “*independent and conceptually distinct*” (Thornton 2005: 136), and this ideational system was proposed to provide an explanation for *behavioral* outcomes (Thornton 2001, 2005). Indeed, the empirical literature on DI has always treated the beliefs and values as separate items with behavioral implications (e.g., Abbasi-Shavazi et al. 2012; Cammack and Heaton 2011; Guend 2011; Kavas

and Thornton, 2013; Thornton and Philipov 2009; Thornton et al. 2012a, b, and c; Yount and Rashad 2008). In this paper, we add to the DI literature by investigating family *values* as a result of the *conjunction* of another DI value and a DI belief. Specifically, we propose that it is the conjunction of the endorsement of development and the perceived association between development and certain family behaviors that leads, at least in part, to the endorsement of those family behaviors. We label this value-formation mechanism as *DI associational evaluation*.

As a micro-psychological process, our conceptualization of DI associational evaluation builds upon the expectancy-value model (e.g., Feather 1982; Fishbein 1963, 1967; Fishbein and Ajzen 1975). The key usage of the expectancy-value model is to account for the formation of attitudes, defined as “dispositions to respond with some degree of favorableness or unfavorableness toward a given object” (Fishbein and Ajzen 2010: 96). According to Fishbein and Ajzen (1975, 2010), (un)favorableness toward a given object flows directly from “preexisting evaluations of the attributes that become linked to an [*the*] object” (Fishbein and Ajzen 2010: 97). In our context, this mechanism involves two DI ideas. On the one hand, the DI value that development is good (DI idea 1) serves as the preexisting evaluation.⁴ On the other hand, the DI belief that development and modern family are intrinsically associated (DI idea 3) provides a cognitive pathway for the positive value of development to be applied to concrete family behaviors. Since Western Europe and North America currently occupy the apex of the development scale in most people’s minds, family behaviors typically observed in contemporary

⁴ Although development has been typically understood as eternal accumulation of material wellbeing (Thornton 2005: 137-138; also see, e.g., Condorcet 1796; Ekirch 1951; Godwin 1926/1793; Hegel 1878/1837; Marx and Engels 1965/1848; Nibset 1980) and associated with positive ethics and morality (Böröcz 2006; Chabbott 1999; Latham 2000; Taylor 2004; Thornton et al. 2010b; United Nations 2005-2012), we acknowledge that important alternatives do exist. For instance, it has been suggested that development is sometimes associated with excessive sex liberty, atheism, violence, etc. (Liechty 2003; Deeb 2006; Escobar 1988; Yount et al. 2010).

Western societies such as self-choice marriage, nuclear family, equal spousal relationship, late marriage, and low fertility are viewed as good and desirable. Of course, the perceived associations between development and those family behaviors are not necessarily true in the real world, but as long as the beliefs are established, the positive aura over development is likely to facilitate the endorsement of family behaviors typically associated with Western societies.

The expectancy-value model has a multiplicative functional form. Fishbein and Ajzen (2010:97) have formally written the theory as $A \propto \sum b_i e_i$, where in our context A stands for attitude toward or value concerning a modern family behavior (e.g., neolocal residence, fewer number of children), b_i is the strength of the belief that that family outcome is linked to attribute i (i.e., development), and e_i is the evaluation of attribute i . With a summation operator, this formulation also accommodates additional attributes other than development that are believed to be intrinsically characteristic of modern family. While acknowledging the broader truth of that panoramic view, in this study we maintain a focus on development as the sole attribute of interest. Consistent with the multiplicative specification, we emphasize that the power of DI associational evaluation depends on the *conjunctural direction and strength* of the first and third ideas of DI. For example, if one strongly favors development and at the same time associates it positively with, say, neolocal residence, one may easily conclude that it is good for married couples to set up new households away from their parents. If either the first or third DI idea is absent or points in a different direction, the resulting attitude (or value) would be categorically different. In the above example, one might still strongly prefer development, but a negative association of it to neolocal residence will drive a person's attitude in the opposite direction.

3.2.3 Alternative Ideational Structures

While focusing on developmental ideas, DI theory also recognizes the importance of co-existing alternative ideational models (Thornton 2005, 2010; also see, Inglehart and Baker 2000; Melegh 2010). As a world religion, Islam is known to have strong moral implications for both public and family life (e.g., Ali 2008; Calderini 2008; Huntington 1996; Inglehart 2007; Moaddel 2007; Rippin 2008; Stivens 2006). Consistent with Islamic doctrine (e.g., Ali 2008; Calderini 2008), residents in Muslim-majority countries as well as Muslim immigrants in European societies, on average, hold less modern ideas on issues such as female labor force participation, intergenerational living arrangements, spousal relationships, and women's reproductive autonomy (e.g., Ahmed 1992; Basit 1997; Bennett 2005; El-Islam 1983; Lesthaeghe 2000; Nirmila 2009; Pettersson 2007). For example, a recent study on international fertility change found that while 79% of Chinese and 61% of Nepalese respondents agreed that having one child was better than having three, the endorsement levels in Egypt and Iran were merely 16% and 36% (Thornton et al. 2012b: Table 4).

Is DI associational evaluation, then, equally effective in leading Muslims to endorse modern family? Previous empirical studies on DI have not offered a definitive answer to this question. We do know that the developmental hierarchies perceived by respondents in Muslim-majority countries are fairly similar to the hierarchies perceived by respondents in other countries (Thornton et al. 2012d). Moreover, Muslim respondents are found to associate development strongly—sometimes even more strongly than respondents in non-Muslim societies—with late marriage, self-choice marriage, neolocal residence, low fertility, gender equality, and so on (Abbasi-Shavazi et al. 2012; Binstock and Thornton 2007; Thornton et al. 2012a; Thornton et al. 2012b). In other words, at least some of the pieces needed for DI

associational evaluation to work are in place among many Muslims. However, whether those ideational components enable equally effective DI associational evaluation among Muslims and non-Muslims remains unclear.

3.3 Research Site and Hypotheses

3.3.1 Developmental Thinking and Family in China

We chose China as the site of research because its policy environment has been highly pertinent to the mechanism of DI associational evaluation. Since the middle of the 20th century, developmental discourse has been ubiquitous in China. Prior to the Reform era beginning in the late 1970s, the official Marxian philosophy of history that dominated much of the national policy making was that China was progressing from a socialist to a communist society. During the Reform era, the central tenet of developmental discourse has shifted from class relations to national economy, and as a corollary, the apex of the developmental hierarchy has shifted from the Soviet Union (or perhaps more often an imagined communist future) to the West. In 1985, the then top Party leader, Deng Xiaoping, remarked that “peace and development are the two major issues of the contemporary world.” Later, during his 1992 inspection trip to South China, Deng once again commented that “development is the hard truth.” Both statements were enshrined as supreme guidance for the entire country. After two decades of rapid economic growth, in the early 2000’s the government launched yet another national campaign to popularize the idea of “scientific development,” which stressed progress on multiple fronts rather than focusing on economic areas only (Song 2008). Despite shifting substantive focus of

developmental arguments, the teleological flavor and ultimate legitimacy of the concept of development in Chinese rhetoric have not changed in the last four decades.

Regarding development's association with modern family, the revisions of developmental rhetoric from class relations to socioeconomic issues are unlikely to have produced appreciable differences, because the communist family ideal happens to be well aligned with the predictions that are based on perceptions of western experiences (Engles 2010/1884; Goode 1963; Wolf 1986). It has been argued that the socialist transformation movement in the mid-1950's effectively challenged long-standing patriarchal norms in urban China and led to later marriages by self-choices (rather than arranged by parents), more equal and romantic spousal relations, and a departure from the historical value of filial piety (Whyte 1990, 1995, 2003, 2004; Whyte and Parish 1984; Yang 1959). These challenges were to a great extent justified by the discourse of socialist modernization (Diamant 2000). During the post-Mao era, the family planning program continued to promote late marriage, late childbearing, and low fertility in the name of development, while tying the opposites to backwardness and poverty (Davis and Harrell 1993; Greenhalgh 2008).

Given such policy background, it is safe to say that the two DI ideas required for DI associational evaluation—positivity of development and its association with modern family—are both part of the mainstream party thoughts in contemporary China. Of course, the direction and strength of each idea necessarily vary across individuals, producing substantial heterogeneity in their conjunctural strength which enables us to empirically test the effect of DI associational evaluation on family values.

***Hypothesis 1:** A strong conjunction between endorsement of development and belief in its association with modern family (i.e., DI associational evaluation) leads to greater likelihood to endorse modern family.*

3.3.2 Islam in Gansu

Beyond the net influence of DI association evaluation, we also ask if it penetrates through indigenous alternative ideational models. Specifically, we assess if Islam changes the way it works. This cannot be achieved by pooling data collected in Muslim and non-Muslim countries, since that comparison captures not only the differences made by Islamic religion but also other confounding factors that are difficult to account for, such as regional history, cultural tradition, and international politics. Instead, we chose to conduct individual-level comparison between Muslims and non-Muslims in one homogenous area—Gansu Province in northwest China.

In China, ten out of fifty-five Chinese ethnic minorities⁵ are predominantly Muslim, which are, in the order of population size, Hui, Uyghur, Kazak, Dongxiang, Kyrgyz, Salar, Tajik, Bonan, Uzbek, and Tatar. The ten ethnic groups add up to 20.3 million Muslims, accounting for 1.64% of the national population (China Statistical Bureau 2002: Table 2-1). In 2005, Gansu was home to two large Muslim ethnic groups—Hui (4.1%) and Dongxiang (1.8%) (Gansu Statistical Bureau 2007: Table 2-1). Unlike other Chinese Muslim ethnicities who are mostly of Turkic ancestries, Hui and Dongxiang people are practically indistinguishable from Han Chinese in physical appearance (though they both have non-Han components in biological ancestry) and

⁵ Though in Western societies the Chinese people are often considered as one single ethnic group, substantial internal heterogeneities exist in biological ancestry and ethnic culture. In the 1950's, the Chinese state identified fifty-six ethnic groups (officially termed “nationalities”), who collectively constituted the Chinese nation. Among all Chinese ethnicities, Han consist of the overwhelming majority, accounting for 91.5% of the national population in 2000 (China Statistical Bureau 2002: Table 2-1).

are well assimilated into Han ethnic culture (e.g., Chang 2006; Ma 2004; Lipman 2004).

Therefore, in Gansu the difference between non-Muslim Han people and Hui and Dongxiang Muslims is essentially religious adherence to Islam, a difference that is only marginally confounded by ethnic culture and biological ancestry.

Although Islam is generally regarded as a “socially pervasive” religion (Gellner 1983), the ideational influences of Islam in today’s Gansu are more pertinent to private than public domains. Muslim communities in Gansu suffered recurring state violence during the Manchu Qing Dynasty (1644-1911) (Li and Yu 1988; Lipman 1997; Zhang 2001). During the turbulent early 20th century, to make Gansu a safe place for Islam and its adherents, local Muslim leaders pledged allegiance to the central Republican government, which facilitated an integration between religious and the newly-forged Chinese national identities (i.e., Sino-Muslim) (Lipman 1997). Under the communist regime, Gansu Muslims were granted relative autonomy and freedom of religion until the Cultural Revolution (1966-1976), when all religions were outlawed and persecuted across the country. Since the late 1970’s, however, there has been an Islamic revival—in part an effort of restoration but also a reaction to various social “problems” that were believed to be caused by rapid economic growth (Armijo 2008).

Due to such historical experiences and their minority status, the expressed discontent of today’s Gansu Muslims, if any, is not so much about the state’s political-legal basis as issues in the private sphere of life (e.g., Gladney 1996, 2003; Luo 2007). With regard to family, our calculations based on 2005 census survey data show that Gansu Muslims are further away from the modern family model than Han people. Specifically, they tend to marry earlier (by approximately 1.5 years), live in bigger families (with 0.7 more person per household), have

more children (0.3 more child per woman), and have wider spousal age gaps (also see Luo 2007). Taking these behavioral outcomes as revealed preferences, we propose our second hypothesis:

***Hypothesis 2:** Muslims are less likely to endorse modern family values.*

While acknowledging Islam as an influential ideational structure that operates in the opposite direction as DI associational evaluation does, we have conceptualized the latter as a general psychological process which therefore should be equally effective among Muslims and non-Muslims, hence our third hypothesis:

***Hypothesis 3:** The influence of DI associational evaluation on the endorsement of modern family does not differ between Muslims and non-Muslims.*

3.4 Data and Methods

3.4.1 2007 Gansu Survey

Targeting all adult residents (aged 18+), the 2007 Gansu survey yielded a probability sample of 632 respondents (analytic $N = 621$) with an overrepresentation of Muslims (i.e., Hui and Dongxiang) but was otherwise representative at the provincial level. The survey adopted a multi-stage sampling scheme. Among the fourteen prefectures of the province, six were randomly selected (i.e., Linxia Hui Autonomous Prefecture, Lanzhou, Baiyin, Tianshui, Dingxi, and Longnan). Within each prefecture, three communities were chosen at random. To identify enough Muslim respondents, six communities were selected in Linxia Hui Autonomous Prefecture. Finally, for each community about thirty respondents were randomly determined and interviewed. The survey was fielded by Gansu Provincial Academy of Social Sciences, which helped yield a high response rate of 94%.

As part of the international survey program on developmental idealism, the Gansu survey directly measured DI ideas. The correlation between ethnicity and religion turned out to be perfect—none of the Han respondents believes in Islam while all Hui and Dongxiang respondents self-identify as Muslims. The label “ethno-religion” is used to differentiate the two comparison groups—Han non-Muslims vs. Hui and Dongxiang Muslims. As discussed above, this contrast mostly captures differences due to Islamic religion rather than those due to biological ancestry and ethnic culture. The descriptive statistics are summarized in Tables 3.1 and 3.2.

3.4.2 Dependent Variables

Our outcome variables, modern family values, were directly measured on five different substantive aspects. During the survey, each respondent was asked:

*Overall, which do you think is better for most people around the world today—
married children living with their parents, or married children living separately?*

Similarly, respondents were asked which item in the following pairs is better: *young people choosing their own spouses or parents choosing their spouses for them; a society in which there is equality between women and men or a society in which there is not equality between women and men; having one child or having three children; marrying at the age of 22 or marrying at the age of 28*. In what follows we refer to these five dimensions as *neolocal residence, self-choice marriage, gender equality, late marriage for women, and fewer children*. For each dimension, endorsement of the modern family is coded 1 and otherwise 0. The summary statistics are reported in Table 3.2.

3.4.3 Key Independent Variables: DI Associational Evaluation Indices

Our main explanatory factor is DI associational evaluation, for which we constructed five different indices, one each for our five family dimensions: neolocal residence, self-choice marriage, gender equality, late marriage for women, and fewer children. We constructed these five separate indices so that for each family value dependent variable, there would be a corresponding DI Associational Evaluation Index. Following our earlier discussion, we constructed each index as the product of perceived positivity of development and the development-family association, so that the power of DI associational evaluation would depend on the conjunctural strength of the two DI ideas.

The positivity one attaches to development is retrieved using a binary response question asking if *a moderately developed society [coded 1] or a society that is highly developed [coded 2] is better for most people around the world today*. The development-family association is measured, for each of the five dimensions, with a hypothetical question. For example, the respondent's perceived association between development and neolocal residence is based on the following survey item:

[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.]

First, how about married children living with their parents—in general, is this more common in countries that are developed or more common in countries that are not developed?

- A. *Not developed [coded 1]*
- B. *About the same [coded 0]*
- C. *Developed [coded -1]*

Similar questions were also asked with regard to self-choice marriage, gender equality, late marriage for women, and number of children.

Finally, for each of the five dimensions of family life, a DI Associational Evaluation Index was constructed as the product of the development positivity variable and the corresponding development-family association variable. To facilitate interpretation, all DI Associational Evaluation Indices were then constrained between 0 and 1, with greater values representing stronger conjunctural strength between the two DI ideas. The distributions of the component items are reported in Table 3.1. The resulting indices, as the key analytical variables used in statistical models, are summarized in Table 3.2.

[Table 3.1]

The multiplicative construction of the indices is sensitive to the coding of component variables. As shown in Table 3.1, we have coded positivity of development as [1/2] rather than [0/1], and each association variable as [-1/0/1] rather than the more conventional [1/2/3]. As such, each index contains 5 levels [-2/-1/0/1/2] (later rescaled to [0/.25/.5/.75/1] for ease of interpretation).

3.4.4 Other Independent Variables

Our second main explanatory factor is Islamic religion. Our Islamic religion variable is a straightforward indicator of Islamic religious affiliation versus non-Islamic religious affiliation. As mentioned before, the Islamic adherence is perfectly correlated with Hui and Dongxiang ethnicities but only minimally confounded with ethnic culture and biological ancestry.

In addition to the two ideational factors, we also used a number of other covariates in our analyses, including gender (male = 1), birth cohort dummies, marital status (currently married = 1), urban/rural household registration (a.k.a. *hukou*, urban = 1), logged personal income in 2006, and years of education. The cutoff points between birth cohort dummies correspond to what Whyte (2010) termed China’s two “social revolutions”—the socialist transformation prior to 1956 and the economic reform since the late 1970’s. Previous literature has identified these variables as effective explanations for family values (e.g., Inglehart and Pippa 2003; Logan and Bian 1999; Shu 2004). In what follows we also refer to these control variables as structural factors to distinguish them from DI associational evaluation and Islamic religion. The descriptive statistics of all analytic variables are summarized in Table 3.2.

[Table 3.2]

3.4.5 Statistical Models

As is standard with binary outcomes, we estimated logistic regressions predicting respondents’ endorsements of neolocal residence, self-choice marriage, gender equality, late marriage for women, and fewer children, respectively. The independent variables are the same across the models except for DI Associational Evaluation Indices, which vary across the dependent variables to match the outcome variable. These models are labeled “dimension-specific models” in Tables 3.3 and 3.4. For each dimension, four different sets of independent variables (Panels A to D) are specified to test different hypotheses.

However, dimension-specific models have two disadvantages. First, they do not utilize the information concerning the correlations among the five outcomes. Second, they do not yield

interpretations regarding family life in general. Therefore, a composite analysis is necessary to account for the within-individual clustering effect (i.e., the fact that each individual's views on those five aspects are not independent of each other) and to draw conclusions about family life in general. For the composite analysis, we used a multi-level approach that “collapsed” the five dimensions into one multilevel process, where the influences of various DI Associational Evaluation Indices on the corresponding family values were estimated simultaneously at the intrapersonal level (level-1) and the individual characteristics were considered personal-level (level-2) variables (see Xie et al. 2012 for a similar application of multilevel analysis).

As shown in Table 3.3, the specifications of the multilevel logistic models across Panels A to D correspond to those of the dimension-specific models so that analogous interpretations can be achieved—but with reference to family life in general rather than particular familial dimensions. Below we provide the specifications of the multilevel logistic models:

(A) Level-1 model: $\log[p_{ij}/(1-p_{ij})] = \eta_{1j} + \eta_{2j}x_{ij}$

Level-2 model: $\eta_{1j} = \gamma_{11} + \varsigma_j$

(B) Level-1 model: $\log[p_{ij}/(1-p_{ij})] = \eta_{1j}$

Level-2 model: $\eta_{1j} = \gamma_{11} + \gamma_{12}w_{2j} + \varsigma_j$

(C) Level-1 model: $\log[p_{ij}/(1-p_{ij})] = \eta_{1j} + \eta_{2j}x_{ij}$

Level-2 models: $\eta_{1j} = \gamma_{11} + \gamma_{12}w_{2j} + \varsigma_j$

$$\eta_{2j} = \gamma_{21} + \gamma_{22}w_{2j}$$

(D) Level-1 model: $\log[p_{ij}/(1-p_{ij})] = \eta_{1j} + \eta_{2j}x_{ij}$

Level-2 models: $\eta_{1j} = \gamma_{11} + \gamma_{12}w_{2j} + \gamma_{13}w_{3j} + \dots + \gamma_{19}w_{9j} + \varsigma_j$

$$\eta_{2j} = \gamma_{21} + \gamma_{22}w_{2j}$$

where i denotes the i th family value ($i = 1, \dots, 5$), and j denotes the j th individual ($j = 1, \dots, 621$). The log odds of endorsing modern family ($\log[p_{ij}/(1-p_{ij})]$) are regressed on the DI Associational Evaluation Index (x_{ij}) irrespective of particular dimensions (except for Model B where x_{ij} is not included). Level-2 variables w_{2j} through w_{9j} are Islamic affiliation (Islam = 1), gender (male = 1), birth cohort dummies for 1956-1976 and 1977-1989 (reference = 1922-1955), marital status (currently married = 1), rural/urban *hukou* (urban = 1), logged personal income in 2006, and years of education, respectively. Unlike linear multilevel models, there is no random error in the linear predictor of the log odds (Cf. level-1 models) because the residual variance of logit models is fixed at $\pi^2 / 3$.

In addition to generality of the interpretation, another advantage of multilevel analysis was that we were able to include a random component (ζ_j) in the level-1 intercept and allow it to vary among the 621 individuals (level-2 units). The random intercept could be realistically thought of as the unobserved heterogeneity at person (j) level that made individuals more or less inclined to modern family.

Given our cross-sectional setting, the influence of ideational factors on family values inevitably invokes concerns about endogeneity. It is important to clarify that the goal of this study is to reveal the robust dependence of family values on ideational factors, not to rule out the possibility of reciprocal causation. However, we maintain that the causal directions specified in our models are more plausible than their reverses. Theoretically, our analytic scheme is supported by the well-established expectancy-value model in psychology. Substantively, both

developmental thinking and Islam are systematically indoctrinated and long-standing belief systems rather than transient ideas that are easily contingent on shifting situations. They are also elaborate ideologies that bear direct implications for our outcomes.

3.5 Results

3.5.1 Descriptive Results

Table 3.1 presents the descriptive results of the DI beliefs and values that are used in the construction of our key predictors, DI Associational Evaluation Indices. A majority of respondents (77.6%) prefer highly developed societies and 66%-92.1% of the respondents positively associate development to the five modern family dimensions. Comparing across ethno-religion, Han respondents are more likely to prefer development. They are also more likely to associate development with modern family—except gender equality.

The resulting conjunctural strengths of the DI beliefs, as captured by the DI Associational Evaluation Indices (Cf. Table 3.2) are high on average—all but the index for neolocal residence (0.65) score above 0.80 on a scale from 0 to 1. On all five dimensions, DI associational evaluation is weaker among Muslims than Han people, with three differences statistically significant (i.e., self-choice marriage, late marriage for women, and fewer children).

Table 3.2 also describes all other variables used in our models. The level of endorsement of modern family varies substantially across dimensions. Overall, most respondents endorse self-choice marriage (95%) and gender equality (99%), 78% endorse fewer children, and less than a half endorse neolocal residence (46%) and late marriage for women (49%). Comparing across religious groups, Muslims' endorsement levels are consistently and significantly lower

than Han people. However, as shown by the structural covariates, Muslims also significantly differ from Hans in terms of age, rural/urban residence, and years of education. To formally test our hypotheses, we now continue to the logit models.

3.5.2 Hypotheses Testing

[Table 3.3]

The first ten columns in Table 3.3 report the results of dimension-specific logistic regressions predicting, respectively, the endorsement of neolocal residence, self-choice marriage, gender equality, late marriage for women, and fewer children. These five dimensions were then estimated simultaneously with multilevel logit models summarized in the last two columns. For each outcome, Panels A to C correspond to the reduced-form models for our Hypotheses 1 to 3, and Panel D presents the full models which include DI Associational Evaluation Indices, Islam, their interaction, and all the structural covariates. Odds ratios are reported to facilitate interpretation. While the Maximum Likelihood estimators (i.e., logit coefficients) are normally distributed, the odds ratios are not, which makes standard errors on the odds ratio metric not easily interpretable. Therefore, instead of reporting standard errors of the odds ratios, for each odds ratio we calculated a Z-ratio as the absolute value of the logit coefficient divided by its standard errors (see Thornton, Axinn and Xie 2007 for similar applications).

The bivariate models in Panel A partially support our first hypothesis. All odd ratios are greater than 1, confirming that those who score high on the DI Associational Evaluation Indices are more likely to endorse modern family attributes. For the first model, the odds ratio of 2.15 means that those who score 1 on the index are 1.15 times more likely than those who score 0 to

endorse neolocal residence. Similarly, the odds ratios for the self-choice marriage, gender equality, late marriage for women, and fewer children are 6.30, 9.83, 1.27, and 1.37, respectively. Although the effects are neither large nor statistically significant (at .05 level) for late marriage for women and fewer children, results of the five dimension-specific models generally confirm the positive role of DI associational evaluation in endorsing modern family items. The composite multilevel model in Panel A shows that, irrespective of specific family dimensions, those who score 1 on the DI Associational Evaluation Index are 2.01 times more likely than those who score 0 to endorse modern family (odds ratio=3.01), and the effect is highly significant at .001 level. We consider the multilevel model more conclusive because its estimation takes into consideration the person-specific unobserved heterogeneities (i.e., random intercept) that simultaneously drive individual's views on all five family items.

Models in Panel B examine the influences of Islamic religion on family values. Consistent with Hypothesis 2, Muslims are 0.42, 0.13, 0.15, 0.33, and 0.62 times as likely as Han people to endorse neolocal residence, self-choice marriage, gender equality, late marriage for women, and fewer children. Except for fewer children, all odds ratios are significantly different from 1. After collapsing the five dimensions using one multilevel model, results show that Muslims are half as likely as Hans to endorse modern family (odds ration=0.50), which is statistically significant at .001 level.

Moving on to the third hypothesis, in Panel C models we included both ideational factors and their interactions to examine if DI Associational Evaluation Indices influence Muslims' family values in the same way as they influence Han people. The coefficients on interaction terms are inconsistent in both magnitude and direction across dimensions. Importantly, none of

the interactions is statistically significant at the 0.05 level, which is also true with the corresponding multilevel model. We consider these results supportive of our third hypothesis—that DI associational evaluation is a universally applicable cognitive process that operates among Muslims and non-Muslims alike. We also notice that, putting DI associational evaluation and Islamic belief in juxtaposition to each other (together with their interactions) has created substantial competition between these two ideational forces—the influence of DI Associational Evaluation Indices on gender equality loses statistical significance and so does Islam’s influences on neolocal residence and self-choice marriage.

In Panel D, we further included a set of structural covariates (i.e., gender, birth cohorts, marital status, rural/urban *hukou*, logged income, and years of education) to account for the observed sources of variation in the outcomes that are due to non-ideational forces.⁶ As it turned out, the net effects of DI Associational Evaluation Indices, Islamic belief, and their interactions remained very similar to previous models. In dimension-specific models, on the one hand, the main effects of the indices are all positive and significant for neolocal residence and self-choice marriage; on the other hand, Islamic belief reduces one’s likelihood to endorse all five modern family attributes, and the influences are statistically significant for gender equality and late marriage for women. In addition, as indicated by the consistent lack of statistical significance for the interaction terms, the influences of DI associational evaluation are not significantly different between Muslims and non-Muslims. Again, the composite multilevel model yields more conclusive and supportive results for all three hypotheses. The DI Associational

⁶ Urban *hukou* predicts endorsement of gender equality perfectly. As a result, inclusion of the *hukou* variable would lead the logit model to drop all the urban cases. Therefore, for gender equality, we excluded the information concerning rural/urban *hukou* from the full model. The model is otherwise identical across the five family dimensions.

Evaluation Index raises one's likelihood of endorsing modern family by 171%, whereas Muslims are half (0.46 times) as likely as Han people to endorse modern family. Both effects are statistically significant but not their interaction, which means that the influence of DI associational evaluation is not qualified by religious adherence to Islam.

[Table 3.4]

So far we have based our test of the third hypothesis on the interaction terms in logit models (here reported on odds ratio metric). However, in nonlinear models the interaction effect does not equal the marginal effect of the interaction term (Ai & Norton 2003), which makes direct interpretation of the estimated coefficients difficult. Therefore, we also calculated the predicted probabilities (based on average marginal effects) for Muslims and Han people at different levels of DI Associational Evaluation Indices to reveal their interactive patterns in more tangible ways. Based on the full models where covariates are held at the mean level, we observe the probabilities of endorsing modern family in Table 3.4. The last row shows the probability changes over the full span of DI Associational Evaluation Indices (from 0 to 1), which we use as more intuitive indications of the effects of DI association evaluation. Comparing the two religious groups across the five dimensions, we find that the differences between Muslims and Han people vary in both magnitude and direction. While DI association evaluation has a stronger impact on Han respondents than Muslims in terms of neolocal residence (12% vs. 11%), self-choice marriage (10.6% vs. 2.2%), and fewer children (6.6% vs. -1.7%), the impacts are weaker among Han than Muslims in terms of gender equality (0.8% vs. 33.4%) and later marriage for women (0.2% vs. 23.3%). Taking all five dimensions together, the random-intercept multilevel model predicts that DI Associational evaluation increases Muslims' probability to endorse

modern family by 24.4% and Han's probability by 20.6%, which we consider a difference of limited importance. In conclusion, we recognize that in our sample, DI associational evaluation coefficients for Muslims and Han people are different in inconsistent ways, but we have no evidence to conclude that those differences are not due to random error.

3.5.3 Notes on other Findings

As shown in Panel A of Table 3.3, for late marriage for women and fewer children, the effects due to DI Associational Evaluation Indices are statistically insignificant even without controls. However, we refrain from concluding that DI associational evaluation does not influence those two dimensions. Regarding late marriage for women, the survey questions used for the dependent and independent variables are not entirely compatible—while the former uses age eighteen as the threshold to differentiate early and late marriages, the question for the association between development and late marriage for women (which is used in the index construction) uses the age contrast between twenty-eight versus twenty-two. Had the two questions employed the same criterion, the estimated result could have been more pronounced and significant.

The case with fewer children is less curious if we take China's birth control program into consideration. Given extensive exhortation for nearly three decades, a strong sense of political correctness might have permeated evenly through different levels of DI associational evaluation and tinted people's responses. In that case, answers would reflect political correctness, rather than true opinions about low fertility. Of course, if the responses were truthful, we must conclude that variations in preferences for low fertility are indeed not attributable to variations in DI associational evaluation.

In addition, it is useful to note the differences between the influences of ideational factors and those due to the structural factors. Across dimensions, the effects of DI Associational Evaluation Indices and Islam are consistently positive and negative, respectively. However, the coefficients on gender, birth cohorts, marital status, *hukou*, and income all vary considerably across dimensions, pointing to different directions and mostly statistically insignificant. The most consistent structural effect comes from education, which pushes people in the direction of modernity except in the case of late marriage for women. In this sense, ideational explanations account for the variations in people's family values in more systematic ways than structural factors do.

3.6 Discussion

Our paper provides an individual-level ideational explanation for the endorsement of modern family attributes. Specifically, we have shown how the conjunction of people's value for development and their perceived associations between development and certain family attributes can jointly lead to endorsement of those family attributes. We integrated developmental idealism in sociology and demography and the expectancy-value model in social psychology to articulate the cognitive process of DI associational evaluation. Our empirical results provide supports for the influences of DI associational evaluation. We also find that such influences are robust in the presence of an alternative ideational model, in this case Islam.

With this paper we make three first-time contributions to the theory of developmental idealism. First, drawing on the expectancy-value framework, we weave together multiple DI ideas, which were initially defined as distinct and independent, into an interactional mechanism

that generates modern family values. Second, developmental idealism had been used to explain behavioral trends, but in this paper, we extend DI's relevance to value outcomes. Third, this paper empirically assesses the impact of alternative ideational models, in this case Islam, and its competition with DI in affecting family value orientations.

This paper also has implications for general family scholarship. First, given the continuing expansion of developmental ideas around the world, the global rise of modern family values, in the aggregate form, could be to a great extent attributable to this micro-level psychological phenomenon. Second, our results indicate that developmental ideas and Islamic belief are more consistent than structural factors in explaining the variation in multiple views on the family, which signals the importance of ideational explanations for international family change. In this paper we have focused on developmental thinking, while other ideas such as science, human rights, and legality are also worth investigating.

We advise against two overgeneralizations of our findings. First, our empirical investigation is confined to five specific familial dimensions, which are neither the entirety nor a random sample of all aspects of family life. Although those five dimensions do provide a reasonable coverage of the most important intergenerational, gender, marriage, and fertility issues, it would be unwise to ignore the qualitative differences between concrete family dimensions and claim equal truth of DI associational evaluation for all domains of family life.

Our second reservation has to do with the external validity concerning the Islamic influences. While the relative homogeneity of Gansu helps us identify cleaner effects due to Islamic religion, such effects cannot be generalized beyond Gansu. Today, a total of 1.6 billion Muslims live in more than two hundred countries (Pew Forum on Religion & Public Life 2009).

Gansu Muslims cannot possibly fully represent such enormous heterogeneity. Even within China, our results might have been different if we had conducted the study with, for example, Uyghur Muslims in Xinjiang Autonomous Region. In this paper we have treated Islam as a special case of indigenous alternative ideational models that compete with developmental thinking. For an overall view of how Islamic beliefs work in the making of family values, empirical efforts have to go beyond the scope of the current study.

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Table 3.1. Distribution and coding of items used in DI Associational Evaluation Indices, by ethno-religion

	Total	Muslim	Han
Positivity of development			
<i>% preferring moderately developed society (coded 1)</i>	22.4	26.8	21.7
<i>% preferring highly developed society (coded 2)</i>	77.6	73.2	78.3
<u>Development-family association</u>			
Neolocal residence			
<i>% negative association (coded -1)</i>	31.6	37.8	30.6
<i>% no association (coded 0)</i>	2.4	1.2	2.6
<i>% positive association (coded 1)</i>	66.0	61.0	66.8
Self-choice marriage			
<i>% negative association (coded -1)</i>	6.0	17.1	4.3
<i>% no association (coded 0)</i>	1.9	1.2	2.0
<i>% positive association (coded 1)</i>	92.1	81.7	93.7
Gender equality			
<i>% negative association (coded -1)</i>	9.0	9.8	8.9
<i>% no association (coded 0)</i>	3.5	2.4	3.7
<i>% positive association (coded 1)</i>	87.4	87.8	87.4
Late marriage for women			
<i>% negative association (coded -1)</i>	15.8	26.8	14.1
<i>% no association (coded 0)</i>	0.5	0.0	0.6
<i>% positive association (coded 1)</i>	83.7	73.2	85.3
Fewer children			
<i>% negative association (coded -1)</i>	9.0	14.6	8.2
<i>% no association (coded 0)</i>	1.6	1.2	1.7
<i>% positive association (coded 1)</i>	89.4	84.1	90.2
Sample size	621	82	539

Source: 2007 Gansu Survey.

Table 3.2. Distribution[†] of analytic variables, by ethno-religion

	Total	Muslim	Han	$\Delta_{(\text{Muslim-Han})}^{\dagger\dagger}$
Modern family values (% endorsement)				
<i>Neolocal residence</i>	45.7	28.0	48.4	-20.4 **
<i>Self-choice marriage</i>	95.2	81.7	97.2	-15.5 ***
<i>Gender equality</i>	98.7	95.1	99.3	-4.1 **
<i>Late marriage for women</i>	49.1	26.8	52.5	-25.7 ***
<i>Fewer children</i>	78.4	70.7	79.6	-8.9
DI Associational Evaluation Index (0-1)				
<i>Neolocal residence</i>	0.65 (0.42)	0.60 (0.44)	0.66 (0.42)	-0.06 (0.05)
<i>Self-choice marriage</i>	0.88 (0.24)	0.78 (0.35)	0.90 (0.22)	-0.12 *** (0.03)
<i>Gender equality</i>	0.85 (0.28)	0.84 (0.29)	0.85 (0.28)	-0.01 (0.03)
<i>Late marriage for women</i>	0.80 (0.34)	0.70 (0.40)	0.81 (0.33)	-0.11 ** (0.04)
<i>Fewer children</i>	0.86 (0.28)	0.80 (0.33)	0.86 (0.27)	-0.07 * (0.03)
Male (%)	44.9	50.0	44.2	5.8
Age	43.2 (13.8)	40.1 (14.5)	43.7 (13.6)	-3.6 * (1.6)
Birth cohort (%)				
<i>1922-1955</i>	30.6	28.0	31.0	
<i>1956-1976</i>	53.9	43.9	55.5	
<i>1977-1989</i>	15.5	28.0	13.5	
Currently married (%)	87.8	90.2	87.4	2.9
Urban (%)	19.3	31.7	17.4	14.3 **
Personal income in 2006 (<i>yuan</i>)	3,117 (3,744)	3,235 (4,246)	3,099 (3,665)	136 (444)
Years of education	7.3 (3.4)	6.2 (3.7)	7.4 (3.4)	-1.3 ** (0.4)
Sample size	621	82	539	

Notes: [†] Standard deviations are presented in parentheses under means. Percentage distributions are presented in italics.

^{††} The last column shows t-test results for differences between Muslim and Han respondents.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Source: 2007 Gansu Survey.

Table 3.3. Logit and multilevel logit models predicting modern family values

	Dimension-specific models [†]										Multilevel models ^{††}	
	Neolocal residence		Self-choice marriage		Gender equality ^{†††}		Late marriage for women		Fewer children			
	Odds ratio	Z ^{††††}	Odds ratio	Z	Odds ratio	Z	Odds ratio	Z	Odds ratio	Z	Odds ratio	Z
Panel A: Bivariate: DI Associational Evaluation Index												
DI Associational Evaluation Index (0-1)	2.15 ***	3.90	6.30 ***	3.56	9.83 **	2.77	1.27	1.02	1.37	0.94	3.01 ***	9.68
Model/Wald χ^2 (df)	15.61(1)***		10.31(1)**		6.51(1)*		1.05(1)		0.85(1)		93.75(1)***	
Panel B: Bivariate: Islam												
Islam (Ref. = non-Islamic affiliation)	0.42 **	3.37	0.13 ***	5.31	0.15 **	2.68	0.33 ***	4.18	0.62	1.80	0.50 ***	6.28
Model/Wald χ^2 (df)	12.36(1)***		25.27(1)***		6.36(1)*		19.46(1)***		3.10(1)		39.48(1)***	
Panel C: DI Associational Evaluation Index \times Islam												
DI Associational Evaluation Index (0-1)	2.06 **	3.45	10.72 **	3.42	2.53	0.67	0.97	0.12	1.37	0.83	2.79 ***	8.10
Islam (Ref. = non-Islamic affiliation)	0.37	1.96	0.70	0.40	0.03 **	2.60	0.12 **	3.02	0.75	0.40	0.45 **	3.19
DI Associational Evaluation Index \times Islam	1.26	0.35	0.13	1.96	19.67	1.52	3.76	1.65	0.80	0.27	1.26	0.75
Model/Wald χ^2 (df)	27.06(3)***		34.37(3)***		15.57(3)**		22.89(3)***		3.79(3)		121.70(3)***	
Panel D: Full model												
DI Associational Evaluation Index (0-1)	1.62 *	2.21	9.51 **	3.14	2.72	0.71	1.01	0.03	1.47	1.01	2.71 ***	7.84
Islam (Ref. = non-Islamic affiliation)	0.37	1.85	0.94	0.07	0.02 *	2.39	0.11 **	3.16	0.91	0.13	0.46 **	3.06
DI Associational Evaluation Index \times Islam	1.10	0.15	0.13	1.82	31.04	1.63	4.35	1.79	0.63	0.56	1.22	0.66
Male (Ref. = female)	0.92	0.45	1.29	0.54	0.69	0.45	1.20	1.02	1.11	0.49	1.08	0.83
Birth cohort (Ref. = 1922-1955)												
1956-1976	1.38	1.56	0.23 *	2.42	0.14	1.53	1.40	1.66	1.79 *	2.50	1.21	1.94
1977-1989	1.10	0.31	0.21 *	2.06	0.31	0.75	0.92	0.29	2.24 *	2.25	1.06	0.43
Currently married (Ref. = unmarried)	0.84	0.61	0.96	0.06	1.43	0.29	0.60	1.83	1.19	0.54	0.85	1.13
Urban <i>hukou</i> (Ref. = rural)	2.33 ***	3.48	0.89	0.19	-	-	1.44	1.58	0.86	0.57	1.32 *	2.34
Logged personal income in 2006	1.12	1.42	0.95	0.25	1.22	0.59	0.87	1.85	1.00	0.01	0.99	0.30
Years of education	1.08 *	2.50	1.26 **	2.67	1.12	0.81	0.99	0.24	1.03	0.79	1.03 *	2.02
Model/Wald χ^2 (df)	68.25(10)***		51.43(10)***		20.25(9)**		35.6(10)***		16.45(10)		141.69(10)***	
Sample Size	621		621		621		621		621		3,105	

Notes: [†] In dimension-specific models, for each outcome a thematically consistent DI Associational Evaluation Index is used.

^{††} The multilevel models are random-intercept models for binary outcomes that estimate the five family values simultaneously.

^{†††} For gender equality, urban *hukou* predicts endorsement perfectly and problemizes the estimation of logit model. It is therefore excluded from the full model.

^{††††} Z is the ratio of absolute value of the logit coefficient (log odds ratio) to its standard error.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Source: 2007 Gansu Survey.

Table 3.4. Predicted probabilities ($\times 100$) of endorsing modern family across levels of DI Associational Evaluation Indices

	Dimension-specific models										Multilevel model	
	Neolocal residence		Self-choice marriage		Gender equality		Late marriage for women		Fewer children			
	Muslim	Han	Muslim	Han	Muslim	Han	Muslim	Han	Muslim	Han	Muslim	Han
DI Associational Evaluation Index												
<i>0.00</i>	20.4	40.7	87.3	88.0	66.0	98.7	10.4	52.5	72.5	74.4	39.7	58.9
<i>0.25</i>	22.9	43.6	87.9	92.8	85.5	99.0	14.4	52.5	72.1	76.1	45.8	64.8
<i>0.50</i>	25.5	46.6	88.5	95.8	94.7	99.2	19.6	52.6	71.7	77.9	52.0	70.3
<i>0.75</i>	28.4	49.6	89.0	97.5	98.2	99.4	26.0	52.6	71.2	79.5	58.1	75.2
<i>1.00</i>	31.5	52.6	89.5	98.6	99.4	99.5	33.7	52.7	70.8	81.0	64.0	79.5
Change across index range	11.0	12.0	2.2	10.6	33.4	0.8	23.3	0.2	-1.7	6.6	24.4	20.6

Note: Probabilities are predicted based on the full models in Table 3, where all covariates are held at the mean level.

Source: 2007 Gansu Survey.

CHAPTER 4

Chinese Adulthood Higher Education: Life Course Dynamics under State Socialism

4.1 Introduction

Modern life course has become increasingly diversified (e.g., Berger et al. 1993; Macmillan 2005; Ravanera et al. 2004). Although certain norms exist at the societal level, life course events of different individuals do not uniformly follow any fixed sequence (Hogan 1978; Rindfuss et al. 1987). Traditionally, transition to college occurs immediately upon the completion of secondary education, but such transition has never been universally successful. Nowadays, for those who missed their first opportunities, it is a common choice to continue with higher education at a later time in adulthood in the presence of alternative life course engagements. As a result, college-related decisions and experiences often occur after and depend on those about marriage, parenthood and work (Adelmen 2006; Alexander et al. 2008; Bozick 2007; Bozick and DeLuca 2005; Bradburn et al. 1995; Deli-Amen and Turley 2007; Goldrick-Rab 2006; Goldrick-Rab and Han 2011; Kerckhoff 2004; Pallas 2004). This paper, for the first time, examines such adulthood life course dynamics in Chinese people's pursuit of higher education (at undergraduate level) under the regime of the People's Republic of China (PRC).

The pursuit of adulthood higher education (AHE) rose in the context of world educational expansion (e.g., Baker and Letendre 2005; Craig 1981; Meyer et al. 1977, 1992), which began to gain momentum at the tertiary level in the 1960s (Schofer and Meyer 2005). Today, higher education in many countries is characterized by diversified institutional systems and inclusive enrollment patterns (Arum et al. 2007; and see Choy 2002 for an U.S. example). In 2010, those aged 25 or above accounted for more than 30% of tertiary-level enrollments in at least twenty-five OECD countries (OECD 2012). Though confounded by the scale of graduate education, this is powerful evidence that undergraduate education at older ages has become a significant part of world's higher education.

China's higher education system consists of two parallel sectors—a regular sector that typically recruits graduating senior middle school students through entrance examinations, and an adult sector that typically provides part-time programs for out-of-school adult learners. It is important to clarify that both sectors had contributed to AHE. In 2011, China's undergraduate enrollment climbed to over 33 million (State Education Commission 2011). It is not clear how many of those students were AHE attendees (i.e., beyond “normal” college-attending ages), but 31% of them were enrolled in the adult sector (i.e., correspondence programs, night-time colleges, broadcasting and TV universities, internet-based programs). With such a large student body, the adult sector played a significant role in credential production, accounting for 35% of the 9.3 million undergraduate diplomas conferred in 2011. Historically, due to limited capacity of the regular sector, adult programs were even more important—between 1949 and 2011,

approximately 41% of all Chinese undergraduate credentials were achieved through adult programs (State Education Commission 1984-2012; see Appendix Table 4.1).⁷

Yet the adult sector is not the only destination for AHE-seekers in China. As I will show later, in 1949-1965 the regular sector used to be at least an equally important AHE provider. During the Cultural Revolution (1966-1977), normal college recruitment was essentially suspended on a national basis. As one of the post-hoc compensatory measures, the age limit for admissions to regular undergraduate programs was officially set to 30 in 1977 and 1978, and then 28 between 1979 and 1981 (Yang 1995: Table 2-13). After that, the age limit had remained 25 until it was eventually abolished in 2001. Age-specific enrollment numbers in regular sector are not available, but there is little doubt that a non-trivial proportion of Chinese adult learners went to college in the regular full-time sector.

Despite high prevalence of AHE in China, the influences of adulthood characteristics on college enrollment has attracted little scholarly attention. Indeed, until the rise of research on sequential variability of adulthood life course events, the assumption of education's precedence to work and family had dominated social science literature (e.g., Blau and Duncan 1967; Duncan et al. 1972; Featherman and Hauser 1978; Grusky and DiPrete 1990; Jencks et al. 1979; Sewell and Hauser 1980; Sewell et al. 1969, 1970; Shavit and Müller 1998; Shavit et al. 2007). To this day, sociological research on Chinese educational stratification is still largely confined to the tradition of status attainment literature, where one's own work and family (for procreation) characteristics are assumed to be post-outcome and excluded from the analysis (e.g., Wu and Zhang 2010; Hannum and Xie 1994; Yeung 2013; Zhou et al. 1998). While doing so is

⁷ Undergraduate credentials include diplomas awarded by both two/three-year junior colleges and four-year degree programs. Credentials obtained through self-study examinations are excluded.

essentially legitimate for primary and secondary educational outcomes, such assumption simply does not agree with the reality of Chinese higher education.

In this paper I fill the gap by asking how Chinese people's pursuit of higher education over adulthood has depended on his or her engagements in other life course activities (i.e., marriage, parenthood, work). I then examine the modern institution of Chinese AHE and separate out the work-based state sponsorship from the generic effect of work on AHE enrollment. Such state sponsorship is further considered in historical context to reveal its dynamics over time. Based on life course literature and PRC institutional background, I propose three logics in a progressive order—alternative life course engagement, work-based state sponsorship, and enhanced state sponsorship. Using retrospective data collected in 2003 Chinese General Social Survey (CGSS 2003), I trace individual life history back to 1949 and test the three hypotheses with discrete-time event-history analyses.

4.2 First-order Logic: Alternative Life Course Engagement

Conditional on failure in the initial direct transition to college, how have AHE opportunities depended on alternative adulthood life course activities? At the first order, there is the fundamental inter-domain competition for one's time and resources. In modern times, family, education, and work have become separate life course domains (Hareven 1982). In adulthood, one could possibly assume a variety of roles—college student, paid employee, spouse, parent, and so on. However, constrained by time and resources, there is a limit to how much one can do at the same time. Multitasking of course is possible (and often unavoidable), but engagement in

one domain necessarily reduces one's availability and/or affordability for others—the difference is but a matter of degree.

Higher education, in particular, requires heavy investment of both time and financial resources. Despite the prospect of delayed gratification, not everyone could afford such investment or the opportunity cost it would invoke. Also, unlike some work and family responsibilities, college coursework cannot be outsourced or shared by household members—at least not in principle. Therefore, although various part-time mechanisms make switches across domains possible, concurrent engagements in college and other life course activities remain highly challenging for most people. Because of this, participation in higher education is found to be responsible, at least in part, for delayed entrance into employment, independent living, cohabitation, marriage, childbearing, and so on (Blossfeld and Huinink 1991; Marini 1984; Marini, Chan, and Raymond 1987; Rindfuss, Swicegood, and Rosenfeld 1987; Thornton, Axinn, and Teachman 1995). Reversely, however, the story is more complicated. While marriage and parenthood are found to delay college enrollment (Bozick and DeLuca 2005; Goldrick-Rab and Han 2011), part-time employment increases the likelihood of mothers' reentry into schools (Bradburn et al. 1995). This is not surprising considering the productive nature of employment. While jobs cost time and energy that can be otherwise spent on attending college, they also generate financial resources to pay for it, which is all the more important given the expectation of adulthood independence. Hence our first hypothesis:

***Hypothesis 1:** Marriage and parenthood, as alternative adulthood life course engagements, are likely to suppress higher education opportunities over one's adulthood.*

The negative effect of labor force engagement, however, might be diluted or even overwhelmed by positive influences due to its earning nature.

4.3 Second-order Logic: Work-Based State Sponsorship

Of course, individual life course dynamics can never be isolated from the macro-institutional environment (Leisering 2004). Under strong state socialism, Chinese people's life experience had been greatly influenced by highly interventionist policies (Parish and Michelson 1996; Szelényi and Kostello 1996; Walder 1996), including those pertaining to education (e.g., Hannum and Xie 1994; Deng and Treiman 1997; Pepper 1996; Treiman 2013; Zhou, Moen, and Tuma 1998). Drawing on official statistics (see Figure 4.1 and Appendix Table 4.1) and historical documentations, in what follows I construct a rather extensive review of the modern institution of Chinese AHE, from which I extract a theme of work-based state sponsorship.

[Figure 4.1]

In a sense, adulthood higher learning is not new in China. For centuries, it had existed as part of traditional Chinese meritocratic bureaucracy (e.g., Chang 1955; Ch'ü 1961, 1972; Elman 2000; Weber 1951). The civil service examination system, as an effective means of social mobility (e.g., Ho 1959, 1962; Hsu 1949; Kracke 1947), has fostered a strong appreciation of learning regardless of age (Elman 2000; Rozman 1981:189-190; Wang 1960, 1961). Such legitimacy of adulthood academic credentials was capitalized on during China's communist revolution. Since the 1920s, many higher learning institutions were established in the areas controlled by the communists. Unlike higher education under the Nationalist regime, communist

colleges aimed not to prepare participants for civil labor market, but to credential revolutionary cadres for the Party's struggles for power (Dong, Dan, and Chen 2007:250; State Education Commission 1984:582). As a result, those communist colleges were characterized by Party-sponsored recruitment and weak organizational formality (Dong, Dan, and Chen 2007:184-250). Such war-time pragmatism, as I will show below, has never left the modern institution of Chinese AHE.

By 1952, the communist adult colleges were mostly dismantled (He 2004:38), but they quickly gained a new life on the newly nationalized college campuses. In 1950, the Ministry of Education ordered that cadres with worker or peasant backgrounds enjoy lower academic standards in college admissions (State Education Commission 1984:585). In 1955 and 1956 alone, some 51,000 cadres were admitted to regular college programs in the name of "opening door to workers and peasants" (State Education Commission 1984:585), accounting for 18% of the total regular college recruitment in those two years. For about ten years after 1949, the ratios between regular college recruitment and senior middle school graduation were extremely high and often exceeded 1, suggesting large amount of alternative progressions to regular undergraduate programs.

Apart from taking grounds in the regular sector, a separate adult part-time sector was soon created. Patterned on the USSR model, the new adult sector mainly consisted of correspondence programs and night-time colleges. As shown in Figure 4.1, the proportion of adult sector enrollment grew quickly from 0.1% in 1949 to 14.7% in 1957 (Cf. Appendix Table 4.1). Unlike communist colleges in the past, the new adult sector focused on the needs of state-building (i.e., teacher-training, finance and accounting, engineering) rather than those of

revolutionary struggles (He 2004:51). The normal order of state-building efforts, however, was soon disrupted.

Excited at the establishment of public ownership and some initial economic growth, the Party launched the Great Leap Forward movement in 1958. For three years to come, the whole nation was seized by an ideological zeal. To achieve the ambition of “popularizing higher education in fifteen years,” the formerly centralized college accreditation and student recruitment were left in the loose hands of local authorities (He 2004:94). In no time, hundreds of “worker’s colleges” and “peasant’s colleges” were established at local urban work units and agricultural collective communes. As a result, the adult sector enrollment increased by ten times within three years—from 76,000 in 1957 to 793,000 in 1960. Not surprisingly, they suffered rapid deterioration along with the national economy and eventually became unsustainable. Between 1960 and 1961, the enrollment in adult programs dropped by nearly a half to 410,000. Since 1961, the situation had remained relatively stable—until there arrived another wave of political turmoil.

Between 1966 and 1977, the Cultural Revolution pushed socialist radicalism to its extreme. The higher education was diagnosed by Mao as usurped by the capitalist intelligentsia. To “regain” the universities, educational activities were discontinued and replaced by on-campus class struggles (e.g., Deng and Treiman 1997; Pepper 1996). For a total of eleven years, the exam-based higher education recruitment was suspended. At the same time, some 17 million urban middle school graduates were forcibly “sent down” to live and work in the countryside (see Bernstein 1977; Zhou and Hou 1999).

However, in the later phase of Cultural Revolution, Chinese AHE experienced a surge in both regular and adult sectors. Beginning in 1972, regular colleges recruited rather extensively from adult workers, peasants, and soldiers with at least two years of work experience based on recommendation by local work units and political screening (hence the label “worker/peasant/soldier college students”),⁸ in the meanwhile, a huge growth occurred in the adult part-time sector, which peaked in 1976 at an enrollment of 2,628,600, accounting for 82% of the total undergraduate enrollment (Cf. Appendix Table 4.1). But those numbers cannot be taken at face value. On the one hand, most worker/peasant/soldier college students were admitted with no more than some education at the level of junior middle school, whose campus life was yet preoccupied by class struggle activities (State Education Commission 1984:83). On the other hand, the skyrocketing adult part-time enrollment was the result of a short-lived fervor of radical educational egalitarianism. Like what happened during the Great Leap, the dramatic expansion of the adult sector was driven not by the well managed correspondence programs, night-time colleges, or broadcasting and television universities, but by substandard institutions at the grassroots level. For instance, over 56% of the 1976 adult part-time enrollment came from the so-called “7-21 Universities” (Dong, Bi, and Zhang 2002:117).⁹

In the wake of Cultural Revolution, China’s higher education quickly recovered in response to policy adjustment and market demand for human capital. The cohorts who were kept out of colleges, especially those “send-down” youth who counted on college recruitment to

⁸ The worker/peasant/soldier student recruitment already began in 1970 and 1971, but only with a limited quota of 42,000 per year.

⁹ Like the “half-work, half-study universities” in the Great Leap Forward movement, the “7-21 Universities” were established by local authorities in an egalitarian fervor with Mao’s blessing. Unlike regular universities, the “7-21 Universities” were essentially on-job training programs for urban workers. In rural areas, similar part-time institutions were mostly named “5-7 Universities” or “Communist Labor Universities.”

regain urban life, created a nationwide outcry for higher learning opportunities. In the October of 1977, the first college entrance examination since 1965 received over 20 million applications (Yang 1995:45)—by contrast, senior middle schools only graduated a total of 5.9 million students in the same year (State Education Commission 1984).¹⁰ To accommodate massive demand for AHE, measures were taken in both regular and adult sectors. The age limit for regular full-time college admissions was set to 30 and then 28 in 1977-1981, and 25 thereafter. At the same time, the formal adult part-time system, including correspondence programs, night-time colleges, and broadcasting and television universities, was fully reinstated and expanded.¹¹ Conditional on decent quality, some “7-21 Universities” were preserved and transformed into workers’ colleges, and continued to serve adult workers in urban China. Several case studies on the workers’ colleges in the 1980s found that they functioned relatively well and were generally well received in society (Deaux 1988; Yu and Xu 1988). It is worth noting that the recruitment of the adult sector, unlike regular colleges, has been based on a mixture of academic merit and institutional sponsorship. To maintain national standards, the adult sector began to administer centralized entrance examinations in 1986. Yet as a state policy, favored admissions based on political capital never went extinct (State Education Commission 1994:330-331).

Having clarified the institutional background, the role of work-based state sponsorship in the stratification of AHE opportunities becomes rather obvious. Previously, we have argued that

¹⁰ The 1977 entrance examinations were administered at the provincial level. The centralized state-run college entrance examination was officially restored in 1978. Though the 1977 exams still involved political screening and not standardized across the nation, it was the first-time nationwide college recruitment based on academic merit since 1965. After political screening, 5.7 million out of the 20 million applicants were allowed to sit the exams, among whom 0.27 million eventually gained admissions (i.e., an admission rate of 4.7%).

¹¹ The correspondence programs were partially restored in 1972 on a recommendation basis, and served mainly the send-down youth during the Cultural Revolution. The scale was small, though. By 1974, a total of 73 institutions in 17 provinces and autonomous municipalities enrolled only 0.1 million students (Dong, Bi, and Zhang 2002:119).

while marital life and childrearing generally reduce one's time and resources for education, the effects of work goes beyond the simple logic of inter-domain competition. Besides the aforementioned apparent tradeoff between time-use and earnings, work in urban China has distinct institutional attributes that also powerfully influence the stratification of AHE opportunities. In urban China, work units (a.k.a. *danwei*) have been important and persistent agents of the distribution of life resources and opportunities (Wang 2008; Wu 2002, 2013; Xie, Lai, and Wu 2009; Xie and Wu 2008). The reward structure in urban work regime partially depends on the proximity to state power, which varies significantly across and within work units. Across different types of work units, Party/government agencies and state-owned professional services (e.g., education, research, health care, media, finance) stand the closest to state authority. Within work units, higher administrative rank (i.e., higher cadre status) and political elite status (i.e., Party membership) lead to greater access to the distributive power (Li and Walder 2001). Hence our second hypothesis:

Hypothesis 2: Conditional on working, one's likelihood of AHE enrollment is positively associated with workplace-based state sponsorship, including affiliations with state-owned professional services or Party/government agencies, cadre leadership (i.e., keji level or above), and Party membership.

4.4 Third-order Logic: Enhanced State Sponsorship

However, PRC's institutional environment has not remained static. After three decades of recurrent social turmoil, a profound change took place around 1978 when the national economy began to shift gradually from central planning to a market-oriented basis, which Whyte (2010:25)

called a “second social revolution.” Accordingly, Chinese AHE had suffered thirty years of institutional instabilities before the “second social revolution” launched a sustained expansion beginning in 1978—a pattern as reviewed in the previous section. Now the question is—has the state sponsorship in AHE recruitment become stronger or weaker during the post-1978 reform period?

The reform period observed over three decades of sustained growth of Chinese higher education, whose enrollment rose steadily from 1.1 million in 1978 to over 3 million in late 1990s. In 1999, China launched an unprecedented higher education expansion. Within eight years, undergraduate enrollment nearly quadrupled. The increase was mainly driven by a dramatic expansion of the regular sector, whose enrollment rose from 3.4 million in 1998 to 23.1 million in 2011, resulting in a decline in the share of the adult sector in higher education enrollment (Cf. Figure 4.1). Nevertheless, in term of absolute numbers the adult sector experienced much faster growth after the expansion. Between 1978 and 1998, the adult sector enrollment grew at an annual rate of 3.5% (from 1.4 million to 2.8 million); whereas since 1998 the number increased steadily at a rate of 10.5% to 10.4 million in 2011. In other words, though demand for AHE may shrink in the long run given increasing rates of direct secondary-to-tertiary progression, to this day it has shown no signs of waning.

With the introduction of market, the significance of state authority in the distribution of life resources and opportunities has declined—but only in relative terms. Despite the “evident vulnerability of Party reward structures to the kinds of market-oriented reforms” (Walder 1995:326), the absolute amount of material returns to political capital turned out to be persistent and increasing in the reform period (Bian and Logan 1996; Bian, Shu, and Logan 2001; Hauser

and Xie 2005; Zhou 2000). Walder (2003) suggested that an important reason was the appreciation of market values of the public assets under the control of the political elite. In other words, rather than suppressing the political elite's distributive power, the reform has generated more rewards at their disposal.

The distribution of educational opportunities follows the same logic. Raftery and Hout (1993) have argued that in the context of educational expansion, the preexisting forms of inequalities were to be "maximally maintained." It is true that the post-1978 education expansion provided more AHE opportunities on the basis of individual merit. But at the same time, given political stability in China's post-socialist transition, the educational expansion also put more AHE opportunities at the disposal of the state. Therefore, those who stood closer to the institutional power were even more likely, than ever before, to take free rides during the reform period. This rationale further introduces a temporal change to the institutional effects specified in H2, and yields our third and final hypothesis:

Hypothesis 3: The state sponsorship in AHE recruitment (as in H2) was likely to enhance during the post-1978 reform period.

4.5 Data, Variables and Methods

4.5.1 Data

To test the three logics in the stratification of AHE opportunities over the PRC period, I perform event-history analysis using data from the 2003 Chinese General Social Survey. The survey adopted a multi-stage sampling scheme with probabilities of selection proportional to size,

yielding a sample of 5,894 adult urban residents (aged 18-69) in 2003. CGSS 2003 is the first national sample, albeit confined to urban areas, that ever provides rich retrospective information on multiple domains of Chinese people's life course. Also, it was conducted early enough to capture at least some AHE information around the earliest period of the People's Republic—the oldest respondents of CGSS 2003 were born in 1934 and just came of age around 1949. The unique combination of these two advantages makes CGSS 2003 ideal for our research question (Bian and Li 2012).

4.5.2 Event-history Data Setup and Outcome Measure

Based on retrospective information on respondents' first transitions to higher education, I distinguished 4,325 respondents who never went to colleges by 2003, 518 who experienced AHE enrollments, and 519 who experienced direct transitions to colleges upon completion of secondary education (Cf. Table 4.1). AHE enrollments were defined as transitions to junior colleges (i.e., non-degree programs) or colleges (i.e., degree programs) that 1) occurred between ages 18 and 45, and 2) had an at least 1-year interruption in educational history immediately prior to the transition. As AHE enrollment is conditional on failure in direct secondary-to-tertiary progression, our analysis involves the first two groups only, while the third column is included to supplement auxiliary information. The table entries will be interpreted later in the results section.

[Table 4.1]

To prepare for event-history analysis, I transformed the person-level data to person-year format. As previously defined, the event of interest is the first-time transition to AHE. If one failed to directly advance to higher education, she was considered at risk of AHE enrollment. For all eligible persons, the risk starts at age 18 and ends at event occurrence, age 45, or at a younger age in 2003 (i.e., the censor point). Thus defined, only the respondents in the first two columns in Table 4.1 contribute to the risk set. To focus on the PRC period, person-years earlier than 1949 were excluded. Finally, I obtained 101,883 person-years in total, including 101,365 at risk and 518 event occurrences.¹² The huge amount of exposure leads to a small mean annual probability (0.0051), but the 518 events rule out the methodological concerns about rare event analysis.

4.5.3 Key Independent Variables

My analysis used three discrete-time logit models corresponding to the three orders of hypotheses. To test H1, I coded three time-varying status dummies for engagements in marriage, parenthood, and paid employment. For H2, conditional on being employed, I added three time-varying indicators for the three types of work-based state sponsorship, including the affiliation to

¹² Ideally, the data set should be a random sample of all eligible person-years ever lived in China from 1949 to 2003. But it is not, nor is it a cohort panel starting from 1949 onward. Rather, what it is representative of is the lived experience of the surviving population in 2003 urban China. Like all retrospective longitudinal data, this invokes a problem of mortality selection. Namely, those who attended colleges in early years might have enjoyed better life chances and longevity; their contemporaries who never went to college, on the other hand, are less likely to survive to 2003, whose contribution to the exposure in earlier years is therefore missing. Due to the over-representation of events (relative to exposure), the estimated risk rates in early periods would be artificially higher. Unfortunately, information for weighting on AHE-specific mortality is not available. Based on our sample, the mean annual probability of event is 0.0018 in 1949-1977 and 0.0062 in 1978-2003, which seems to be within reason after all.

state-owned professional services or Party/government agencies, cadre leadership (i.e., *keji* or above), and Party membership. Finally, for H3, I further introduced interaction terms between the state sponsorship variable and a dummy variable indicating the historical period of 1978-2003.

As our data concerning the institutional advantages are relatively limited, especially among those who never went to college (Cf. Table 4.1), for H2 and H3 I also provided an alternative specification of the state sponsorship. Instead of treating the advantages separately, I constructed a time-varying additive index that represented the number of advantages one possessed in a given year. The index score ranges from 0 to 3. For example, if one was at the same time employed in a government agency and a Party member, his/her score for the institutional advantage index would be 2 for that year.

4.5.4 Control Variables

To minimize model specification biases, control variables were carefully selected. First, two temporal dimensions—historical periods and personal ages—were included to saturate period and aging effects. The period dummy marks all years since 1978 as 1 and all previous years 0. Personal age was entered as quadratic function. Second, as reviewed above, those whose transitions to colleges were suppressed during the Cultural Revolution exhibited a strong resilience after the restoration of higher education (Deng and Treiman 1997). To partial out this cohort anomaly, I created an interaction term between the school cohorts affected by Cultural Revolution (i.e., born in 1948-1956) and the post-1978 indicator. Third, factors in traditional educational stratification research were also considered, including gender, ethnicity, time-

varying *hukou* status, prior educational merit (i.e., senior middle school completion), and family background (i.e., parents' years of education when respondents were 18).

While regional variation is a major source of social heterogeneity in China (Wang 2008; Wu and Zhang 2010; Xie and Hannum 1996; Zhou, Moen, and Tuma 1998), our data only provide residential locations in 2003, which are outcome-dependent and cannot be used in the models. Nonetheless, I conducted trials with 2003 provincial dummies, and the results presented in Table 4.2 remained essentially the same.

4.6 Results

4.6.1 Person-level Descriptive Results

Table 4.1 describes the person-level sample by three types of educational profiles. For each group, I computed the features of the transitions (if applicable), respondents' permanent characteristics, and respondent's contemporaneous characteristics at transitions (if applicable) and in 2003.

Regarding the nature of AHE transitions, a number of findings emerge from all three columns in Table 4.1. First, they were equally significant as regular direct transitions, accounting for half of all transitions to colleges (518 vs. 519). Second, 91% of all progressions to AHE occurred during the post-1978 reform period, which is well aligned with the official statistics (Cf. Appendix Table 4.1). Nonetheless, this percentage does contain an upward bias because those who experienced AHE transitions prior to 1978 are older and less likely to survive to 2003. Third, strong determination lay behind the pursuit of AHE—as indicated by a pre-

enrollment gap of 9 years on average. Indeed, a total of 264 (51%) AHE transitions occurred beyond age 25 (not presented in Table 4.1), leading to a rather high average age at AHE transitions of 27. Fourth, both adult and regular sectors had provided for adult learners, accounting for 72% and 28% of all transitions to AHE, respectively. Fifth, most (89%) AHE transitions led to enrollments at junior colleges (i.e., non-degree programs), while only 50% of direct transitions landed on non-degree programs. Sixth, near three quarters of AHE attendees (73%) got enrolled in arts majors, whereas only half (52%) of direct transitions ended up in arts majors. Finally, among those with non-zero income in 2002, urban Chinese who attended AHE ($N=486$) on average earned 15,513 yuan, which was 3,500 yuan lower than those who experienced direct transitions ($N=511$) but 7,563 yuan higher than those who never made their way into colleges ($N=3,828$). Those income numbers need standardizations, but the observed pattern suggests rather high returns to AHE, making it an effective compensatory choice.

Conditional on failed direct transitions (i.e., the third column excluded), who were more likely to attend AHE? In terms of permanent characteristics, men and those with more educated parents had an advantage. In terms of life course dynamics, which is our key research question, Table 4.1 contains some hints at work-related state sponsorship. If we assume adulthood constancy of 2003 work-related characteristics for those who never went to colleges and compare them to respondents' characteristics at AHE transitions in the second column, it is clear that AHE attendees—at the time of transition—were more likely than the former group to be employed in Party/government agencies (15% vs. 2%), state-owned professional services (9% vs. 6%), and to be cadre leaders (8% vs. 1%) and Party members (21% vs. 14%). However, the dependence of AHE opportunities on life course activities cannot be adequately revealed without unfolding the retrospective information fully to person-year observations, to which we now turn.

4.6.2 Tests of Hypotheses

Table 4.2 summarizes the results of five discrete-time logit models. Given our event-history data setup, all five models estimate the hazard rates (or more precisely, annual probabilities) of getting enrolled in AHE. Models 1-3 are presented in progressive order and correspond to Hypotheses 1-3, respectively. For the second and third hypotheses which involve the institutional sponsorship, two alternative specifications are provided. Specifically, the models with three distinct advantage variables are named Models 2a and 3a, and the models with the composite advantage index are named Models 2b and 3b.

[Table 4.2]

In a nutshell, all our hypotheses are largely supported. First, Model 1 shows negative effects of marriage and parenthood but a positive effect of employment. Specifically, marriage decreases one's odds of AHE transition by 34%, and parenthood decreases the odds by 32%, both significant at the 0.01 level. On the other hand, having a job raises the odds by 28%, which is marginally significantly at the 0.1 level.

Second, in Model 2a the effect and statistical significance of the coefficient on employment status disappear upon the inclusion of the work-related state sponsorship. Conditional on working, the affiliation with state-owned professional services or Party/government agencies, Party membership, and cadre leadership increase the odds of AHE enrollment by 174%, 202%, and 172%, respectively, which are all highly significant at 0.001 level. In the meanwhile, marriage and parenthood remain statistically significant deterrence

factors, reducing the odds by 42% and 24%, respectively. In Model 2b, where all three types of institutional advantages are collapsed into one single additive index, each one unit increase in the index is estimated to raise the odds of AEH enrollment by 184%, while all other effects remain essentially the same as Model 2a.

Finally, to test for the historical change of the institutional sponsorship, in Model 3a the three institutional advantage variables are allowed to interact with a period dummy for post-1978 years. As indicated by the interaction effects, the influences on advantageous *danwei* affiliations and Party membership both become more than twice as strong as the pre-1978 years, which are significant at 0.1 level. However, the positive effect of cadre leadership does not become more pronounced during the reform period. Again, for parsimony I summarize the three institutional factors with one composite index in Model 3b, which yields an odds ratio of 1.51 with statistical significance at the 0.1 level. In both Models 3a and 3b, the influences due to marriage and parenthood remain negative and statistically significant.

Regardless of the specifications of the institutional advantages, the incremental inclusions of further nuances across Models 1-3 significantly improve the models' goodness of fit. Specifically, the work-based state sponsorship variable(s) causes a greater improvement (210.14 over a *df* of 3, or 209.78 over a *df* of 1) than the post-1978 change(s) (7.78 over a *df* of 3, or 3.84 over a *df* of 1).

The control variables all exert expected influences on AHE opportunities, which are very similar across the models. First, along temporal dimensions, one's likelihood of AHE enrollment increases during the post-1978 reform period, while the age effect follows a quadratic function, with the AHE enrollment most likely to occur at ages 27-28. Second, the post-Cultural

Revolution resilience (i.e., higher likelihood of AHE transition) proves to be statistically significant among the affected school cohorts in Models 1, 2a and 2b. Third, in terms of the conventional stratifying mechanisms, AHE opportunities are positively associated with maleness, urban *hukou*, senior middle school completion, and father and mother's years of education when respondents were 18. Ethnic minorities are found to be more likely to attend AHE than Han Chinese, but the advantage is not statistically significant.

4.7 Conclusions and Discussion

Though underrepresented in the literature, Chinese people's continuing pursuit of higher education in adulthood—in both the adult and regular sectors—has been so prevalent that it might have accounted for half of the undergraduate credential output in PRC history. As transitions to higher education at older ages are likely to happen in the presence of alternative adulthood life course activities, the progression to AHE is qualitatively different from direct transitions to undergraduate programs immediately upon the completion of secondary education. Therefore, in addition to pre-adulthood characteristics such as academic merit and family background, one's adult life also matters in the stratification of AHE opportunities. However, without allowing for sequential variability of adulthood events, previous literature has never investigated the adulthood life course dynamics in Chinese people's pursuit of higher education.

This paper took up the issue by constructing and examining Chinese people's annualized life histories across ages 18-45. Our analysis found that, across the PRC period, marriage and parenthood decreased one's likelihood to get enrolled in AHE, whereas having a job increased the likelihood. The contributing effect of employment was attributable to state sponsorship in

PRC's urban work regime. Specifically, those whose employments were closer to state power (i.e., in Party/government agencies and state-owned professional services) or those who enjoyed advantageous statuses at the work place (i.e., cadre leaders and Party members) were much more likely to advance to AHE during adulthood. Furthermore, such institutional advantages became even more pronounced since 1978.

In conclusion, this paper makes three distinct contributions to the research on Chinese higher education. First, it relaxed the assumption of higher education's precedence to other adulthood engagements. By focusing on AHE as a qualitatively distinct outcome, our paper for the first time investigated Chinese people's life course dynamics in the stratification of higher education opportunities over adulthood. Second, going beyond simple logics of life course engagement, I systematically examined the modern institution of Chinese AHE and revealed the increasingly important role of state sponsorship embedded in individuals' engagement in work. Third, this paper made an extension to the argument of maximally maintained inequality (MMI) in the literature on educational stratification (Raftery and Hout 1993). Namely, in the context of post-1978 AHE expansion, certain pre-existing stratifying mechanisms (i.e., work-based state sponsorship) were found to be stronger than in the pre-reform period (1949-1977). While MMI originally referred to persistent class inequalities, our paper extended the theme to the inequalities due to state power.

In Models 2b and 3b, I collapsed three distinct institutional characteristics (i.e., employment in Party/government agencies or state-owned professional services, cadre leadership, and Party membership) into one generic category of work-based state sponsorship for parsimonious interpretation. While doing so can be justified by their common conceptual

meaning—closeness to institutional power, we need to be cautious about the variable’s internal heterogeneity. For example, the advantage associated with the employment in state-owned professional services might also be attributable to the credentialist pressures in those professional occupations (e.g., positions in education, research, medical services, media, finances, etc.). After the market reform, such pressures were likely to have amplified due to the rise of individual meritocracy in the ripening labor market. Given substantial and increasing returns to college diplomas (Naughton 1996; Xie and Hannum 1996; Zhang et.al 2005)—including those earned in the middle of one’s career (Xiao 2002; Liu and Xiao 2006), employees in state-owned professional services might have become more active in pursuing AHE during the post-1978 period.

Though this study focused on the stratifying mechanisms of AHE opportunities, it also brings forward the importance of other aspects of Chinese AHE. For example, our descriptive results in Table 4.1 suggest substantial returns to AHE in terms of income and career mobility, which are likely to be important reasons behind the highly active participation in AHE. Also, while our final event-history analyses made no differentiation between various types of transitions to AHE, our person-level examination of the transitional characteristics (Cf. Table 4.1) has revealed substantial diversity in terms of destination and field of study. When data permits, further nuances in these regards provide great promise for future empirical investigations.

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Figure 4.1. Relative size (%) of adult part-time sector in Chinese higher education, 1949-2011

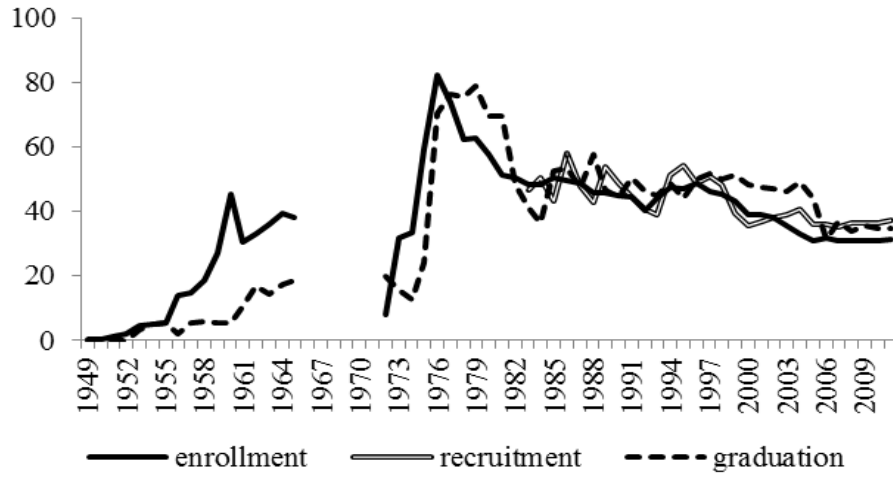


Table 4.1. Sample descriptives by states of the first transition to higher education, person-level

	No transition by 2003 (N = 4,325)	AHE transition (N = 518)	Direct transition (N = 519)
<u>Contributors to risk set</u>	Yes	Yes	No
<u>Characteristics of the first transition to higher education</u>			
Year of transition (%)			
1949-1977	-	9.3	19.5
1978-2003	-	90.7	80.5
Number of years elapsed since last year in school	-	8.7	0.0
	-	(6.6)	(0.0)
Type of destination (%)			
Adult sector junior college (non-degree program)	-	67.8	12.7
Adult sector college (degree program)	-	4.1	2.3
Regular sector junior college (non-degree program)	-	21.2	37.4
Regular sector college (degree program)	-	7.0	47.6
Enrollment in arts majors (%)	-	73.4	51.7
<u>Respondents' permanent Characteristics</u>			
Male (%)	46.0	59.7	54.5
Han (%)	94.6	93.6	95.8
Father's years of education at age 18	5.2	8.0	9.4
	(4.4)	(4.6)	(4.5)
Mother's years of education at age 18	3.2	5.6	7.7
	(4.1)	(4.8)	(4.9)
<u>Respondents' characteristics at first transition to higher education</u>			
Age	-	27.4	18.9
	-	(6.5)	(1.4)
Urban hukou (%)	-	97.1	98.3
Married (%)	-	51.5	-
Parent (%)	-	31.3	-
Employed (%)	-	87.1	-
Party/government agencies (%)	-	15.1	-
State-owned professional services (%)	-	9.1	-
Cadre status (% <i>keji</i> or above)	-	8.1	-
Party member (%)	-	21.2	-
<u>Respondents' characteristics in 2003</u>			
Age	44.1	41.8	34.8
	(12.6)	(10.4)	(14.8)
Urban hukou (%)	91.1	99.2	99.2
Married (%)	87.0	89.2	59.7
Parent (%)	62.3	64.7	33.7
Employed (%)	42.8	79.0	60.3
Party/government agencies (%)	2.1	13.1	9.6
State-owned professional services (%)	6.1	28.5	29.9
Cadre status (% <i>keji</i> or above)	1.1	15.1	7.4
Party member (%)	13.7	46.5	26.2
Annual personal income in 2002 (RMB)	7,950	15,513	19,013
	(10,853)	(12,188)	(17,280)

Source: CGSS 2003.

Table 4.2. Discrete-time logit models predicting non-direct progression to higher education over adulthood (ages 18-45)

	Model 1		Distinct advantages				Composite advantage index			
			Model 2a		Model 3a		Model 2b		Model 3b	
	Odds ratio	s.e.	Odds ratio	s.e.	Odds ratio	s.e.	Odds ratio	s.e.	Odds ratio	s.e.
Adult life course dynamics (time-varying)										
Marital status (1=currently married)	0.66 **	0.09	0.58 ***	0.08	0.58 ***	0.08	0.59 ***	0.08	0.58 ***	0.08
Parenthood (1=yes)	0.68 **	0.08	0.76 *	0.09	0.75 *	0.09	0.76 *	0.09	0.75 *	0.09
Employment status (1=employed)	1.28 †	0.18	0.99	0.14	1.00	0.15	0.98	0.14	0.99	0.14
Advantage 1: Party/government agencies or state-owned professional services			2.74 ***	0.31	1.44	0.55				
× <i>Reform period dummy (1978-2003)</i>					2.02 †	0.80				
Advantage 2: Party membership			3.02 ***	0.37	1.43	0.61				
× <i>Reform period dummy (1978-2003)</i>					2.28 †	1.01				
Advantage 3: Cadre status (1= <i>keji</i> or above)			2.72 ***	0.49	4.58 **	2.14				
× <i>Reform period dummy (1978-2003)</i>					0.55	0.28				
Institutional advantage index							2.84 ***	0.18	1.95 **	0.42
× <i>Reform period dummy (1978-2003)</i>									1.51 †	0.33
Control variables										
Reform period dummy (1978-2003)	2.42 ***	0.39	3.06 ***	0.50	2.36 ***	0.45	3.07 ***	0.50	2.46 ***	0.47
Age	1.32 ***	0.09	1.35 ***	0.09	1.36 ***	0.09	1.35 ***	0.09	1.36 ***	0.09
Age ²	1.00 ***	0.00	0.99 ***	0.00	0.99 ***	0.00	0.99 ***	0.00	0.99 ***	0.00
Resilience after Cultural Revolution	1.37 *	0.17	1.23 †	0.15	1.21	0.15	1.23 †	0.15	1.22	0.15
Gender (1=male)	1.59 ***	0.15	1.42 ***	0.13	1.40 ***	0.13	1.43 ***	0.13	1.43 ***	0.13
Ethnicity (1=Han)	0.83	0.15	0.83	0.15	0.83	0.15	0.83	0.15	0.83	0.15
Time-varying <i>hukou</i> status (1=urban)	1.79 *	0.48	1.70 *	0.45	1.73 *	0.46	1.70 *	0.45	1.73 *	0.46
Senior middle school completion (1=completed)	2.80 ***	0.26	2.36 ***	0.22	2.36 ***	0.22	2.36 ***	0.22	2.36 ***	0.22
Father's years of education at age 18	1.09 ***	0.01	1.08 ***	0.01	1.08 ***	0.01	1.08 ***	0.01	1.08 ***	0.01
Mother's years of education at age 18	1.06 ***	0.01	1.06 ***	0.01	1.06 ***	0.01	1.06 ***	0.01	1.06 ***	0.01
Constant	0.00 ***	0.00	0.00 ***	0.00	0.00 ***	0.00	0.00 ***	0.00	0.00 ***	0.00
Model χ^2 (<i>df</i>)	620.80(13)		830.94(16)		838.72(19)		830.57(14)		834.41(15)	
LR χ^2 (<i>df</i>)	NA		210.14(3)***		7.78(3)†		209.78(1)***		3.84(1)†	

Notes: † $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.Source: CGSS 2003 (person-level $N = 4,843$; person-year $N = 101,883$).

Appendix Table 4.1. Chinese higher education student statistics, undergraduate level, 1949-2011 (in thousands)

	Enrollment		Recruitment		Graduation			Enrollment		Recruitment		Graduation	
	Adult	Regular	Adult	Regular	Adult	Regular		Adult	Regular	Adult	Regular	Adult	Regular
1949	0	117	-	31	-	21	1949	1,346	1,279	-	279	315	140
1950	0	137	-	58	-	18	1950	1,173	1,154	-	315	426	457
1951	2	153	-	52	-	19	1951	1,129	1,207	342	391	234	335
1952	4	191	-	79	-	32	1952	1,293	1,396	482	475	164	287
1953	10	212	-	82	2	48	1953	1,725	1,703	473	619	347	316
1954	13	253	-	92	2	47	1954	1,856	1,880	788	572	450	393
1955	16	288	-	98	3	54	1955	1,858	1,959	563	617	481	532
1956	64	403	-	185	1	63	1956	1,728	2,066	498	670	754	553
1957	76	441	-	106	3	56	1957	1,741	2,082	698	597	499	576
1958	150	660	-	266	5	72	1958	1,666	2,063	578	609	489	614
1959	300	812	-	274	4	70	1959	1,645	2,044	492	620	620	614
1960	793	962	-	323	8	136	1960	1,479	2,184	518	754	518	604
1961	410	947	-	169	18	151	1961	1,994	2,536	592	924	465	571
1962	404	830	-	107	36	177	1962	2,504	2,799	942	900	607	637
1963	418	750	-	133	33	199	1963	2,570	2,906	1,094	926	636	805
1964	445	685	-	147	43	204	1964	2,842	3,021	914	966	841	839
1965	413	674	-	164	42	186	1965	2,724	3,174	1,025	1,000	892	829
1966	-	534	-	-	-	141	1966	2,822	3,409	1,004	1,084	826	830
1967	-	409	-	-	-	125	1967	3,103	4,086	1,001	1,549	888	848
1968	-	259	-	-	-	150	1968	3,536	5,561	1,206	2,206	880	950
1969	-	109	-	-	-	150	1969	4,560	7,191	1,561	2,683	931	1,036
1970	-	48	-	42	-	103	1970	5,592	9,034	1,959	3,205	1,175	1,337
1971	-	83	-	42	-	6	1971	6,092	11,086	2,447	3,822	1,605	1,877
1972	17	194	-	134	4	17	1972	6,564	13,335	3,051	4,473	2,290	2,391
1973	146	314	-	150	6	30	1973	7,013	15,618	2,821	5,045	2,428	3,068
1974	214	430	-	165	6	43	1974	8,042	17,388	3,060	5,461	1,700	3,775
1975	729	501	-	191	38	119	1975	8,346	18,849	3,079	5,659	2,593	4,478
1976	2,629	565	-	217	357	149	1976	9,042	20,210	3,498	6,077	2,592	5,119
1977	1,739	625	-	273	620	194	1977	9,586	21,447	3,640	6,395	2,927	5,311
1978	1,408	856	-	402	510	165	1978	9,892	22,318	3,748	6,618	3,078	5,754
1979	1,722	1,020	-	275	321	85	1979	10,400	23,085	4,057	6,815	3,206	6,082
1980	1,554	1,144	-	281	336	147							

Source : State Education Commission 1984-2012.

CHAPTER 5

Conclusion

With three empirical studies, this dissertation makes clear contributions to the world society literature and the research on life course. The first study evaluates the prevalence and dissemination of the idea of societal development, a central component of world culture, at the grass-roots level in eight diverse countries. The second study continues to investigate how the idea of societal development leads Chinese people, through associational thinking, to endorse family attributes that are believed to be modern. The third project examines the life course dynamics in the pursuit of higher education during mature adulthood, also in the context of contemporary China.

World society theory predicts consensus on the idea of societal development among actors at aggregate as well as individual levels. While much work has been done at the state or organizational levels, I offer the first empirical support for the individual presence of world culture's schema of national development. Based on twelve surveys conducted in Argentina, Bulgaria, China, Egypt, Lebanon, Malawi, Saudi Arabia, and the U.S., I have shown that ordinary individuals around the world were able to apply the concept of development to evaluate different countries. Furthermore, those evaluations are very similar to the developmental hierarchies constructed by the United Nations (as represented by Human Development Index), an

authoritative agent of the world culture. World society theory also offers a diffusion model to account for the global dissemination of world cultural scripts, where school education and society's connection to the world society have been two most theorized and empirically assessed pathways of world culture diffusion. My analysis confirms that both mechanisms are important factors that contribute to the individual conformity to world culture's developmental schema.

The second project moves on to examine the consequences of developmental ideas with regard to family. Specifically, I demonstrate that the conjunction of people's favorability of societal development and their perceived associations between societal development and certain family attributes (i.e., neolocal residence, self-choice marriage, gender equality, later marriage for women, and fewer children) jointly lead, at least partially, to the endorsement of those family attributes. Drawing on the developmental idealism (DI) theory in social demography and the expectancy-value model in psychology, I articulate this cognitive process and label it DI associational evaluation. Analysis of survey data collected in Gansu, China provides supports for DI associational evaluation. We also find that its influences are robust in the presence of an influential local alternative ideational model—Islamic religion. Though the analysis is based on a cross-sectional sample in Chinese context, this study has larger implications for the scholarship on ideational family change around the world. Given the continuing expansion of developmental ideas around the world, the global rise of modern family values could be to a great extent attributable to this micro-level psychological process.

World culture affects individuals by constructing the way they think about and live their lives. One particularly interesting life course phenomenon is the rise of lifelong education.

Though underrepresented in the literature, Chinese people's pursuit of higher education in mature adulthood have accounted for approximately a half of the undergraduate credential output in the history of the People's Republic of China. As transitions to higher education at older ages are likely to occur in the presence of and be influenced by alternative adulthood life course activities, such progressions are qualitatively different from direct transitions to undergraduate programs immediately upon the completion of secondary education. My third study, therefore, chooses to focus on the life course dynamics in Chinese people's adulthood higher education (AHE). By constructing annualized life histories across ages 18-45 based on retrospective information in Chinese General Social Survey 2003, I allow for sequential variability of adulthood events. As a result, I find that marriage and parenthood decreased one's likelihood to get enrolled in AHE, whereas having a job increased the likelihood. The contributing effect of employment was attributable to state sponsorship in PRC's urban work regime. Specifically, those whose employments were closer to state power (i.e., in Party/government agencies and state-owned professional services) or those who enjoyed advantageous statuses at the work place (i.e., cadre leaders and Party members) were much more likely to advance to AHE during adulthood. Furthermore, such institutional advantages became even more pronounced since 1978. With this finding this study also makes an extension to the argument of maximally maintained inequality (MMI) in the literature on educational stratification. Namely, in the context of post-1978 educational expansion, certain pre-existing stratifying mechanisms (i.e., work-based state sponsorship) were found to be stronger than in the pre-reform period (1949-1977). While MMI originally referred to persistent class inequalities, our paper extended the theme to the inequalities due to state power.