STRUCTURE AND RUPTURE: A SOCIAL ANALYSIS OF FERTILITY CHANGE IN CAMBODIA AFTER THE KHMER ROUGE

ANDREW CLAYTON HUFFARD
SPRING 2014

A thesis submitted in partial fulfillment of the requirements for a baccalaureate degree in Sociology with honors in Sociology

Reviewed and approved* by the following:

David Johnson
Professor of Sociology, Demography, and Human Development and Family Studies
Thesis Supervisor

Stacy Rogers Silver
Associate Professor of Sociology and Human Development
Honors Adviser

* Signatures are on file in the Schreyer Honors College.
ABSTRACT

From 1975 to 1979, the country of Cambodia was under the rule of the Khmer Rouge, who sought to fundamentally reorganize traditional Khmer society. Following this, after a long recovery period, the country began to engage with the global economy, provoking further social change. This paper aims to merge existing social research done at both the micro- and macro-level in Cambodia from the 1970’s to today with a quantitative analysis of fertility rates, drawing connections between the drastic social changes in Cambodia and the dynamic trends in fertility over that time. Traditional hierarchical structures based upon power, gender and age have long provided an integral structure in traditional Cambodian society. The analysis of fertility during the late 20th century provides some evidence that, despite tremendous social upheaval in the 1970’s, these social structures reappeared in Cambodian society, though their presence has been challenged in recent years by global influence. This study also adds to existing research by examining recent survey data regarding fertility from the 2010 Cambodia Demographic Health Survey (DHS), which suggest that contemporary Cambodian society is undergoing fundamental social shifts at a rate that outpaces many previous estimates.
# TABLE OF CONTENTS

List of Figures ................................................................................................................................... iii

List of Tables .......................................................................................................................................... iv

I. Introduction ......................................................................................................................................... 1

II. Conceptual Framework ..................................................................................................................... 4

III. Background Information .................................................................................................................. 8

IV. Data and Methods ............................................................................................................................ 18

V. Discussion ......................................................................................................................................... 29

BIBLIOGRAPHY .................................................................................................................................... 32
LIST OF FIGURES

Figure 1: True Fertility Rate in Cambodia from Three Surveys, 1970-2010.........................20
Figure 2: True Fertility Rate in Cambodia, 1970-2010 .................................................20
Figure 3: Age Specific Fertility Rates in Cambodia, 1970-2010......................................22
Figure 4: Population Pyramid, Cambodia, 2010, Projected.............................................28
Figure 5: Population Pyramid, Cambodia, 2010, Actual ..................................................28
LIST OF TABLES

Table 1: General Fertility Rate in Cambodia, 1970-2008 .................................................. 21
Table 2: Age Specific Fertility Rate in Cambodia, Over Five-year Periods ......................... 22
I. Introduction

“It is very hard for Cambodians to let their memories go.”

– Soheap K. Hang, survivor of the Khmer Rouge Regime (Pran 1997)

The mid-to-late 20th century is widely recognized as a time of tremendous political and social upheaval in Southeast Asia. Cambodia endured perhaps the most extreme example of this. During the 1950’s and 60’s, even as it emerged independent from French colonial rule, Cambodia was very much tied to traditional social roles and hierarchies. The 1970’s, by contrast, changed nearly everything; a tumultuous civil war brought into power the Khmer Rouge, whose agenda, under the banner of communism, sought to uproot the traditional Khmer society from its very core. The resulting mortality of the period—nearly one out of every four Cambodians died between 1975 and 1979—was nearly unprecedented. How ought Cambodians today reckon with their past? Given that the ruling party in Cambodia in the late 1970’s did everything in their power to wipe clean all long-in place social structures and customs, how does a recovering country move forward? Does one look ahead or simply look further back? As global influences have risen in prominence in Cambodia in the late 20th century, these questions have become even more complex.

The central aim of this research paper is to examine how contemporary fertility behavior reflects the confrontation of these difficult questions. Fertility is among the most central life decisions a woman can make, and while the outcome of the decision is in part the result of negotiating concerns on a personal level, the larger mechanics of social and
cultural norms are instrumental in determining the environment in which these fertility decisions are made. In looking at the change in fertility rates over the past 40 years in Cambodia, I hope to identify the key trends of fertility over this time. Then, in linking these changes to accounts, both on the large and small scale, of social change in Cambodia, I hope to identify some of the social underpinnings that have contributed to and may help explain this fertility change. In doing so, the paper will construct a narrative of social change that spans across generations, providing historical context for Cambodia’s current place in the global economy.

Previous demographic studies of contemporary Cambodia have worked with limited or incomplete data in an attempt to provide a full picture of the demographic damage the Khmer Rouge enacted on Cambodia from 1975 to 1979, a time in which historical records were sparse. Of these, most pay primary attention to the specific nature of mortality, with several studies attempting to reconstruct mortality patterns during and after the 1970’s (de Walque 2006; Neupert and Prum 2005; Heuveline 1998). In some cases fertility patterns are considered, and when paired with an understanding of excess mortality, they have been used to create population projections into the future. These projections have been provided to give a sense of the “demographic legacy” of the Khmer Rouge era (Neupert and Prum 2005). The most comprehensive study of fertility patterns immediately after the fall of the Khmer Rouge, a study by Heuveline and Poch (2007), uses data from the Kandal province of Cambodia to provide detail regarding fertility during the 1970’s and 80’s that larger, country-wide surveys could not provide. Studies that have specifically examined history and social change in Cambodia in the lens of
demographic statistics include an examination of marriage rates in connection with the 
resiliency of traditional Khmer values (Heuveline and Poch 2006).

This study will contribute to this existing research by using the wealth of recent 
survey data in Cambodia in order to provide an update of fertility patterns based on 
surveys from 2005 and 2010. This recent data can thus be examined against previous 
projections, and by referring to literature regarding Cambodia in the past 10 years, the 
data can provide an update on Cambodia’s ongoing fertility transition. An additional 
contribution this study will make is a sustained examination of the changing social 
structure in Cambodia in specific relation to quantitative fertility patterns. By examining 
fertility on the scale of the entire country of Cambodia, and analyzing this fertility by 
individual cohorts, this study aims to bridge multiple strains of research in contemporary 
Cambodia to illustrate in a wide sense the historical roots, both recent and ancient, of 
contemporary Cambodian society.
II. Conceptual Framework

Before the connections between social change and fertility can be made, it is important to develop a sense of what determines fertility decisions in a broad context. For the purposes of this study, the Theory of Planned Behavior, applied to fertility, will provide a helpful general framework in examining fertility decisions. This application takes as its assumption that fertility outcomes are based on rational, reasoned behavior, resulting from a decision making process that takes into account (a) behavioral considerations, a determination of the personal consequences of having a child, (b) normative considerations, as in the perceived social pressure to have or not have a child and (c) considerations of perceived control, or the agency a woman believes she has on her own fertility outcomes (Ajzen and Klobas 2013: 205-206). While the assumption that all fertility is planned is violated in certain contexts, this theory is helpful in that it concisely negotiates the various influences that contribute to the process of making fertility decisions.

For this study, I am most interested in examining the nature of normative beliefs in Cambodia related to fertility as a way to distinguish and help explain the changing fertility patterns. Because the norms of Cambodia have been in near-constant flux since 1975, it is perhaps helpful to look more generally at the individual normative bases for the various stages in Cambodian History. This analysis will begin in 1975-1979, during the rule of Pol Pot and the Khmer Rouge. From a sociological standpoint, this period could be understood as a period of anomie, a concept developed by Émile Durkheim at the end of the 19th century (Durkheim 1893), and updated by Robert Merton in the mid-
20th century (Merton 1968). Durkheim understood anomie, generally, to be a state in which rapid or drastic social change results in a breakdown of cultural norms. Merton, more specifically, framed anomie in terms of personal goals in the context of society. In a society, personal goals are typically developed along a certain set of cultural values, and are generally attainable somehow in that given society. Anomie hinders this sense of attainability through the collapse of cultural norms, thus resulting in feelings of uncertainty and powerlessness (Merton 1968). This anomie, in some cases, can lead to indecisiveness, at which point the complex decisions, like those involved in fertility, cannot be properly processed or addressed (Philipov et al. 2006: 293).

After the fall of the Khmer Rouge in 1979 came a lengthy recovery period, during which fertility rose sharply. This fertility trend, in respect to the social changes at the time, represents a unique historical moment. However it is helpful to look at existing accounts of post-conflict and post-high mortality fertility as a basis from which to understand the dynamics of Cambodia’s fertility in the 1980’s. As Hill (2004) identifies, the current understanding of the effects periods of severe mortality have on individual fertility behavior is quite limited, due largely to the insufficiency of data collection during these periods. Furthermore, the conceptualization of the dynamics of fertility during these times is very often contingent on factors relating to the specific context of the high mortality period in question (Heuveline and Poch 2007). However, an examination (provided by Heuveline and Poch (2007)) of fertility following other recent high mortality situations has shown that fertility rates tend to recover to previously-attained levels of fertility, often as if the periods of high mortality never happened. In the example of China, following an extreme period of famine from 1958-61, fertility rates
not only recovered but in fact eclipsed the pre-famine fertility rates (Ashton et al. 1984). In general, though, the theoretical explanation of fertility at these points in time is not well developed (Heuveline and Poch 2007).

Following the “baby boom” period of the 1980’s, fertility has declined slowly over the past 30 or so years, following a trend associated with the Demographic Transition Theory known more generally as a fertility transition. The Demographic Transition Theory, at its core, seeks to understand the wave of fertility declines across Western Europe during a time of industrialization, economic growth, and a decline in mortality. Frank Notestein, known as one of the original authors of the Demographic Transition Theory, used the term “modernization” to account for the major cause of this fertility transition, focusing primarily on the way certain socioeconomic factors, such as education, urbanization and income, influence fertility (Kirk 1996: 363). Notestein (1945), aligning with a functionalist perspective, saw that traditional societies were built upon social and cultural norms that encouraged high mortality rates, and thus the shedding of these norms lead to a decline in fertility. Of course, because the Theory was developed with the European model in mind, its explanatory power in regards to non-western contexts is debatable (Kirk 1996).

Though Notestein brought to light some of the important interactions that mortality had with fertility (for example, identifying that a lower infant mortality meant less births were needed to ensure an adequate amount of adult-aged children) the link between fertility and mortality in general was not directly established. Even today, though the Demographic Transition Theory continues to be met with new critical eyes, the link between mortality and fertility is not entirely clear (Heuveline and Poch 1997:
407). Kirk (1996), in studying the various formulations of the Demographic Transition Theory, notes that, while mortality decline is often seen as a vital component of demographic transition, most demographers are (perhaps needlessly) hesitant to label it a distinct cause of fertility decline, despite support from the economic framework of fertility. Montgomery (1998), however, looks directly at the perception of mortality and its influence in fertility, seeing that fertility at times can be a direct response to a change in threat level if the shift in mortality is detectable on the level of the individual or the family.

A problem with the Demographic Transition Theory that is often cited is its inadequacy in explaining fertility trends among countries in the midst of a fertility transition. Hirschman and Guest (1990) explain in their analysis of fertility transitions in Southeast Asia that factors such as overall education level and urbanization contribute to the lowering of country’s fertility rate, consistent with the Demographic Transition Theory. What the theory fails to provide, however, is an understanding of the complex, varying ways in which these changes take root, and how they react to each other.

However, Davis’s (1963) illuminative update on the Demographic Transition Theory focused chiefly on the family as a system, examining how social change can directly or indirectly cause or reduce strain of the family system. According to Davis these factors result in differing demographic outcomes depending only on their impact to the family. Thus, Davis’s model offers a more concrete way of negotiating the multiple components involved in fertility decline. For the purposes of this study, Davis’ approach to the Demographic Transition Theory will be most helpful, since it places a specific context under which social change (perhaps outcomes of Notestein’s “modernization) can impact
individual fertility decisions, while also identifying mortality trends as a key component to the fertility transition.

III. Background Information

Cambodia to 1979: Historical Background

The Khmer empire, which existed prior to French Colonization in 1863, has come to be defined largely by the Angkorean era from the 9th to the 14th century, during which it was one of the most powerful empires in southeast Asia (Neupert and Prum 2005: 221). Several warring kingdoms were brought together by Jayavarman II in the early 9th century, who became king of a plot of land that extended beyond modern-day Cambodia into Vietnam, Laos and Thailand. Most historians characterize the centuries following the Angkorean era to be a time of general stagnation in Cambodia, though limited historical documents from this time have made it a difficult period to study (Chandler 2008: 4). Seeking refuge from Thailand and Vietnam during the mid-19th century, Cambodia gave itself over to the French in 1863 in exchange for protection. During the time of the French colonial rule, Cambodia experienced a major increase in population, which quadrupled in just under a century (Chandler 2008: 4). French colonial rule ended when King Sihanouk embarked upon his so-called “Royal Crusade” in 1953 to campaign for Cambodian independence, which was achieved in 1953.
Visitors of Cambodia in the 1950’s and 60’s were struck by the preservation of ancient ideals and the isolation from modern progress (Derks 2008: 13). Indeed, even after gaining independence, Cambodia’s economy was largely unchanged from the colonial period (Chandler 2008: 7). Starting in the late 1960’s, however, the social landscape of Cambodia would begin to change drastically and rapidly. A wave of rural dissidence spread across Cambodia in the late 1960’s, mirroring the rise of the Cambodian Communist Party (led by Pol Pot, then known as Saloth Sar) (Neupert and Prum 2005: 222). Around the same time, the United States was carrying out a secret mission of bombing what they believed to be communist bases in Cambodia. In 1970, Sihanouk was overthrown by Lon Nol, and immediately began formulating a communist counterrevolution (which would come to be known under the name Khmer Rouge in the west) while in exile in Beijing. By gaining support of alienated rural citizens and of the Vietnamese, the Khmer Rouge successfully overthrew Lon Nol, after several years of violent civil war, in 1975 (Neupert and Prum 2005: 222). The Khmer Rouge’s first course of action is infamous in its sweeping, grandiose show of force: on April 17, 1975, the government under Pol Pot forced the evacuation of around 2 million people from towns and cities into the countryside to work, an attempt to rebuild Cambodia from the ground up as an autonomous agrarian utopia, divorced entirely from the global capitalist market (Burgler 1990: 61).

This first step was meant to bolster domestic rice production, with the aim to further expand agriculture thereafter (Chandler 2008: 257). Despite this goal of increased agricultural production, for the four years Pol Pot ruled Cambodia, malnourishment abounded. Cambodians were overworked, underfed and mistreated. The government
also began to execute those they felt were threats to the state, most often men who were educated, urban and well-off financially (De Walque 2005: 365). The sum total of mortality over this entire period is frequently disputed, though Heuveline (1998) offers an estimate of “between one and three million.” After four years of tyrannical governance and brutal mismanagement, the Pol Pot era fell apart swiftly after a Vietnamese invasion in December 1978 (Neupert and Prum 2005: 223).

**Cambodia to 1979: Social Change**

In his introduction to a comprehensive history of Cambodia, Chandler (2008) offers several themes that have repeated themselves in various ways throughout Cambodia’s history. One key theme he found is the continued prevalence of rigid social structures and strict hierarchies Cambodia, often build upon patronage and subservience (Chandler 2008: 3). It is often believed that hierarchical structures for Cambodians created a sense of harmony and balance, and were thus integral to their understanding of social reality (Derks 2006: 40). Perhaps most prominent of these hierarchies is the one that exists in regards to the governing body, which allowed for exploitation of the lower classes throughout Cambodian history, especially during French occupation (Chandler 2008: 3).

This sense of political subservience was a key component in the formation of the ideology of the Khmer Rouge. For the leaders of the Khmer Rouge, years of occupation had brewed ultranationalist feelings of bitterness and humiliation (Burgler 1990: 58). From these feelings, the conception of a uniquely Cambodia revolution arose, built on, as Pol Pot claimed, “the principles of independence, sovereignty and self-reliance,” and
created “without a model” (Burgler 1990: 58). Accordingly, much of their inspiration came from the history of the old Angkor empire. Believing themselves to be imbued with their distinctly Cambodia legacy, the Khmer Rouge leaders’ goal was to, according to Burgler (1990) “be the first nation to create a completely communist society in one great leap forward, without wasting time on intermediate steps” (59). The April 17 clearing of the cities was evidence of this attempt to leap forward. Likewise, markets, money, private property and Buddhist practices were all abolished soon after the Khmer Rouge took power (Chandler 2008: 7).

Political hierarchies were indeed not the only hierarchies in traditional Khmer society. The elders of the family and the village community were very significant authorial figures in rural Cambodia, in essence forming the power structure on which traditional Khmer society relied on. Important decisions, such as marriage, were always deferred in part to the parents and grandparents of the family, and the act of leaving the family was often viewed as an irredeemable sin (Ponchaud 1989: 165). The spirit of the ancestors of the family, known as the neak ta, along with the living elders, served as the strict ideological leaders, leading Ponchaud (1989) to suggest that the conceptions of politics and family in traditional Khmer villages were to some degree conflated. The neak ta were worshiped through some village object like a rock or tree, signifying the permanence and solidity on which this filial piety resided. Even the attempts of the French protectorate in establishing communal authority figures failed to undermine the importance of family as a social and political structure in villages (Ponchaud 1989: 163).

Equally important in traditional Khmer family life is the concept of sang kun, a phrase meaning “repaying a good deed.” Stemming from Buddhist tradition, this concept
is most prevalent in the relationship between children and their parents, whose *kun*, some argue, is so great that it may never be fully repaid (Derks 2008: 179). Like *neak ta*, the concept of *sang kun* seemed to function as a way of instilling duty and obligation in children. This repayment may not necessarily be money, but, like in many traditional cultures, children in Khmer villages were born with the expectation that they will support them in their old age.

Familial hierarchy, like political hierarchy, was a key component of Cambodian life that the Khmer Rouge aimed to upend, since the Khmer Rouge were likely aware of the degree to which familial piety dictated the Khmer way of life and had prevented fundamental social change during the French occupation. Much attention was thus given towards reeducation of the Cambodian youth. The Khmer Rouge completely eradicated the existing school system in Cambodia, putting in its place very few actual schools, most of which focused on enforcing practical, physical labor, the teachers being, typically, lower-class peasants (i.e. those The Khmer Rouge could trust) (Burgler 1990: 82). Consistent with The Khmer Rouge’s ideology, much of the schooling emphasized duty to country over duty to one’s parents. From ages 6-12, this “schooling” typically began, and at 12, children were enlisted in the “mobile troops” (Burgler 1990: 83). Children were thus forced into all forms of unfamiliar labor; the Khmer Rouge army in fact was largely (both male and female) teenagers. The youth were important to the ideology of the Khmer Rouge; they were served first in communal mess halls (Ponchaud 1989: 169), and typically served more as well (Burgler 1990: 82). The Khmer Rouge, in attempting various forms of indoctrination, likely saw children as potential bearers of the Khmer Rouge ideology for future generations.
Another well-rooted hierarchy in Khmer culture that was maintained up until the tumult of the 1970’s was the peculiar role of women. The nature of traditional Khmer gender roles is defined in the *Chbap Srey*, or “Code of Women’s Behavior,” an outline of the female’s role in society, grounded in submission and passivity (Derks 2008: 13). As a whole, however, many scholars have been quick to identify the relatively high status of Cambodian women, pointing out both the kinship system and inheritance rights system, which were relatively equitable (Derks 2008: 38). Though the meaning of these systems in relation to Cambodia’s history is well-debated, it is clear that the role of authority has traditionally been male-skewed. There is nonetheless a contradiction, it seems, between the role of subservience women are expected to maintain and the role of temptation and thus power that they hold, as described in the *Chbap Srey* (Derks 2008: 46; Ledgerwood 1990: 287).

While the conception of Cambodia pre-1970 as a stagnant, isolated and backwards country is somewhat problematic, the prevalence of traditional Khmer customs and practices in Cambodian society through the mid-20th century is important to note. Of course, this stagnation was brought into greater contrast when, on April 17, 1975, the Khmer Rouge hoped to enter “year zero,” a point at which Cambodia could be freed from its subservient recent history. Even though many of the Khmer Rouge leaders drew influence from the Angkorean era of Cambodia, thus contradicting their claim of ahistoric development, there is nonetheless a sense that the great social change spurred by civil war in the 1970’s was remarkably “un-Cambodian” (Chandler 2008: 3). Though the traditional way-of-life in rural Cambodia allowed for stability and protection, Khmer Rouge leaders held the belief that this complacency was toxic. The Khmer Rouge era
thus represents an extreme attempt to induce social change on a countrywide level, and a deeply flawed experiment whose devastating effects still have not worn off.

Cambodia 1979-Present: Historical Background

After four devastating years under Pol Pot, the 1979 Vietnamese takeover was met with “near universal relief” by Cambodians (Kiernan 1982: 364). Encouragingly, Cambodia entered, at this point, a period of relative peace and optimism, despite the constant fear of a Democratic Kampuchea revival (Heuveline and Poch 2007: 410). Though the Vietnamese established Cambodian leaders under the People’s Republic of Kampuchea soon after the fall of the Khmer Rouge, their presence and influence was felt in the next several decades, which also generated some sense of fear among Cambodians (Kiernan 1982: 364). However, Kiernan (1982) notes the distinction between Vietnamese occupation in the 1980’s and the long history of occupation in the centuries prior, when colonization, violence and cultural subordination was rampant (365).

However, the influence of Vietnamese culture and politics at this time was still quite strong. In the following decades, the health and education systems developed considerably using the Vietnamese systems as a model (Neupert and Prum 2005: 223). By 1989, Vietnam left Cambodia entirely, at which point an opposition coalition maintained in part by the Khmer Rouge attempted another takeover through a series violent gestures. In September of 1990, civil war was avoided through a Paris agreement that created, under the presidency of Sihanouk, the Supreme National Council, a
collective of the Phnom Penh government and three resistant factions. The United Nations Transitional Authority in Cambodia was asked to oversee Cambodia following the Paris treaty, with the goal to create an environment which a free election could be held (Neupert and Prum 2005: 224). Their goal was achieved on May 25, 1993, when elections were conducted, with an 89.6% turnout.

**Cambodia 1979-Present: Social Change**

Teeda Butt Mam, a Cambodian who was 19 when the Khmer Rouge fell, described a celebration at the time thusly:

In April 1979, the Buddhist New Year, exactly four years after the Khmer Rouge came to power, I joined a group of corpse-like bodies dancing freely to the sound of clapping and songs of folk music that defined who we were. We danced under the moonlight around the bonfire. We were celebrating the miracles that saved our lives. At that moment, I felt that my spirit and my soul had returned to my weak body. Once again I was human. (Pran 1998: 16-17)

This desire to return to the traditional cultural practices and traditions of the Khmer, a kind of cultural rediscovery, was common in the period immediately following the Khmer Rouge period (Chandler 2008: 8). Along with this rediscovery came the reshaping and reimagining of traditional ideals, which may have helped to spur a revival of the traditional hierarchies of Khmer society. Certainly, in terms of familial hierarchies, existing research has supported this notion. Heuveline and Poch’s (2006) research on the stability of marriages following the Khmer Rouge period noted the
surprisingly low level of marital disruption, despite the traumatic experiences related to the period and the significantly lowered male-to-female ratio.

As previously established, gendered hierarchy and submission formed another major cultural axis on which social relations in Khmer culture rested upon. Derks (2008: 13) identifies the themes of “contestation, ambiguity and change” as central to understanding gender in Cambodia post-conflict. Ledgerwood (1990) describes women as “cultural bearers,” and by moving outside of the role of the female, “one also loses what it is to be Khmer” (2), again suggesting the importance of these roles in the rebuilding process. The Chbap Srey holds particular importance in this case, as it represented an attempt to revive the old guard (Derks 2008: 47). Of course, the relevance of ancient ideals such as those found in the Chbap Srey is arguable, but in Derks’ ethnography of modern urban women in Cambodia, she found many of these ideals were still taught to young women, if not in formal education than in family teachings and customs (Derks 2008: 47). In contrast, however, through recent cultural diffusion, “women are portrayed as symbols of progress and modernity” (Derks 2008: 13). Therefore, the female role has become more splintered and unclear, as a greater contrast emerges between traditional and progressive conceptions of femininity.

The progressive sense of a women’s role, as well as the shifting role of the family structure, has been defined in part by a large influx of female rural-to-urban migration, spurred by an increase in demand for female labor (Derks 2008: 56). It is still the case that women are less likely to be educated than men, and women living in villages are often prevented from moving away from their family (Derks 2008: 54). However, this urban work, as Derks (2008) has found in her ethnography, often serves as a way to
contribute to the family or village through payment. Thus, while this urban migration undermines some of the traditional sense of duty (*sang kun*) children in traditional Khmer culture exhibited towards their parents, much of the traditional familial roles have been retained.

In his overview of the state of Cambodia in 2013, McCargo (2014) identifies a key theme of generational overturn. The death of former King Sihanouk and the trials of former Khmer Rouge regime leaders occurred as a series of political demonstrations by Cambodia’s young urban population took place. Meanwhile, the low wages offered in Cambodia have made it an appealing target for international investment in recent years, leading to a heightened sense of globalization. Despite these steps toward modernization, however, the country’s great inequality and poor per capita income compared to Thailand and Vietnam have led to the conception of Cambodia still being behind in economic development compared to their geographic neighbors (McCargo 2014).

With one foot placed firmly in the past and one in the modern-day global marketplace, the slow sense of transition, of easing out of the comforts of traditional Khmer life, is apparent across Cambodian culture today. In the following data analysis, I hope that fertility will likewise provide a window into the macro-level transitions of Cambodian social life, since many of the influences of major social institutions intersect in the process of making fertility decisions. In tracing the relative peaks and valleys in Cambodian fertility, I hope to provide a statistical context to the ways in which Cambodians negotiate the recent and distant past through fertility, while providing in a wider sense an example of cohort fertility patterns as a means to tell a particular, unique narrative of the dynamics of social transition.
IV. Data and Methods

Demographic data representative of Cambodia as a whole was a rarity until the very end of the 20th century. Because of this, most demographic analyses of the late 20th century either use data from smaller populations within Cambodia (Heuveline and Poch 2007) or reconstruct the time period using current data. Neupert and Prum (2005) have produced a wealth of demographic statistics covering 1970 to projections in 2020, mostly relying on data from the 1998 census and the 2000 Cambodian Demographic and Health Survey (CDHS). Since the publication of Neupert and Prum’s article, two more surveys, the 2005 CDHS and the 2010 CDHS have followed. Demographic and Health Surveys are household surveys conducted every five years that produce nationally-representative data in the fields of population, health and nutrition. The sample of households is obtained in a two-stage cluster design, where Enumeration Areas in a given country are selected, and individual households are selected from the data. In regards to fertility statistics, the complete birth history of each woman surveyed is recorded, from which basic fertility statistics can be obtained (NIS, DGH and ORG Macro 2001; NIS, DGH and ICF Macro 2011).

I used the CDHS data to calculate Fertility Rates both at the time of the survey and for the decades prior. Age Specific Fertility Rates are defined as the average number of births given by a woman over the given time period, separated by age into seven five-year groups across the reproductive years of a woman’s life (age 15-45). I calculated the ASFRs for Cambodia by first identifying, using the difference between the date of the
interview and the date of birth of the child, all births that took place over a defined year-
long or five-year-long period. From this data, the births can be separated by the age of
the mother by taking the difference between the date of interview and the date of birth of
the mother, and again identifying only those fitting the criteria at hand. This total number
of births is then divided by the number of women-years of exposure (accounting for the
overlap of women moving between cohorts during the given period) to provide an
estimate of the Age Specific Fertility Rate. I also calculated the General Fertility Rate, or
GFR, which is simply the number of births in a given year divided by the total number of
women-years of exposure (obtained in the previous calculation), using the total number
of women of reproductive age rather than the women in a specific cohort. Because all the
data used for this analysis was previously obtained and available, this study was
determined as exempt from review by the Institutional Review Board.

The results of the calculations of the General Fertility Rate can be seen in Figure 1. In this case, the birth histories from the three Demographic and Health Surveys were
charted over the 30 years prior to the survey. As Figure 1 shows, there is some degree of
variability in the General Fertility Rate across the three surveys, especially in the period
of the 1980’s. However each of the three surveys exhibit the same general trend. Thus, I
took an average of the three surveys, seen in Figure 2, to provide an illustrative look at
the trends in Cambodian fertility over the last 30 years. The data for these graphs can be
found in Table 1. The Age Specific Fertility Rate for each 5 year cohort, measured every
five years, can be seen in Figure 3. Table 2 shows the Age Specific Fertility Rates of 5-
year cohorts calculated over each 5 year period from 1970 to 2010.
Figure 1: General Fertility Rate in Cambodia from Three Surveys, 1970-2010

Figure 2: General Fertility Rate in Cambodia, Average Over Three Surveys
Table 1: General Fertility Rate in Cambodia, 1970-2009

<table>
<thead>
<tr>
<th>Year</th>
<th>2000 CDHS</th>
<th>2005 CDHS</th>
<th>2010 CDHS</th>
<th>Avg of 3 CDHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>5.667756</td>
<td>5.667756</td>
<td></td>
<td>5.667756</td>
</tr>
<tr>
<td>1971</td>
<td>6.451465</td>
<td></td>
<td></td>
<td>6.451465</td>
</tr>
<tr>
<td>1972</td>
<td>6.881534</td>
<td>6.881534</td>
<td></td>
<td>6.881534</td>
</tr>
<tr>
<td>1973</td>
<td>5.977471</td>
<td></td>
<td></td>
<td>5.977471</td>
</tr>
<tr>
<td>1974</td>
<td>5.628472</td>
<td></td>
<td></td>
<td>5.628472</td>
</tr>
<tr>
<td>1975</td>
<td>4.51966</td>
<td>3.109194</td>
<td></td>
<td>3.814427</td>
</tr>
<tr>
<td>1976</td>
<td>3.806349</td>
<td>1.976543</td>
<td></td>
<td>2.891446</td>
</tr>
<tr>
<td>1977</td>
<td>3.205952</td>
<td>2.374084</td>
<td></td>
<td>2.790018</td>
</tr>
<tr>
<td>1978</td>
<td>3.536239</td>
<td>2.406028</td>
<td></td>
<td>2.971135</td>
</tr>
<tr>
<td>1979</td>
<td>5.648212</td>
<td>4.886326</td>
<td></td>
<td>5.267269</td>
</tr>
<tr>
<td>1980</td>
<td>6.719579</td>
<td>6.741532</td>
<td>5.409889</td>
<td>6.290333333</td>
</tr>
<tr>
<td>1981</td>
<td>6.718394</td>
<td>5.928278</td>
<td>4.683555</td>
<td>5.776742333</td>
</tr>
<tr>
<td>1982</td>
<td>6.45256</td>
<td>5.802329</td>
<td>4.51961</td>
<td>5.591499667</td>
</tr>
<tr>
<td>1983</td>
<td>5.971568</td>
<td>5.673952</td>
<td>4.435711</td>
<td>5.360410333</td>
</tr>
<tr>
<td>1984</td>
<td>6.121347</td>
<td>5.406617</td>
<td>4.339208</td>
<td>5.289057333</td>
</tr>
<tr>
<td>1985</td>
<td>5.488984</td>
<td>5.460078</td>
<td>4.192897</td>
<td>5.047319667</td>
</tr>
<tr>
<td>1986</td>
<td>5.819308</td>
<td>5.024944</td>
<td>4.306888</td>
<td>5.05038</td>
</tr>
<tr>
<td>1987</td>
<td>5.725502</td>
<td>5.181035</td>
<td>4.047778</td>
<td>4.984771667</td>
</tr>
<tr>
<td>1988</td>
<td>5.709453</td>
<td>5.164823</td>
<td>4.548027</td>
<td>5.140767667</td>
</tr>
<tr>
<td>1989</td>
<td>5.733816</td>
<td>5.305339</td>
<td>4.629307</td>
<td>5.222820667</td>
</tr>
<tr>
<td>1990</td>
<td>5.96895</td>
<td>5.386286</td>
<td>5.053238</td>
<td>5.469491333</td>
</tr>
<tr>
<td>1991</td>
<td>5.501158</td>
<td>4.988011</td>
<td>4.306454</td>
<td>4.931874333</td>
</tr>
<tr>
<td>1992</td>
<td>5.701541</td>
<td>5.589165</td>
<td>5.105716</td>
<td>5.465474</td>
</tr>
<tr>
<td>1993</td>
<td>5.996145</td>
<td>5.655887</td>
<td>5.1186</td>
<td>5.590210667</td>
</tr>
<tr>
<td>1994</td>
<td>6.446194</td>
<td>5.355097</td>
<td>4.904973</td>
<td>5.568754667</td>
</tr>
<tr>
<td>1995</td>
<td>4.059065</td>
<td>5.05769</td>
<td>4.585219</td>
<td>4.567324667</td>
</tr>
<tr>
<td>1996</td>
<td>4.284266</td>
<td>4.519319</td>
<td>4.313192</td>
<td>4.372259</td>
</tr>
<tr>
<td>1997</td>
<td>4.054166</td>
<td>4.235698</td>
<td>3.984574</td>
<td>4.091479333</td>
</tr>
<tr>
<td>1999</td>
<td>3.829591</td>
<td>4.344386</td>
<td>3.87465</td>
<td>4.016209</td>
</tr>
<tr>
<td>2000</td>
<td>4.199902</td>
<td>4.340712</td>
<td>4.270307</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>3.562944</td>
<td>3.473891</td>
<td>3.518417</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>3.424676</td>
<td>3.599748</td>
<td>3.512212</td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>3.473328</td>
<td>3.345603</td>
<td>3.409465</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>3.302276</td>
<td>3.63961</td>
<td>3.470943</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>3.107386</td>
<td>3.107386</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>3.180806</td>
<td>3.180806</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>3.152938</td>
<td>3.152938</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>3.200751</td>
<td>3.200751</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>3.129024</td>
<td>3.129024</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 3: Age Specific Fertility Rate in Cambodia, By Five-Year Cohort

Table 2: Age Specific Fertility Rate in Cambodia, Over Five-year Periods

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15-19</td>
<td>0.0898125</td>
<td>0.0488076</td>
<td>0.0817394</td>
<td>0.0709064</td>
<td>0.0903236</td>
<td>0.0509281</td>
<td>0.0523146</td>
<td>0.0479945</td>
</tr>
<tr>
<td>20-24</td>
<td>0.2345939</td>
<td>0.1904549</td>
<td>0.2758443</td>
<td>0.2323885</td>
<td>0.242756</td>
<td>0.1910812</td>
<td>0.1782154</td>
<td>0.1696028</td>
</tr>
<tr>
<td>25-29</td>
<td>0.2554813</td>
<td>0.306651</td>
<td>0.2758443</td>
<td>0.2713204</td>
<td>0.2031014</td>
<td>0.1769522</td>
<td>0.1700621</td>
<td>0.1237215</td>
</tr>
<tr>
<td>30-34</td>
<td>0.2896118</td>
<td>0.2608288</td>
<td>0.2389073</td>
<td>0.1653061</td>
<td>0.1389714</td>
<td>0.1237215</td>
<td>0.0716307</td>
<td>0.0282895</td>
</tr>
<tr>
<td>35-39</td>
<td>0.226222</td>
<td>0.1868277</td>
<td>0.1175347</td>
<td>0.0935286</td>
<td>0.0716307</td>
<td>0.0716307</td>
<td>0.0716307</td>
<td>0.0716307</td>
</tr>
<tr>
<td>40-44</td>
<td>0.0978821</td>
<td>0.0545867</td>
<td>0.0408484</td>
<td>0.0282895</td>
<td>0.0282895</td>
<td>0.0282895</td>
<td>0.0282895</td>
<td>0.0282895</td>
</tr>
<tr>
<td>45-49</td>
<td>0.0151589</td>
<td>0.0047708</td>
<td>0.0050752</td>
<td>0.0050752</td>
<td>0.0050752</td>
<td>0.0050752</td>
<td>0.0050752</td>
<td>0.0050752</td>
</tr>
<tr>
<td>Total</td>
<td>0.7976971</td>
<td>0.6856014</td>
<td>0.6163763</td>
<td>0.5428007</td>
<td>0.4618815</td>
<td>0.3428007</td>
<td>0.282895</td>
<td>0.2050752</td>
</tr>
</tbody>
</table>
The data for fertility rates pulled from the given data does not offer any sense of fertility rate prior to the outbreak of civil war in 1970. However, Neupert and Prum (2005) use a general fertility rate of 7 as a rough estimate leading into the 1970’s. Following this extended period of high fertility is major decrease in fertility in the 1970’s, reaching the lowest fertility rate of approximately 2.8 around 1977, the midpoint of the Khmer Rouge period. A helpful lens with which to view fertility in Khmer Rouge-era Cambodia comes from Hill (2004), who, studying fertility among Cambodian refugees in Thailand, noted that reduced fecundability as a result of malnutrition was a significant factor in reduced fertility. Also important was the prevalence of spontaneous abortion due to forced relocation, as well as the possibility of a lower frequency of sexual intercourse over this time. These factors, paired with the very limited data in Cambodia at this time, make it difficult to parse the social aspects of fertility decline during this period. Using the Theory of Planned Behavior, low fertility at this time can be attributed to the lack of perceived control over their birth outcomes due to the both the political regime and various health-related factors. The Khmer Rouge made clear their intent to threaten the traditional family structure and upend the sense of familial hierarchy that contributed to a consistently high birth rate prior to the conflicts of the 1970’s. However, the rampant violence, displacement, and malnutrition prevalent in the Khmer Rouge period, as Hill (2004) identifies, had such a high impact of fertility outcomes that any social change induced during this period is undetectable based on fertility statistics alone. Thus, we must rely on fertility in later decades to understand the impact the Khmer Rouge had on the traditional family structure.
Immediately after the fall of the Khmer Rouge in 1979, fertility spiked, in what some call a “baby boom” (Heuveline and Poch 2007). The fertility rate at this point rivaled, if not surpassed, fertility rates before, and maintained a relatively high level throughout the 1980’s. Two distinct factors during this time can be identified as possible contributors to this fertility spike. One explanation comes from the concept of a fertility response to high mortality. Identified as a threat to the family system by Davis (1963), the rampant high mortality in the 1970’s can be enough to induce a fertility response, as seen in previous historical examples (see Heuveline and Poch 2007). Likewise, Montgomery’s (1998) theory regarding the perceptibility of mortality threats seems to be relevant here, since the high mortality during the 1970’s was evident to all Cambodians.

The other factor to note in regard to the baby boom in Cambodia is the degree to which the Khmer Rouge was perceived as not just a threat outside of human life, but rather as a threat to traditional cultural and social values. Thus, using the Theory of Planned Behavior, a normative explanation of high fertility may be appropriate. As Merton (1968) suggests, the goals members of a society rely on are directly tied to the social norms they live under. The fall of the Khmer Rouge contributed to, in essence, a revival of these previous social norms, ones that had provided structure and stability in Cambodia for many centuries. These norms, related to the strict hierarchies of traditional Khmer culture, are relevant to this increase in fertility, especially when viewed under Notestein’s (1945) hypothesis that these norms existed in the first place to promote high fertility. The traditional family structure, where children are expected to stay close and contribute monetarily to the family, can contribute to high fertility levels, since having children is seen as an economically beneficial decision (see Bulatao and Lee 1983). The
reenactment of traditional gender roles during the 1980’s also contributed to this traditional, high-fertility family structure, as opposed to a more progressive role of gender that allowed for female education and employment.

Though fertility remained relatively high throughout the 1980’s, it inevitably declined. Given the various “modernizations” that Cambodia has undergone over the past 20 or so years, demographers are quick to identify this trend as evidence of a fertility transition (Hirshman 1994). Since many of the long-held norms in Cambodian society encouraging high fertility have diminished in prominence, Notestein’s (1945) conception of “modernization” as a contributor to lower fertility does appear to be relevant. By opening its doors to international influences and entering the world economy, women in particular have a new-found sense of liberation. Derks’ (2008) ethnography of women leaving rural villages for the city find employment is relevant to understanding Cambodia’s fertility transition, since a higher female employment rate is often linked with lower fertility (Kirk 1996).

The graph of birth rates by cohort (Figure 3) provides finer detail of changes in fertility. The Age Specific Fertility Rate spiked heavily at all cohorts during the baby boom of the 1980’s, resulting in near identical-fertility rates for all three cohorts ranging from ages 20-34 in 1980. The high level of fertility at the cohort of women age 30-34 in particular suggests that many of the births at this time were, in a sense, displaced. In looking at the fertility curve for those born from 1951 to 1956, fertility rate is higher when they are age 30-34 than when they are age 25-29, which is uncommon in relation to the other cohorts. Thus, it is likely that at least these women had planned to give birth during the Khmer Rouge period, but these plans were deferred due to the conflict. The
high fertility rate in 1980 for younger women does, however, suggest that this is not necessarily the case for all births immediately after the Khmer Rouge period.

It is also worth noting that those born from 1966-1971 exhibited very high fertility in 1990. While 1990 was a year in this cohort’s expected period of peak fertility, the especially high rate at this point suggests that other factors may be involved. This cohort ranged in age 4 to age 14 during the Khmer Rouge period, and many of whom were subject to the reeducation programs during that period. It is also worth noting most were very young (if alive at all) during the periods of high fertility prior to civil war. Thus, this cohort provides an interesting example of high fertility being adopted by a cohort that had little direct experience with the “traditional” Khmer way-of-life and that was also exposed to the Khmer Rouge’s indoctrination at an impressionable age.

The graph of cohort fertility rates also provides an interesting way of viewing Cambodia’s fertility decline. Those born in the 1970’s (admittedly a relatively small cohort) were the first to exhibit a low fertility rate during their years of peak fertility. Following Montgomery (1998), this may be linked to their relative lack of exposure to mortality during the Khmer Rouge period compared to previous cohorts. This trend of lowering fertility continues during the large cohorts born after the Khmer Rouge period, suggesting, in Davis’ (1963) model of the family system, that the threats of high mortality and political turmoil upon the family system were not perceived by this younger generation, who grew up in a time of relative peace. However, the increased globalization and modernization in Cambodia starting in the 1990’s likely had an effect on these cohorts as well.
This cohort analysis is invariably linked to the composition of the Cambodian population. In order to build off of some of the trends and themes developed by Neupert and Prum (2005), it may be valuable to compare the population pyramids used by Neupert and Prum, based on projections from NIS and CPS (2004), with the actual results found in the 2010 CDHS (See Figures 4 and 5). The resulting comparison provides evidence that Neupert and Prum’s estimates regarding Cambodia’s fertility transition may have underestimated the speed of fertility decline, as significantly less of the actual population pyramid consists of Cambodians age 10 or younger. McCargo’s (2014) observations regarding the developing generational divide in Cambodia over the past few years may be relevant to this recent increase in fertility decline. Furthermore, given Neupert and Prum’s guarded optimism regarding Cambodia’s attempts to escape the shadow of their troubled past, the low fertility behavior new cohort of Cambodians may be a signal of changing tides.
Figure 4: Population Pyramid of Cambodia, 2010, Projected

Figure 5: Population Pyramid of Cambodia, 2010, From 2010 DHS
V. Discussion

Limitations and Questions for Further Research

This study is not an attempt to determine all of the determinants of fertility in Cambodia immediately following the Khmer Rouge period, and as a result, the overall explanatory power of the factors explored here can be called into question. Because normative factors ultimately contribute only partially to fertility decisions, a complete explanation of Cambodia’s baby boom is not provided by the research shown here. Ultimately, an explanation of that sort would involve examining the nature of marriage and marital fertility in Cambodia, as well as other proximate determinants of fertility, such as contraceptive use. Given the lack nationally-representative data of Khmer Rouge-Era Cambodia available at the time of this study, this kind of examination would be difficult to accomplish. However, a study investigating the behavioral aspects of fertility in Cambodia could serve as an interesting complement to this research, which is more concerned with normative explanations of fertility.

In regards to more recent fertility trends, further research could explore with more depth the various factors involved in Cambodia’s fertility transition. The rise of urbanization and employment, examined here through the ethnographic work of Derks (2008) could benefit from a more quantitative analysis, in which their relative impact on Cambodia’s overall fertility could be better understood. Furthermore, a comparative study of fertility transitions in Southeast Asia at present could further illuminate some of the findings of this research by providing a better understanding of how the Khmer Rouge period has distinguished (or failed to distinguish) the Cambodian fertility
transition from the transitions of its cultural and geographic neighbors. Lastly, a more detailed look at the new generation of Cambodians and the social change promised by this generation would be a worthy extension of this research, since ultimately fertility only provides a small (but significant) window with which to view social change in Cambodia.

**Conclusion**

The rule of Pol Pot and the Khmer Rouge has left an indelible mark on Cambodian history, one that Cambodians such as Soheap H. Kang refuse to forget. However, despite their extreme attempts to induce social and political change, the Khmer Rouge’s legacy in terms of mortality and negligence towards human life has far eclipsed any other impacts they may have had. Even as gender imbalance and other issues related to selective mortality limited the prospective marriages at the time, the traditional norms of family showed great resilience (Heuveline and Poch 2006), in turn leading to a sustained spike in fertility rates. In time, these norms and social structures have met a new challenger: globalization. Evidence of changes in family life and the role of women afforded by a new, more global economy can be seen in the dramatic decrease in fertility in Cambodia over the past 20 to 25 years. Given that previous cohorts have shown evidence of the resiliency of the Cambodian way of life following the rule the Khmer Rouge, it is somewhat ironic that, if the fertility transition is any indication, the forces of globalization and modernization have induced long-lasting social change in ways that the extreme tactics of the Khmer Rouge failed to.
Of course, though times have changed, the shadow of the Khmer Rouge still looms over Cambodia. Relative to neighboring countries such as Vietnam and Thailand, Cambodia is quite behind in terms of economic development. Despite this, there is reason to be optimistic in regards to the future of Cambodia, given that a younger generation of Cambodians has been advocating for political and economic change. As Ryder (1965) suggests, “the capacity for societal transformation has an indispensable ally in the process of demographic metabolism” (844). Perhaps, then, in an indirect way, Cambodia’s fertility response to the fall of the Khmer Rouge was a move towards eventual social change after all.


NIS (National Institute of Statistics), DGH (Directorate General for Health) and ORC Macro., 2006. *Cambodian Demographic and Health Survey, 2005 [dataset]*. Calverton, Maryland: NIS, DGH, ORC Macro [producers].

NIS (National Institute of Statistics), DGH (Directorate General for Health) and ICF Macro., 2011. *Cambodian Demographic and Health Survey, 2010 [dataset]*. Calverton, Maryland: NIS, DGH, ICF Macro [producers].


ACADEMIC VITA

Andrew Huffard
1430 Majestic View Drive
State College, PA 16801
ach5179@psu.edu

Education:
Bachelor of Science in Sociology, May 2014
Schreyer Honors College at The Pennsylvania State University, University Park, PA
Minors in Statistics and English
Paterno Fellow

Work Experience:
Undergraduate Research Assistant – Tea Party Research Project, December 2013-Present
Dr. John McCarthy, Distinguished Professor of Sociology, Penn State University
☐ Coding data regarding the size and nature of Tax Day Tea Party Rallies across the United States using newspaper resources
☐ Scanning newspaper databases for relevant materials

Desk Assistant, December 2010-Present
Penn State University Engineering Library, University Park, PA
☐ Working at main desk checking out materials and helping patrons
☐ Discharging and shelving materials

Undergraduate Research Assistant – Bomb to Bombmaker, January 2011-May 2011
Penn State University International Center for the Study of Terrorism
☐ Coded data regarding the nature and impact of bombings in Northern Ireland in the late 20th century based on newspaper reports
☐ Contributed research as part of a larger project exploring the cultural dynamics involved in Improvised Explosive Device (IED) attacks since 1970

Special Collections/Archives Assistant, September-December 2009
Greenslade Special Collections and Archives at Olin Library, Gambier OH
☐ Performed various historical research projects for patrons, which involved locating and collating archival documents and summarizing them in abstract form
☐ Shelved and organized materials
☐ Digitized and organized archival files

Relevant Activities:
Honors Academic Trip to Cambodia and Vietnam (part of the course Exploring Community, Leadership and Reconciliation: Vietnam and Cambodia), May 2012
☐ Presented a research project on the nature and evolution of Communism in Southeast Asia during the 20th century
☐ Attended lectures on Vietnamese economics and agriculture at Nong Lam University