

SOCIAL CONTEXT AND THE PATHWAYS TO HAPPINESS:  
A THREE-PART INVESTIGATION

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## **ABSTRACT**

### **SOCIAL CONTEXT AND THE PATHWAYS TO HAPPINESS: A THREE-PART INVESTIGATION**

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Quantitative studies of human happiness often assume that the determinants of happiness are universal across time and place, reflecting inherent psychological needs. This dissertation challenges this assumption, exploring the idea that the determinants of happiness vary across social contexts. Chapter one tests the hypothesis that relationship between religiosity and happiness depends upon economic conditions; chapter two examines the impact of unemployment on happiness across four countries; chapter three explores the impact of private sector employment on happiness against the backdrop of the Chinese market reforms. Taken together, the findings suggest that researchers seeking to better understand the determinants of happiness should account for the moderating effects of social conditions.

## **Dedication**

To my grandmother, Marian Downey. Thanks for making me get it done!

## **Acknowledgements**

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## **Introduction**

Over the past two decades, the quantitative study of human happiness has gained widespread popularity. Alternatively known as “life satisfaction” or “subjective well-being”, happiness is generally measured with a single-item survey question gauging self-reported satisfaction with life. Across hundreds of studies, results have proven consistent and intuitive: happiness appears positively associated with income, marriage, employment, good health, and strong social ties (for a summary, see Kahneman 2006). Moving beyond the individual-level, several studies explore the institutional and macro-level determinants of happiness, suggesting that SWB is positively correlated with economic development, good governance, and income equality (Bjornskov et al. 2008; Frey and Stutzer 2002). This compelling body of research has found a receptive audience among policymakers. A few nations now use happiness data to monitor societal health and guide policy, with several more poised to follow suit (Helliwell et al. 2012).

Although this topic appears ripe for sociological inquiry, sociologists have been relatively slow to engage the field. A few have made notable contributions (Firebough and Schroeder 2009; Schnittker 2008a, 2008b; Yang 2008), but the bulk of recent studies come from economists and psychologists. From 2000-2013, the top three economics journals published eighteen articles on happiness, the top three psychology journals published fourteen, while the top three sociology journals published only four. Of the thirty most frequently cited articles on the topic,



seventeen are authored by psychologists, twelve by economists, and only one by a sociologist.<sup>1</sup>

Veenhoven (2006) speculates that sociologists avoid happiness research due to ideological bias. The author claims that one of the literature's chief findings—that despite society's problems, many individuals are very happy—is at odds with the sociological perspective. This dissertation takes an opposing view. I argue that the study of happiness is highly compatible with a sociological perspective, and that such a perspective might offer vital new insights to the field.

A sociological approach to happiness might begin by challenging a prevailing assumption in the established literature. Due in part to disciplinary convictions of their own, economists and psychologists share an implicit belief that the determinants of happiness are universal across time and place, reflecting inherent psychological needs. An illustrative example of this thinking can be found in Veenhoven (2010). The author asserts that the positive correlation between marriage and happiness “fits the view that we are social animals, hard-wired to form pairs.”<sup>2</sup>

Sociologists have long opposed the notion that human psychology is “hard-wired,” asserting that consciousness is shaped by social conditioning. Preferences,

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<sup>1</sup> Citations data come from the ISI Web of Science. Papers on the topic of happiness are defined as those with the words “happiness,” “SWB,” or “life satisfaction” in the title. “Top journals” are determined by impact factor. According to this metric, the top three economics journals are the *Journal of Economic Literature*, the *Quarterly Journal of Economics*, and the *Journal of Economic Perspectives*. The top three Psychology journals are the *Annual Review of Psychology*, the *Psychological Bulletin*, and the *Psychological Review*. The top three Sociology Journals are the *Annual Review of Sociology*, the *American Sociological Review*, and the *American Journal of Sociology*.

<sup>2</sup> Veenhoven is among the rare sociologists to study happiness, but his statement is representative of the prevailing view in the established literature.

values, and environmental stressors vary widely across contexts; one would expect that pathways to happiness might vary as well. The finding that marriage is positively related to happiness might not reflect an innate propensity to form pairs, but rather a high social premium placed upon marriage within the society under investigation. Similarly, the finding that religion promotes happiness might not reflect an inherent need for faith, encoded in the “God gene” (Paul 2009), but might instead stem from the value of religion in helping one cope with certain forms of environmental stress. In short, the determinants of happiness might depend on social conditions. A sociological approach must account for the moderating role of context.

This perspective motivates this dissertation. With a focus on contextual moderators, I revisit established findings. Where past investigations have asked, “Is factor X associated with happiness,” I ask, “under what social conditions, if any, does X relate to happiness?” Because economists have dominated the field, much of the happiness literature focuses on economic determinants. I maintain this focus, with economic factors playing a central role in each of my three investigations. In Paper 1, I explore poverty and income inequality as contextual moderators in the relationship between religiosity and happiness. In Paper 2, I examine the relationship between unemployment and happiness across four countries, exploring the moderating role of welfare state generosity. In Paper 3, I explore the relationship between private sector employment and happiness in China, where unique institutional dynamics are hypothesized to produce a negative relationship between these two factors.

## BACKGROUND ON THE MEASUREMENT OF HAPPINESS

As the popularity of happiness research has grown, it has attracted a significant amount of criticism. Chief among these critiques is that happiness is not a valid social-scientific construct. Like “beauty” or “humor,” critics allege that happiness is culturally relative, subjectively defined, and beyond the grasp of scientific inquiry (Veenhoven 2010; McCloskey 2012). In addition, critics are troubled by the reliance on self-reported measures. They allege that even if happiness were a valid scientific construct, self-reported measures would still be subject to various forms of bias, such as social desirability bias, memory bias, and positivity bias.

Happiness researchers have produced a compelling body of literature to address these concerns. Summarizing this work, Fordyce (2005) finds that the self-reported happiness holds up well in tests for validity and reliability. In tests for reliability, researchers have found satisfactorily high test-retest coefficients for intervals of up to two months (ibid). Self-reported happiness also exhibits both convergent validity and construct validity: it correlates with a variety of detailed instruments used to gauge mental health (Linley 2009), and with various aspects of personality and lifestyle (Fordyce 2005). Happiness measures also appear to be generally free from response bias (Fordyce 2005; Oishi 2010).

Furthermore, in response to the charge that happiness eludes an objective scientific definition, researchers have identified two distinct dimensions of happiness that are alleged to exist across all individuals and cultures (Diener et al. 2010b; Kahneman et al. 2010). *Affective happiness* refers to mood and emotion.

According to Veenhoven (2006), a positive mood serves as an “affective signal” that an individual’s needs are being met. Conversely, if needs are being neglected, a negative mood indicates that something is wrong and must be addressed. As a product of evolution, this affective signaling mechanism is alleged to be a universal human trait (ibid).

Whereas affective happiness is defined as mood and emotion, *cognitive happiness* reflects an individual’s global evaluation of his or her life circumstances (Kahnemann 2006). This type of happiness is also alleged to be universal, as all individuals have the ability to compare present circumstances to notions of how life might otherwise be. In making this evaluation, an individual might compare their present life to that of peers and neighbors, to one’s own life at an earlier point, or to culturally informed standards of how life should be (Veenhoven 2006). Though the reference point may vary, the ability to draw comparisons between the actual and the ideal is universal.

A variety survey instruments have been developed to gauge the affective and cognitive components of happiness. Global assessment questions<sup>3</sup> are used to tap the cognitive dimension, while the affective dimension is gauged by asking the subject to report moods and emotions during various experiences.<sup>4</sup> A large number of empirical findings support the theory that cognitive and affective happiness are

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<sup>3</sup> Typical examples of life satisfaction questions include: “All things equal, how satisfied are you with your present life circumstances?” or “Considering your life as a whole, would you say you are very happy, not very happy, or not at all happy?”

<sup>4</sup> This is sometimes achieved using “beeper studies” (Csikszentmihalyi and Figurski) where subjects carry beepers that go off periodically throughout the day, prompting them to record present activities and emotional states.

separable subcomponents of overall happiness and can be distinguished using appropriate instruments (ie, Linely et al. 2008; Diener et al. 2010; Kahnemann et al. 2010). The investigations that comprise this dissertation focus on the cognitive dimension of happiness. Henceforth, I refer to this cognitive dimension using the terms “happiness,” “life satisfaction,” and “subjective well-being” (SWB) interchangeably. I adopt this convention for rhetorical convenience.

## Paper 1

### Religiosity, Happiness, and Economic Stress

#### INTRODUCTION

Where sociologists once predicted the demise of religion, we must now explain its persistence. How have the major faith traditions withstood the challenges of modernization? According to one popular explanation, religion endures because it continues to enhance the well-being of believers. This view finds support in a large number of empirical investigations suggesting that religiosity is positively associated with happiness (ie Elliot and Hayward 2009; Helliwell 2003; Lim and Putnam 2010;).

However, due to inconsistencies in the literature, the evidence for this association is not yet sufficient. Although many investigations find the relationship between religiosity and well-being to be positive, others find it insignificant (Abdel-Khalek et al. 2006; Janssen et al. 2006; Lewis et al. 2000; Lewis and Cruise 2006; O'Connor et al. 2003), negative (Brown & Tierney 2009), or parabolic (Eliassen & Taylor 2005; Schnittker 2001). Further grounds for doubt are found in macro-level data: if religiosity enhanced well-being, one might expect highly religious societies to be populated with happier people, but this expectation finds little empirical support (Paul 2009). Although religiosity may promote happiness in some contexts, it does not appear to do so universally.

Given these inconsistencies, the correct question may not be *whether* a relationship between religiosity and happiness exists, but rather, *under what*

*conditions* does this relationship hold? The robust literature on religious coping provides a useful framework for addressing this question: if a chief benefit of religiosity lies in its ability to bolster well-being in the face of stress, one may expect religiosity to strongly impact happiness in the presence of unfavorable circumstances, with this impact receding as conditions improve. In light of these considerations, models of religiosity and well-being might account for variation in stress deriving from both individual circumstances and macro-social environments. The majority of investigations fail to do this, in part because they often rely on single-country data. Smith (2008) finds the absence of cross-contextual comparisons to be a common shortcoming in the sociology of religion:

“We have good reason to believe that institutional and ecological contexts...exert important causal influences on and with religion. We need more and better studies...collecting and linking data from multiple levels of social life in single, coherent datasets...We simply have so much to learn about religion by expanding our field of vision...and capitalizing on the comparative method to gain analytical edges” (1567-1568).

The present study answers this call, exploring the relationship between religiosity and SWB across 34 countries. I hypothesize that the association between religiosity and happiness is stronger under stressful circumstances. To my knowledge, only one previous investigation takes this approach: Diener et al. (2011) suggest that the link between religiosity and life satisfaction is stronger under “difficult life conditions.” However, because the authors rely on a highly generalized measure of environmental stress, aggregating a wide variety of social conditions into a single index, they provide limited insight into which *specific* conditions might moderate the association between religiosity and well-being. Among the conditions it neglects, this approach fails to consider the expanding sociological literature on

the consequences of inequality. To address this shortcoming, my analysis differentiates between distinct types of stress and measures stressful conditions at both the individual and contextual levels. Of particular interest is the hypothesis that inequality plays a uniquely powerful role in moderating the psychological impact of religiosity. The results provide support for this hypothesis, suggesting that the association between religiosity and happiness is stronger within unequal societies and among relatively disadvantaged individuals.

In the second stage of my analysis, I explore the macro-level implications of the findings from the first phase. If religiosity provides a stronger psychological payoff within unequal societies, one might expect such societies to exhibit higher rates of religiosity. I find support for this expectation: controlling for economic development, I find a positive and significant correlation between inequality and aggregate religiosity at the country level. I conclude that declining religiosity in Western Europe and elsewhere may be due not only to economic growth, as has been suggested previously, but also to declining inequality.

## BACKGROUND AND HYPOTHESES

Theoretical literature suggests that religious involvement might affect well-being through a variety of channels. Schnittker (2001) summarizes these arguments with respect to three distinct types of religious involvement: *service attendance*, *spiritual help-seeking*, and *religious salience*. Durkheimian arguments suggest that *service attendance* might boost well-being by generating feelings of belonging, interpersonal trust, and confidence in a shared philosophy (Ellison et al. 1989;



Petersen and Roy 1985). Private acts of *spiritual help-seeking*—including meditation, prayer, and consultation with spiritual authorities—might help bolster an individual's sense of dignity and self-worth. Finally, a strongly held religious belief system (high *religious salience*) might enhance well-being by providing guidelines for behavior, lending philosophical meaning to daily activities, and helping individuals cope with unfavorable life circumstances (Shafranske 1992).

However, additional arguments have been advanced suggesting a negative or curvilinear relationship between religiosity and well-being. For instance, high religiosity may imply adherence to more restrictive forms of belief, which may reduce autonomy and self-efficacy (Schumaker 1992). Scholars have also speculated that psychological well-being is promoted through confidence in a strongly-held set of beliefs, regardless of whether such beliefs are religious or secular (Eliassen & Taylor 2005). This benefit of confidence thus accrues to both committed atheists and the devoutly religious, while those at moderate levels of religiosity experience greater uncertainty and lower well-being. This logic implies a U-shaped relationship between religiosity and well-being.

As discussed in the introduction, empirical evidence on the relationship between religiosity and well-being is mixed. In this investigation, I attempt to explain these inconsistencies using insights from the stress process model, originally put forth by Pearlin et al. (1981). Pearlin's model identifies environmental stress as the cause of psychological distress; it also explores how various coping mechanisms function to moderate the psychological costs of stressful circumstances. Several investigations suggest that religion functions as an effective

coping mechanism, in part by providing a cognitive schema through which individuals may interpret and accept negative social conditions (Pargament and Brant 1998). Past studies report that religiosity may attenuate distress due to unemployment (Ellison et al. 2001), bereavement (Ano and Vasconcelles 2005), and illness (Koenig et al. 1992). Furthermore, the literature provides some indication that the stress-buffering effects of religiosity are more prevalent than the “main effects,” i.e, those benefits enjoyed by distressed and non-distressed individuals alike (Schittker 2001).

Given the strong evidence for its buffering effects, one may expect the psychological impact of religiosity to be greatest where circumstances are stressful. In the absence of stress, this impact may diminish, though not necessarily disappear, as religiosity may continue to impact well-being through other channels. In this investigation, I focus on four potential types of stress: two arising from individual circumstances—low absolute income and relative deprivation—and two arising from contextual conditions—low economic development and high socioeconomic inequality. I explore the moderating role of each in the relationship between religiosity and well-being.

### *Religiosity, Absolute income, and SWB*

The argument for a positive relationship between income and well-being lies at the heart of neoclassical economic theory: individuals derive utility from the consumption of goods and services, so the more income one has, the more happiness one can “buy.” Despite new perspectives that challenge this argument

(Stutzer 2006), a large body of literature supports a robust positive relationship between income and SWB, particularly at low levels of income (Frey & Stutzer 2002). Poor individuals lack economic security and are often deprived of access to the basic conditions for human survival and fulfillment. Clearly, low income provides a potential source of stress and unhappiness. Independent of personal income, low national income might also impact well-being; an underdeveloped country may lack security, infrastructure, and good governance, undermining the quality of life for inhabitants.

According to Norris and Inglehart (2004), religion helps individuals cope with these circumstances. Under tenuous economic conditions, a concrete set of religious rules and beliefs provides regularity and comfort. But as economies grow increasingly stable and prosperous, as welfare systems expand, and as the volatile forces of nature are brought under human control, feelings of insecurity recede, reducing the need for the religious coping mechanism (*ibid*). Thus, as economic development advances, religious participation declines.

The authors' implicit argument is that economic circumstances moderate the relationship between religiosity and well-being: in the presence of poor conditions, individuals find comfort in religion, but as conditions improve, religion loses its coping value and ceases to enhance well-being. However, the authors rely exclusively on aggregate-level data to test these claims, preventing an adequate exploration of the individual-level mechanisms that are purported to drive the macro trends. In this analysis, I retest the authors' hypotheses using individual-level

data. I measure economic conditions at the country level (in hypothesis 1) and at the individual level (in hypothesis 2).

***Hypothesis 1: The relationship between religion and happiness is positive in poor countries, and diminishes as economic development increases***

***Hypothesis 2: The relationship between religion and happiness is positive for individuals with low absolute income, and diminishes as income increases***

### *Religiosity, Relative Deprivation, and SWB*

The concept of relative deprivation provides an alternative mechanism through which income might affect SWB. According to this perspective, individuals desire high social status and use income comparisons to gauge their social position. Even where an individual is materially secure, low income *relative to peers* generates feelings of deprivation and low status, thereby reducing well-being. Indeed, low relative income has been linked to a variety of adverse physical and mental health outcomes (for a comprehensive investigation, see Marmot 2004). Although they may overlap, the distress due to relative deprivation is distinct from that due to low absolute income: the former stems from unfavorable peer comparisons, while the latter stems from difficulties in securing the basic necessities of life. Finding support for the importance of relative income, Layard et al. (2010) report that income better predicts life satisfaction when measured in relative rather than absolute terms.

Social-evolutionary perspectives suggest that religious systems are uniquely attuned to the stress of relative deprivation (Diamond 1997; Wade 2009; Wilson

2002). According to these scholars, religion originally evolved to suit the exigencies of warfare between small egalitarian tribes, but its social function changed after the emergence of sedentary agricultural societies, when crop surpluses and wealth accumulation generated sharp income gaps. Agricultural societies met the basic needs of their large lower classes, but high inequality presented poor individuals with a new source of chronic stress in the form of relative deprivation. Religious systems evolved to help people cope, in part by casting poverty as spiritually advantageous and promising various forms of redemption to the relative poor, such as salvation, enlightenment, or a favorable re-birth. The major faith traditions offer a variety of cognitive devices for soothing the psychological burdens of relative deprivation.

Inequality may also generate forms of stress that extend to the more privileged classes (for a comprehensive investigation, see Wilkinson and Pickett 2010). It may generate feelings of social distrust and division among the rich and poor alike (Putnam 2000). Furthermore, high social inequality may cause individuals to feel that the world is unjust (Oishi et al. 2011), a burden which socially conscious members of the middle and upper classes might share with the relative poor.<sup>5</sup> As a mechanism for generating solidarity and promising deliverance from an unjust world, religiosity may also help to alleviate these additional costs of social inequality.

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<sup>5</sup> Several investigations find empirical support for these arguments, reporting a negative impact of social inequality on individual happiness, regardless of personal income (Hagerty 2000; Oishi et al. 2011). However, additional investigations report that the relationship is insignificant (Berg & Veenhoven 2010) or contingent upon social class and personal values (Bjornskov and Fischer 2008).

If the above arguments were correct, one would expect a positive relationship between religiosity and well-being where high inequality persists, with this relationship diminishing as societies eradicate inequality and its accompanying tensions. Furthermore, the relationship between religiosity and well-being may be positive for individuals with low relative income, who draw upon religion to cope, but less pronounced for the relatively wealthy. In the absence of inequality, religiosity may continue to positively impact happiness through other channels; it may continue to foster community, provide life with meaning, and offer comfort to the bereaved. However, if coping with inequality is a significant benefit of religious practice, the overall impact of religiosity should be smaller under more equitable circumstances. Hypotheses 3 and 4 capture these predictions. They follow a similar structure to that of the first set of hypotheses, measuring the impact of social inequality at both the contextual and individual levels. The distinction between hypotheses 2 and 4 should be noted: while hypothesis 2 captures income in absolute terms, hypothesis 4 captures income in relative terms. This is done to distinguish between poverty and relative deprivation as two distinct sources of stress, and to explore the potential buffering effects of religiosity in the face of each.

***Hypothesis 3: The relationship between religion and happiness is positive under contextual conditions of high inequality, and diminishes as inequality decreases***

***Hypothesis 4: The relationship between religion and happiness is positive and significant for individuals with low relative income, and diminishes as relative income increases***

### *Economic Conditions and Aggregate Religiosity*

Hypotheses 1-4, if correct, might help explain aggregate-level trends in religiosity. If the appeal of religiosity were greater under poor economic conditions, one might expect populations to abandon religion as conditions improve. Lending support to this view, Norris and Inglehart (2004) find a negative relationship between economic development and aggregate religiosity, concluding that the declines in religiosity observed across much of Western Europe are a direct result of economic growth and increasing equality. However, the study does not differentiate empirically between these two economic trends; it relies on an overall gauge of “human development” that accounts for both growth and equality simultaneously. Yet, because growth and equality do not always progress in tandem—some developing economies become more unequal, while others experience growth with equity—it is necessary to differentiate between the two, and to consider separately their effects on aggregate religiosity. If, at the individual level, religiosity provides a buffer against poverty and low absolute income, one might expect aggregate religiosity to decrease at higher levels of economic development. Similarly, if religiosity provides a buffer against relative deprivation, one might expect aggregate religiosity to decrease at lower levels of inequality. In hypotheses 5 and 6, I test these expectations, distinguishing between the effects of economic development and inequality on aggregate religiosity.

***Hypothesis 5: Economic development is negatively related to aggregate religiosity.***

***Hypothesis 6: Socioeconomic equality is negatively related to aggregate religiosity.***

## DATA

To investigate my empirical hypotheses, I use cross-sectional individual-level data from the World Values Survey. To ensure that all data are drawn from a comparable time span, I restrict my sample to the most recent three waves. The three waves were carried out from 1994-99, 1999-2004, and 2005-08, respectively. Each wave comprises a different set of countries, although some countries are included in multiple waves. Although a total of 82 countries are included in the survey, complete information on income levels is available only for a subset of 34 countries (more details below). Following Ball and Chernova (2008), I confine my analysis to this restricted group, which comprises a sample of 57,667 individuals. Table 1.1 displays the GINI coefficient, GNI per capita, mean religiosity and mean life satisfaction for each country included in the sample.

### *Dependent Variable*

The WVS asks the following question as a gauge of life satisfaction: "All things considered, how satisfied are you with the state of your life these days?" Responses on the 10-point scale range from "very unsatisfied" to "very satisfied." This question captures the cognitive dimension of SWB, which concerns an individual's global assessment of his or her life conditions (Kahneman et al. 2010). This is distinct from "affective" component of SWB, which concerns an individual's moment-to-moment emotional experience. The global measure better suits the main concern of this



investigation, which focuses on the utility of religion in helping an individual to accept unfavorable life circumstances.

### *Test Variables*

#### *Religiosity*

I measure religiosity using a question that asks: “How important is God in your life?” Potential responses range from 1 (“not at all important”) to 10 (“highly important”). For the purposes of this investigation, this measure carries several advantages over other measures of religiosity included in the WVS. As my hypotheses focus on the cognitive aspects of religiosity—namely, its value as schema for interpreting difficult circumstances—I am interested in the degree to which individuals apply a religious perspective to their daily experience. This is captured more effectively by the “Importance of God” measure than by categorical measures such as sectarian membership or service attendance, which pertain to the public side of religious involvement rather than to its role in private life. I partition this 10-point religiosity scale into four categories: no religiosity (importance of God=1), low religiosity (2-5), moderate religiosity (6-9) and high religiosity (10). The empirical models include dummy variables for moderate, high, and no religiosity, with low religiosity serving as a reference category. The use of these categorical variables rather than a single continuous scale is advantageous because it requires fewer assumptions and allows for non-linearity in the relationship between religiosity and well-being. However, alternative models operationalizing religiosity as single continuous variable, as well as nine separate categorical variables and one reference category, yielded similar results and are available upon request.

### *Absolute income*

The WVS asks respondents to report their annual income on a 10-point scale, with each level corresponding to an income decile specific to that individual's country. Income brackets are not comparable across countries—a "3" for an American respondent and a "3" for a Zimbabwean respondent denote different levels of absolute income. Unfortunately, the specific income levels associated with each bracket are not included in the data documentation for many of the countries; this information is only available for a subset of 34 countries. To estimate annual monetary income, I assign each individual the median value for his or her country-specific income bracket. I then adjust this figure for purchasing power parity and convert to thousands of 2005 US dollars. This results in a measure of income that is comparable across all years and countries.

### *Relative Income*

I measure relative income as the ratio of an individual's income to the mean for his or her within-country region. This is a common gauge of relative deprivation in the empirical literature (Graham and Pettinato 2002), as proximate geographical peers provide a likely basis for income comparisons.

### *Economic Development and Socioeconomic Inequality*

To measure economic conditions at the country level, I use data from sources external to the WVS. To measure economic development, I use Gross National Income per capita (measured in thousands of 2005 US dollars). I include both linear and squared terms for GNI per capita, based on past findings that the relationship between economic development and life satisfaction is non-linear (Graham et al.

2010). I measure socioeconomic inequality using the estimated GINI coefficient, a standardized measure of income inequality on a 1 to 100 scale, with higher values indicating higher levels of inequality.<sup>6</sup>

### *Control Variables*

All models include the following individual-level controls: age, education, marital status, employment status, income, and gender. The selection of these controls is informed by an extensive review of the literature on SWB (for a summary, see Frey & Stutzer 2002). I control for age by including age and age squared as separate covariates, as the relationship between age and SWB is typically U-shaped with a nadir around age 45 (ibid). Education is treated as categorical; I include dummy variables for “secondary education” and “post-secondary education,” with “less than secondary education” as the baseline category. Three variables are binary: gender (1= “male”), employment (1= “unemployed”), and marital status (1= “married”).

In addition, I include contextual variables to control for country-level qualities that might influence life satisfaction. Helliwell et al. (2003) and Bjornskov et al. (2008) find that quality of governance is positively related to life satisfaction. To control for this, I use the mean of the six Worldwide Governance Indicators published by the World Bank. This measure aggregates a broad range of

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<sup>6</sup> Data on GNI per capita are taken from the World Bank’s WDI database. Unfortunately, GINI estimates require detailed information on the distribution of income within a country, and so annual data on these figures are not available for most countries. Both the CIA and the World Bank provide GINI coefficients for each country on an irregular periodic basis that does not line up perfectly with the years in which World Values Data was collected. The result of this is that for each country-wave, I will assign a GINI coefficient taken from either the World Bank or the CIA, depending on which source provides an estimate whose year is closer in proximity to the survey wave in question. Although it is not ideal to draw measures of the same indicator from two different sources, doing so ensures that each country-wave’s GINI estimate is taken within 5 years of the WVS survey year. Furthermore, the estimates from these two sources are closely correlated.

governmental qualities such as political stability, control of corruption, and accountability. It ranges from -2.5 to 2.5, with higher values indicating a higher quality of governance. In addition, following Helliwell et al. (2003) and Bjornskov et al. (2008), I include a series of regional dummy variables to control for variation across geo-cultural regions. I adopt the following regional categories from Helliwell et al.: Eastern European countries (EASEUR, including Russia, Moldova, and Bosnia), Latin American countries (LATAM, including Argentina, Chile, Colombia, El Salvador, Mexico, Peru, and Uruguay), Asian countries (ASIA, including India, South Korea, Japan, Singapore and Taiwan), other developing countries (OTHDEV, including Algeria, Egypt, Jordan, Morocco, South Africa, Turkey, Uganda, and Zimbabwe), and Scandinavian countries (SCAN, including Sweden and Finland). The reference category is high-income countries, including Australia, Canada, France, the United Kingdom, the Netherlands, New Zealand, Switzerland, and the United States. Finally, to control for period effects, I include dummy variables for waves 4 and 5 of the survey, with wave 3 as the baseline category.

## METHODS

To explore hypotheses 1-4, I estimate ordinary least squares models regressing life satisfaction on the individual and contextual controls. In addition to the inclusion of the GINI coefficient, economic development, relative income and absolute income as separate covariates, I run a series of models whereby each of these is interacted with the categorical measure of religiosity. This allows me to test the hypothesis that economic factors moderate the relationship between religiosity

and life satisfaction. A negative and significant interaction between economic development and religiosity, coupled with a positive and significant main effect for religiosity, will provide support for hypothesis 1, indicating that the relationship between religiosity and well-being is positive and significant at low levels of economic development and diminishes as national income increases. Following similar logic, a negative and significant interaction between religiosity and absolute income will support hypothesis 2, a positive and significant interaction between religiosity and inequality will support hypothesis 3, and a negative and significant interaction between religiosity and relative income will support hypothesis 4.

To ensure that the potential moderating effects of inequality and economic development are attributable to these factors and not to related country-level qualities, I run additional models that interact the categorical measures of religiosity with alternative country-level attributes, such as contextual religiosity and governmental regulation of religion. The results of these robustness tests are discussed in appendix a. Due to clustering by country, my regression models run the risk of underestimating standard errors, particularly for group-level coefficients. To correct for this potential bias, I utilize clustered (by country) estimates of standard errors.

I also explore hypotheses 1 and 3 using an alternative strategy: I estimate a separate regression model for each country, furnishing a unique estimate of the impact of religiosity on SWB in each national context. I then determine the extent to which this estimated impact is correlated with social inequality and economic development. Hypothesis 1 predicts that the impact will correlate negatively with

economic development, while hypothesis 3 predicts that it will correlate positively with social inequality. Results for this robustness test are congruent with the main results, and are reported in appendix b.

The final stage of the analysis explores hypotheses 5 and 6 using country-level data. In this phase, the model regresses mean religiosity on both GNI per capita and the GINI coefficient. Hypothesis 5 predicts that GNI per capita should negatively predict aggregate religiosity, while hypothesis 6 predicts that the GINI coefficient should positively predict aggregate religiosity.

## RESULTS

Tables 1.2 and 1.3 each report the results for six estimated regression models. The models in table 1.2 are based on hypotheses 1 and 2, while the models in Table 3 are based on hypotheses 3 and 4. Column 1 in each table presents the main effects model without interaction terms. In both main effects models, all three religiosity variables carry positive and significant effects, suggesting that no religiosity, moderate religiosity, and high religiosity are all associated with higher levels of life satisfaction relative to the baseline category of low religiosity. Although this pattern suggests a slight U-shape in the relationship between religiosity and SWB, the U is not symmetrical: the advantages associated with high religiosity are over five times larger than those associated with no religiosity. All control variables are significant and carry the expected signs, save for the main-effect GINI coefficient, which is insignificant.

Models 2 and 3 in table 1.2 explore hypotheses 1 and 2, respectively. Neither of these hypotheses finds support: the interactions between both absolute income and religiosity and between economic development and religiosity are insignificant, suggesting that neither absolute income nor economic development moderate the impact of religiosity on life satisfaction.

Models 5 and 6 in table 1.3 explore hypotheses 3 and 4, respectively. Model 5 lends support to hypothesis 3: the interactions between relative income and both moderate and high religiosity are negative and highly significant, suggesting that relative income moderates the relationship between religiosity and life satisfaction. Figure 11. Illustrates this interaction, displaying the expected levels of life satisfaction at two different levels of relative income with all other control variables held constant at mean levels. At a low level of relative income (.33), there is a strong positive relationship between religiosity and well-being: a move from low to high religiosity is associated with a 0.7 unit increase in expected life satisfaction. In contrast, at a high level of relative income (2.5), the relationship between religiosity and life satisfaction takes on more symmetrical U-shape and the positive effect of religiosity is diminished. In this case, both the non-religious and the highly religious experience higher life satisfaction than those at low-to-moderate levels of religiosity, although high religiosity still carries a small advantage over no religiosity.

Model 6 lends support to hypothesis 4: the interactions between social inequality and both moderate and high religiosity are positive and significant, suggesting that the relationship between religiosity and life satisfaction strengthens

as inequality increases. Figure 1.2 illustrates this interaction: where the GINI coefficient is 46 (a high level of inequality, corresponding to the 10<sup>th</sup> percentile for this sample), the move from low to high religiosity increases expected life satisfaction by 0.8 units. Where the GINI coefficient is 32 (a low level of inequality corresponding to the 90<sup>th</sup> percentile for this sample), the move from low to high religiosity continues to increase expected life satisfaction, but this benefit is substantially smaller (0.35 units).

Thus far, the results suggest that religiosity provides a higher psychological payoff under conditions of high inequality and low relative income, but that this psychological impact is not conditioned by absolute income or economic development. In the next phase of the analysis, I examine how this variation in the psychological impact of religiosity might determine rates of religious involvement at the country level.

Based on the notion that individuals will become less religious as economic conditions improve and as the psychological impact of religion diminishes, hypotheses 5 and 6 expect aggregate levels of religiosity to decrease with economic development and increasing equality. Table 1.4 displays the results from ecological models regressing mean religiosity on GNI per capita and the GINI coefficient for all 43 country-waves in the sample. Both socioeconomic inequality and economic development significantly predict aggregate religiosity in the expected directions: as economic development and socioeconomic equality increase, aggregate religiosity declines. While this negative relationship between development and religiosity has



been observed in the past (Norris and Inglehart 2004), the independent effect of inequality is a novel finding. The implications of this are discussed below.

## DISCUSSION AND CONCLUSION

Taken together, the results support the following set of conclusions: religiosity confers its strongest psychological benefits in the presence of low relative income and high social inequality. This may be due to coping mechanisms developed within the major faith traditions to help ease the social and psychological tensions of inequality. In places where these tensions remain, religiosity continues to serve this function. Conversely, within countries that have achieved a more egalitarian distribution of income, and among individuals with high levels of relative income, the psychological benefits of religiosity have diminished.<sup>7</sup>

While the results suggest that religiosity may buffer stress due to inequality and relative deprivation, they do not find the same with regard to low absolute income and low economic development. Why might this be? Perhaps it is because an individual's sense of relative deprivation is more open to subjective interpretation, and thus, more amenable to religious coping: if a poor individual with wealthy neighbors feels relatively deprived, she might adopt the view that her worth derives from spiritual rather than material resources. In contrast, the hardships of absolute poverty and underdevelopment are more immediate and less open to subjective interpretation.

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<sup>7</sup> However, they do not seem to have disappeared entirely, as individuals in these conditions may continue to experience the benefits of religion through alternative channels.

In the introduction, I presented an empirical puzzle: religion has occasionally been found to positively impact life satisfaction at the individual level, but no similar correlation exists at the country level. The results above help to explain this; religion is retained where it provides psychological benefits and abandoned where these benefits have diminished. As a result, those populations that abandon religion do not suffer a consequent decline in happiness. This narrative also offers insight into the process of religious change over time, suggesting that in certain countries, advancing egalitarianism may help to drive down rates of participation. This may help to explain persistent and high levels of religiosity in the US relative to other wealthy countries: in addition to being relatively religious, the US is also relatively unequal.

One limitation of the present analysis stems from the cross-sectional nature of the data. It is possible that the results reflect reverse causality, as high life satisfaction might make individuals more likely to adopt a religious outlook. However, past findings suggest the opposite: individuals often turn to religion during periods of distress (Clark and Lelkes 2005). This may result in overly conservative estimates of the impact of religiosity on life satisfaction, as the true impact may be partially obscured by reverse causality in the opposite direction.

Future research on this topic might benefit from data that cover a longer time horizon. A more comprehensive historical analysis could further explore the hypothesis that rates of religiosity diminish with growing equality. Furthermore, the above findings could be strengthened using longitudinal data at the individual-level, perhaps for a narrower set of countries for which such data are available. This type

of analysis could better identify the direction of causality in the relationship between religiosity and SWB under varying economic conditions.

Finally, the strategy applied in this paper might be extended to further investigate the various macro-level theories of religious change. Theories of religious change often rely on an assumed relationship between religiosity and individual fulfillment. They typically assert that changes in religious involvement are driven by some broader aspect of social transformation—such as economic growth, rationalization, or a changing “religious marketplace” (Finke and Stark 1993)—that renders religion more or less appealing to individuals. However, these works rarely use individual-level data to explore these claims, relying instead on ecological analyses. The present investigation shows how macro-level investigations of religious change might account for psychological processes at the individual level.

## APPENDIX

### *Appendix A*

Both economic development and socioeconomic inequality may be correlated with other country-level characteristics. The conditional relationship between religiosity and life satisfaction may be due to these characteristics, rather than to the economic conditions I have explored above. Thus, in order to test for robustness, I interact religiosity with additional country-level qualities that might condition the relationship between religiosity and life satisfaction, according to theory and previous findings.

Elliot and Hayward (2009) suggest that religiously oriented political regimes might bestow advantages upon the highly religious, enhancing the impact of religiosity on well-being. To test for this effect, I interact religiosity with the governmental regulation of religion (GRI) index, which measures the degree of to which the government favors and promotes religious groups.

Migheli (2009) suggests that the relationship between religiosity and life satisfaction is contingent upon contextual religiosity: in a highly religious context, religious involvement enhances life satisfaction due to the benefits of social conformity, while this advantage does not obtain in secular societies. To test for this, I interact individual religiosity with contextual religiosity. Table 1.5 displays the results of these robustness tests. Neither government regulation of religion nor contextual religiosity interacts significantly with religiosity, suggesting that neither of these factors moderate the relationship between religiosity and life satisfaction. This reinforces the conclusion that the relationship is moderated by economic conditions, and not by related country-level qualities.

### *Appendix B*

To test for robustness, I re-test hypotheses 1 and 3 by estimating the impact of religiosity on life satisfaction separately for each country. Each country-specific model regresses life satisfaction on the individual-level controls plus the single ten-point measure of religiosity. This continuous measure of religiosity is used in order to provide a single estimate of the impact of religiosity for each country, which would not be possible using the four categorical measures from the main analyses.

Figures 1.3 and 1.4 plot each country's coefficient for religiosity against its GNI per capita and GINI coefficient, respectively. The results support conclusions similar to those reached in the main analyses: hypothesis 3 finds support, as the impact of religiosity correlates positively and significantly with social inequality and the pattern illustrated in the graph appears compelling. While most countries conform to this pattern, there are some notable outliers: South Korea and Italy exhibit a strong association between religiosity and happiness, but have fairly low levels of inequality; Zimbabwe and South Africa exhibit a weaker relationship between religiosity and happiness, but have relatively high level of inequality. Hypothesis 1 does not find strong support: although there is a slight negative correlation between GNI per capita and the impact of religiosity, this correlation is not significant.

### *Appendix C*

In this analysis, I test hypotheses 1 and 3 using an alternative strategy. Rather than interacting religiosity with country-level economic conditions, I stratify the countries into three groups, based on economic conditions, and then examine whether the impact of religiosity varies across groups. First, I divide the countries into low, medium, and high-income groups, based on GNI per capita, with each group comprising one third of the countries in the sample. Next, I divide the countries into low, moderate, and high inequality groups, based on the estimated GINI coefficient, with each group comprising one third of the countries in the sample. The results, presented in tables 1.6 and 1.7, suggest conclusions similar to those presented in the main analysis. The impact of high religiosity is insignificant

for the low inequality group, significant and substantial (.489) for the moderate inequality group, and nearly twice as large again (.901) for the high inequality group. This suggests that the impact of religiosity varies systematically by social inequality, lending support to hypothesis 1. In contrast, hypothesis 3 finds little support: the impact of religiosity is significant across all three income groups, and while there is some variation across these groups, the differences in the coefficients are not statistically significant, nor are they congruent with the predictions of hypothesis 1.

#### *Appendix D*

In this appendix, I explore potential differences in the stress-buffering effects of religiosity based on cross-country differences in faith tradition. As shown in table 1.8, of the 34 countries in the sample, ten are majority Protestant, twelve are majority Catholic, eight are majority Muslim, and four are majority Hindu/Buddhist.<sup>8</sup> To explore potential differences in the psychological impact of religiosity across these four faith contexts, I estimate separate models for each group. Tables 1.9 and 1.10 display the results of these models. For ease of comparison across models, religiosity is treated as a single continuous variable. The results for the Buddhist and Catholic countries are consistent with the results in the main analysis section above: there is a significant and positive association between religiosity and life satisfaction, and a negative interaction between relative income

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<sup>8</sup> Hindu and Buddhist countries are grouped together due the historical connection between the two faiths, and because India is the only majority Hindu country in the sample.

and religiosity, suggesting that the positive impact of religiosity on life satisfaction diminishes as religiosity increases. In contrast, the Protestant and Muslim countries exhibit a much smaller association between religiosity and SWB, which is insignificant in the Muslim case. Furthermore, the interaction between religiosity and relative income is insignificant in both the Protestant and Muslim contexts. Therefore, the findings presented in the main analysis section of this paper may apply mainly to Catholic and Buddhist countries. Accounting for these differences across faith contexts is beyond the scope of this paper, and is left as a topic for future investigations.

TABLES AND FIGURES

Table 1.1  
Descriptive Statistics

Country	Wave	Religiosity (weighted mean)	GNI per capita	GINI	Life Satisfaction (weighted mean)
Algeria	4	9.8	1750	35.3	5.7
Argentina	4	8.5	7560	49.8	7.3
Australia	5	6	29480	35.2	7.3
Bosnia	4	7.4	1590	28	5.8
Canada	4, 5	7.4	22130	32.6	7.8
Chile	3, 4	8.6	4940	55.1	6.9
Colombia	3, 5	9.6	2560	58.2	8.3
Egypt	4	9.7	1390	32.8	5.4
El Salvador	3	9.8	1990	52.2	7.5
Finland	5	5.9	38480	26.9	7.8
France	5	4.7	36790	32.7	6.9
Great Britain	5	5.5	41040	36	7.6
India	4	8.5	460	36.8	5.2
Italy	5	7.8	30550	32	6.9
Japan	4, 5	5.0	34620	38.1	6.5
Jordan	4	9.9	1850	38.9	5.6
Mexico	4, 5	9.3	5110	51.9	7.5
Moldova	4	7.4	370	36.9	4.6
Morocco	4	9.9	1320	40.6	6.1
Netherlands	5	4.8	46510	30.9	7.7
New Zealand	3, 5	5.5	15210	36.2	7.7
Peru	3, 4, 5	9.0	2930	46.2	6.4
Russia	5	6.1	5810	37.5	6.1
Singapore	4	8.3	20970	42.5	7.2
South Africa	3, 4	9.2	3760	56.6	6.1
South Korea	4	5.5	10890	31.6	6.2
Sweden	5	3.9	50910	25	7.7
Switzerland	3, 5	7.0	44840	34.0	8.0
Taiwan	3	5.4	12865	32	6.6
Turkey	5	9.4	7160	41.2	7.5
Uganda	4	9.2	240	45.8	5.7
United States	4, 5	8.5	34410	40.8	7.7
Uruguay	3	6.7	6190	43.8	7.2
Zimbabwe	4	9.6	600	50.1	3.9



Table 1.2

## Determinants of Life Satisfaction: Interactions with GNI and absolute income

VARIABLES	1	2	3
male	-0.031 (0.037)	-0.030 (0.037)	-0.031 (0.036)
unemployed	-0.680*** (0.065)	-0.680*** (0.064)	-0.679*** (0.063)
age	-0.059*** (0.009)	-0.059*** (0.009)	-0.059*** (0.009)
agesq	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
ed_univ	0.299*** (0.079)	0.301*** (0.078)	0.298*** (0.079)
ed_secondary	0.170** (0.073)	0.173** (0.072)	0.169** (0.070)
married	0.375*** (0.063)	0.376*** (0.062)	0.374*** (0.063)
GNI	0.051** (0.025)	0.055** (0.026)	0.051** (0.025)
GNI <sub>sqd</sub>	-0.001* (0.000)	-0.001* (0.000)	-0.001* (0.000)
GINI	0.018 (0.014)	0.018 (0.014)	0.017 (0.014)
governance	0.097 (0.322)	0.102 (0.319)	0.096 (0.321)
income_absolute	0.015*** (0.003)	0.015*** (0.003)	0.015*** (0.002)
religiosity_none	0.124** (0.061)	0.106 (0.106)	0.209** (0.093)
religiosity_mod	0.238*** (0.056)	0.313*** (0.098)	0.268*** (0.084)
religiosity_high	0.684*** (0.088)	0.796*** (0.140)	0.687*** (0.146)
religiosity_none_X_GNI		0.000 (0.003)	
religiosity_mod_X_GNI		-0.003 (0.003)	
religiosity_high_X_GNI		-0.006 (0.006)	
religiosity_none_X_income_absolute			-0.003* (0.001)
religiosity_mod_X_income_absolute			-0.001 (0.002)
religiosity_high_X_income_absolute			0.000 (0.004)
Constant	6.131*** (0.601)	6.058*** (0.601)	6.115*** (0.603)
Observations	57,667	57,667	57,667
R-squared	0.175	0.175	0.175

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

*Regional and wave controls included but not shown*

Table 1.3

*Determinants of Life Satisfaction: Interactions with GINI and relative income*

VARIABLES	1	2	3
male	-0.036 (0.037)	-0.032 (0.038)	-0.037 (0.037)
unemployed	-0.674*** (0.064)	-0.674*** (0.063)	-0.670*** (0.064)
age	-0.054*** (0.009)	-0.056*** (0.008)	-0.054*** (0.009)
agesq	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
ed_univ	0.262*** (0.084)	0.264*** (0.082)	0.258*** (0.083)
ed_secondary	0.144* (0.072)	0.145** (0.071)	0.147** (0.071)
married	0.386*** (0.059)	0.387*** (0.058)	0.382*** (0.060)
GINI2	0.066** (0.027)	0.070** (0.027)	0.066** (0.026)
GINIsqd	-0.001* (0.000)	-0.001** (0.000)	-0.001* (0.000)
GINI	0.022 (0.014)	-0.005 (0.016)	0.021 (0.014)
governance	0.139 (0.337)	0.154 (0.336)	0.137 (0.336)
income_relative	0.324*** (0.059)	0.326*** (0.058)	0.519*** (0.056)
religiosity_none	0.120** (0.057)	-0.187 (0.217)	0.107 (0.098)
religiosity_mod	0.209*** (0.061)	-0.299 (0.236)	0.423*** (0.094)
religiosity_high	0.655*** (0.088)	-0.681 (0.442)	0.889*** (0.136)
religiosity_none_X_GINI		0.008 (0.006)	
religiosity_mod_X_GINI		0.014** (0.006)	
religiosity_high_X_GINI		0.033*** (0.011)	
religiosity_none_X_income_relative			0.006 (0.061)
religiosity_mod_X_income_relative			-0.205** (0.081)
religiosity_high_X_income_relative			-0.227*** (0.076)
Constant	5.876*** (0.537)	6.803*** (0.632)	5.692*** (0.524)
Observations	57,667	57,667	57,667
R-squared	0.177	0.178	0.177

Robust standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

*Regional and wave controls included but not shown*

Table 1.4  
*Determinants of Aggregate Life Satisfaction*

Independent Variable:	1	2	3
Mean religiosity			
GNI/100	-0.048*** (0.012)		-0.070*** (0.011)
GINI	0.077*** (0.023)	0.127*** (0.023)	
Constant	5.313*** (1.083)	2.449** (0.954)	8.810*** (0.280)
Observations	43	43	43
R-squared	0.593	0.429	0.481

Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 1.5  
*Determinants of Life Satisfaction:  
Interactions with average religiosity and GRI index*

VARIABLES	1	2	3
male	-0.031 (0.036)	-0.036 (0.036)	-0.032 (0.036)
unemployed	-0.678*** (0.062)	-0.688*** (0.060)	-0.673*** (0.062)
age	-0.059*** (0.009)	-0.058*** (0.010)	-0.059*** (0.009)
agesq	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
ed_univ	0.298*** (0.078)	0.249*** (0.075)	0.305*** (0.076)
ed_secondary	0.170** (0.073)	0.179** (0.073)	0.175** (0.071)
married	0.375*** (0.063)	0.379*** (0.065)	0.375*** (0.062)
GINI2	0.050* (0.026)	0.060** (0.027)	0.052* (0.026)
GNIsqd	-0.001 (0.000)	-0.001* (0.000)	-0.001* (0.000)
GINI	0.017 (0.015)	0.037* (0.018)	0.016 (0.014)
governance	0.100 (0.327)	0.065 (0.314)	0.151 (0.330)
income	0.015*** (0.003)	0.017*** (0.004)	0.015*** (0.003)
godimport_none	0.124** (0.061)	0.061 (0.100)	-0.157 (0.469)
godimport_mod	0.239*** (0.057)	0.084 (0.107)	-0.067 (0.483)
godimport_high	0.686*** (0.086)	0.511*** (0.136)	-0.029 (0.627)
godimport_none_X_gri		0.012 (0.042)	
godimport_mod_X_gri		0.071 (0.047)	
godimport_high_X_gri		0.073 (0.051)	
godimport_none_X_avggod			0.045 (0.071)
godimport_mod_X_avggod			0.046 (0.075)
godimport_high_X_avggod			0.093 (0.089)
Constant	6.142*** (0.617)	5.378*** (0.742)	6.113*** (0.625)
Observations	57,667	55,341	57,667
R-squared	0.175	0.181	0.175

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

*Regional and Wave controls included but not shown*

Table 1.6  
*Determinants of Life Satisfaction Across National Income Levels*

VARIABLES	Low Income (GNI per cap: less than \$2830)	Mid Income (GNI per cap: \$2830- \$20650)	High Income (GNI per cap: greater than \$20650)
male	-0.064 (0.089)	0.033 (0.075)	-0.117*** (0.025)
unemployed	-0.606*** (0.132)	-0.959*** (0.095)	-0.502*** (0.120)
age	-0.010 (0.014)	-0.073*** (0.018)	-0.049*** (0.012)
agesq	0.000 (0.000)	0.001*** (0.000)	0.001*** (0.000)
ed_univ	0.401* (0.203)	0.155 (0.165)	0.194 (0.123)
ed_secondary	0.155 (0.104)	0.149 (0.190)	0.063 (0.118)
married	0.047 (0.091)	0.444*** (0.143)	0.374*** (0.067)
relincomea	0.214*** (0.059)	0.397*** (0.076)	0.423*** (0.094)
godimport_none	0.289* (0.159)	0.207 (0.166)	0.180*** (0.052)
godimport_mod	0.232 (0.214)	0.345* (0.170)	0.174** (0.070)
godimport_high	0.546* (0.275)	0.965** (0.345)	0.560*** (0.153)
Constant	7.367*** (0.622)	6.995*** (0.410)	8.119*** (0.205)
Observations	17,916	21,618	18,133
R-squared	0.163	0.097	0.069

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 1.7  
*Determinants of Life Satisfaction Across National Inequality Levels*

VARIABLES	Low Inequality (GINI< 35)	Mod Inequality (GINI: 35-43)	High Inequality (GINI>43)
male	-0.216*** (0.054)	-0.141 (0.091)	0.037 (0.065)
unemployed	-0.742*** (0.078)	-0.990*** (0.085)	-0.854*** (0.176)
age	-0.035* (0.016)	-0.061*** (0.013)	-0.054** (0.022)
agesq	0.000** (0.000)	0.001*** (0.000)	0.001* (0.000)
ed_univ	0.387** (0.141)	0.417 (0.284)	0.548*** (0.176)
ed_secondary	0.376** (0.161)	0.220 (0.182)	0.280 (0.167)
married	0.170** (0.066)	0.297** (0.115)	0.304** (0.139)
relincome	0.374* (0.199)	0.357*** (0.109)	0.263*** (0.072)
godimport_none	0.145** (0.060)	0.109 (0.079)	0.282* (0.143)
godimport_mod	0.200** (0.069)	-0.010 (0.156)	0.349** (0.125)
godimport_high	0.068 (0.307)	0.489** (0.177)	0.901*** (0.229)
Constant	7.236*** (0.572)	8.127*** (0.329)	7.072*** (0.276)
Observations	15,215	17,522	27,224
R-squared	0.108	0.112	0.090

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 1.8  
*Majority Faith Tradition By Country*

Majority Faith	Countries	Mean Value, GINI Coefficient
Protestant	Australia New Zealand South Africa Zimbabwe Sweden Finland Uganda Great Britain United States Canada	44.94
Catholic	Argentina Chile Colombia El Salvador France Italy Mexico Netherlands Peru Switzerland Uruguay Moldova	46.75
Muslim	Algeria Bosnia Jordan Morocco Saudi Arabia Singapore Turkey Egypt	36.87
Hindu/Buddhist	Taiwan Japan South Korea India	35.01

Table 1.9  
*Determinants of Life Satisfaction Across Faith Contexts*

VARIABLES	Buddhist	Buddhist	Catholic	Catholic
male	-0.052 (0.132)	-0.064 (0.132)	0.044 (0.036)	0.042 (0.037)
unemployed	-0.729*** (0.100)	-0.717*** (0.085)	-0.545*** (0.083)	-0.540*** (0.080)
age	-0.052 (0.031)	-0.057 (0.033)	-0.046*** (0.012)	-0.046*** (0.012)
agesq	0.001 (0.000)	0.001 (0.000)	0.000*** (0.000)	0.000*** (0.000)
ed_univ	0.683* (0.215)	0.622* (0.215)	0.118 (0.111)	0.117 (0.106)
ed_secondary	0.422 (0.186)	0.414 (0.180)	0.033 (0.071)	0.034 (0.071)
married	0.334 (0.193)	0.324 (0.189)	0.397*** (0.088)	0.393*** (0.088)
GNI2	-0.000 (0.019)	0.007 (0.019)	0.039* (0.021)	0.039* (0.021)
GINI	-0.041 (0.051)	-0.059 (0.050)	0.042 (0.040)	0.042 (0.040)
governance	1.338* (0.445)	1.128* (0.430)	-0.182 (0.388)	-0.182 (0.387)
relincomea	0.195 (0.195)	1.007** (0.291)	0.250*** (0.032)	0.605*** (0.089)
godimport	0.084* (0.031)	0.182** (0.050)	0.102*** (0.015)	0.145*** (0.019)
gdimpXrel_inc		-0.102** (0.026)		-0.040*** (0.010)
Constant	6.584* (2.205)	6.544* (2.190)	4.831* (2.268)	4.452* (2.246)
Observations	5,720	5,720	25,087	25,087
R-squared	0.132	0.141	0.061	0.062

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1



Table 1.10

*Determinants of Life Satisfaction Across Faith Contexts (continued)*

VARIABLES	Protestant	Protestant	Muslim	Muslim
male	-0.112*** (0.031)	-0.112*** (0.031)	-0.180* (0.088)	-0.180* (0.089)
unemployed	-0.654*** (0.100)	-0.654*** (0.100)	-0.553** (0.171)	-0.547** (0.170)
age	-0.074*** (0.012)	-0.074*** (0.012)	-0.022 (0.022)	-0.022 (0.022)
agesq	0.001*** (0.000)	0.001*** (0.000)	0.000 (0.000)	0.000 (0.000)
ed_univ	0.194 (0.111)	0.195 (0.112)	0.188 (0.152)	0.178 (0.151)
ed_secondary	0.159 (0.153)	0.159 (0.152)	0.170* (0.073)	0.176* (0.071)
married	0.409*** (0.095)	0.410*** (0.097)	0.321* (0.158)	0.320* (0.159)
GNI2	-0.001 (0.004)	-0.001 (0.004)	0.247*** (0.034)	0.247*** (0.034)
GINI	0.005 (0.017)	0.005 (0.017)	0.145*** (0.026)	0.145*** (0.026)
governance	1.109*** (0.228)	1.109*** (0.228)	-2.684*** (0.376)	-2.699*** (0.382)
relincomea	0.525*** (0.051)	0.509*** (0.029)	0.246* (0.108)	0.533 (0.310)
godimport	0.036** (0.015)	0.034 (0.018)	0.021 (0.051)	0.060 (0.034)
gdimpXrel_inc		0.002 (0.008)		-0.031 (0.032)
Constant	6.149*** (0.989)	6.163*** (0.993)	-0.530 (1.207)	-0.892 (1.130)
Observations	13,444	13,444	9,055	9,055
R-squared	0.234	0.234	0.103	0.104

Robust standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Figure 1.1

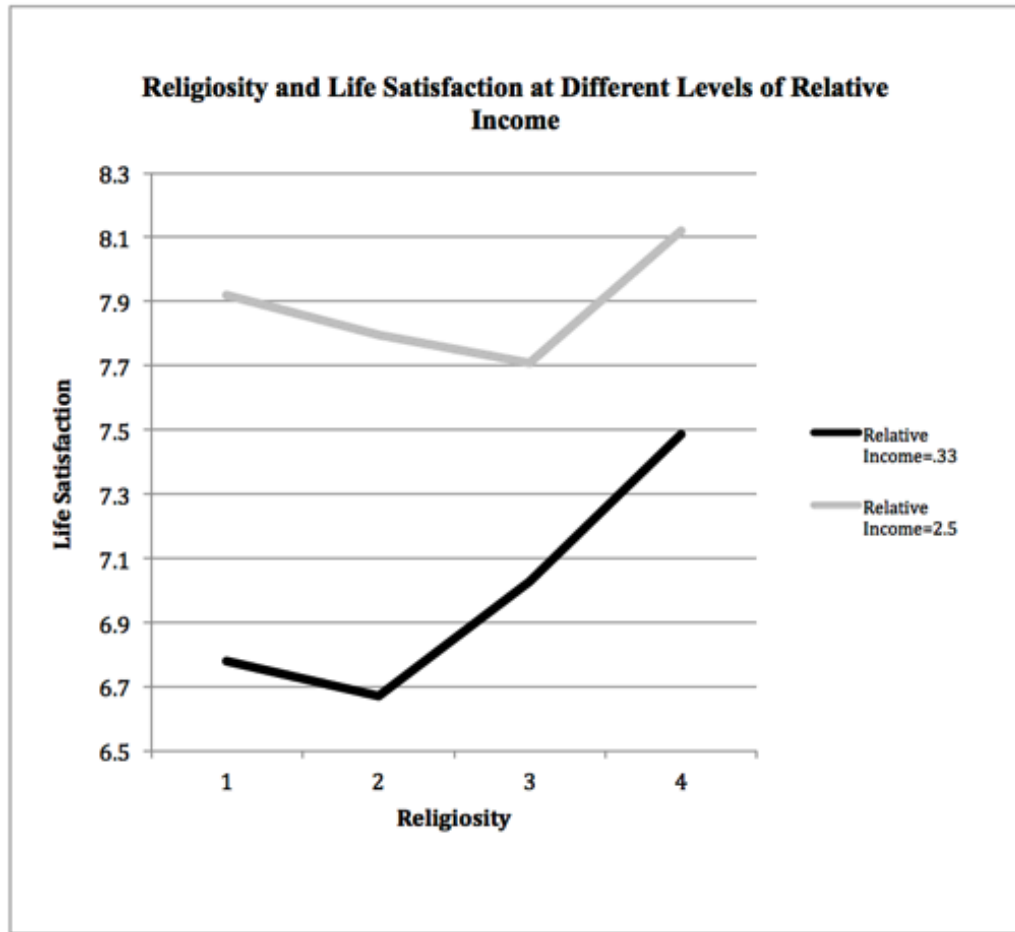


Figure 1.2

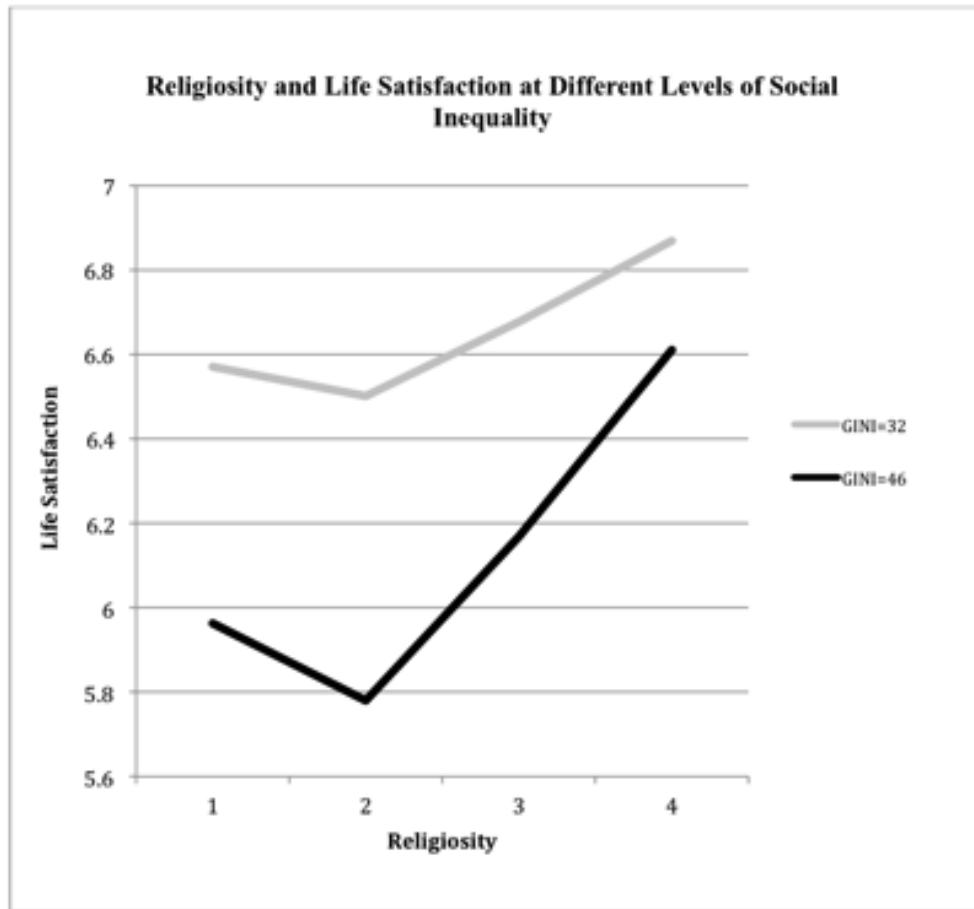
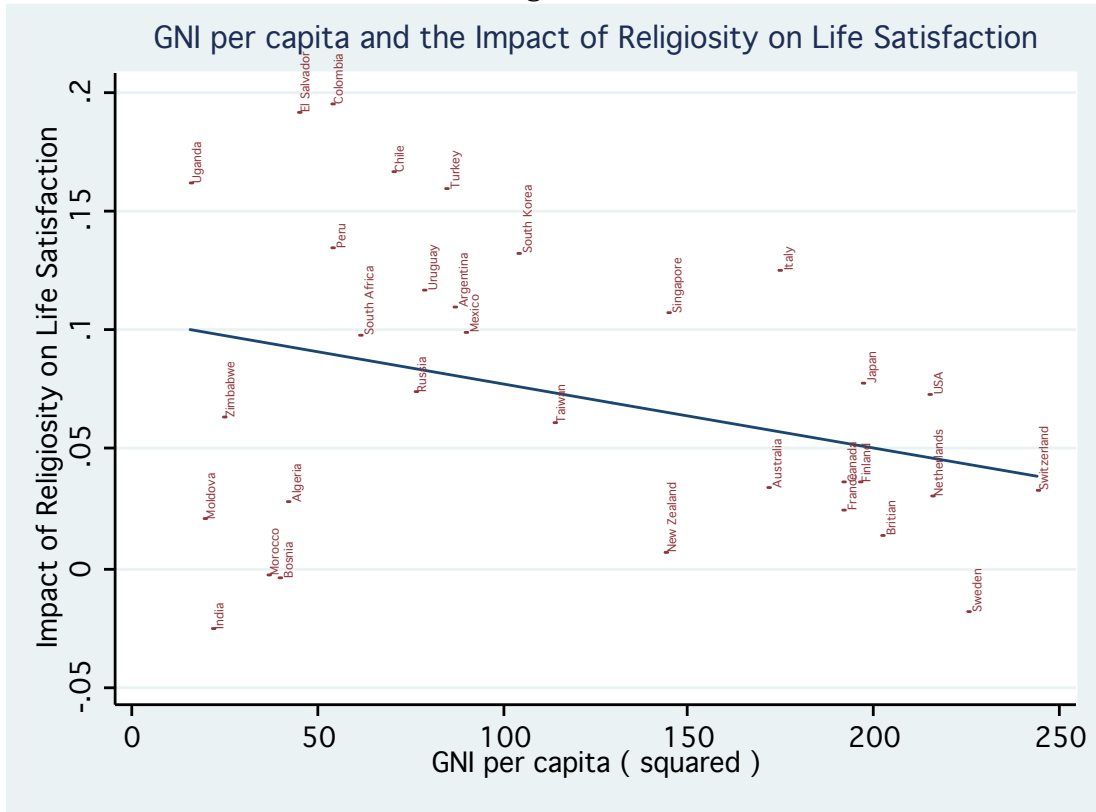
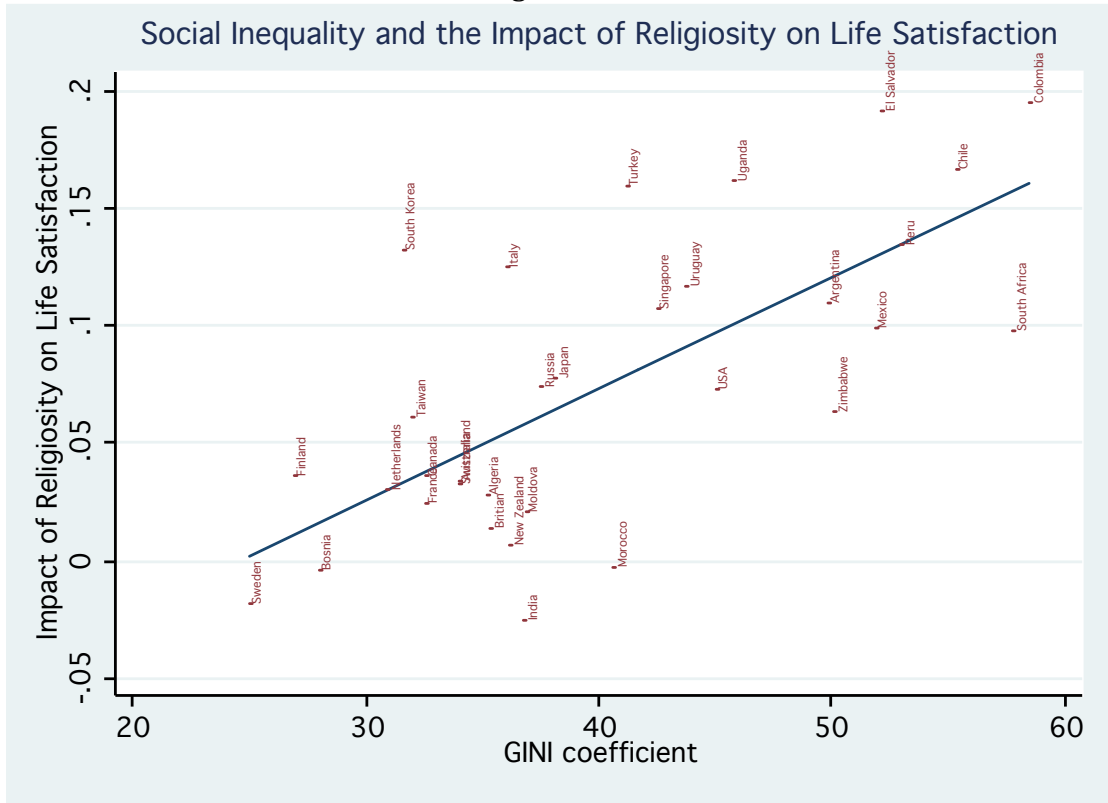


Figure 1.3



corr= -.17  
p=.36

Figure 1.4



corr=.34  
p=.055

## **Paper 2**

### **The Welfare State as Stress-Buffer? Unemployment and Happiness in Four Countries**

#### INTRODUCTION

According to recent findings, unemployment is among the most powerful empirical predictors of life satisfaction. Past investigations suggest that unemployment may be more detrimental to happiness than divorce, impaired health, or bereavement (Clark and Oswald 1994; Blanchflower and Oswald 2004). This is perhaps unsurprising; for many individuals in modern capitalist societies, employment serves as a primary source of economic security, self-worth, and social contact.

In response to the psychological risks associated with unemployment, some policy makers have come to view it as a major threat to community mental health, advocating for measures that might ameliorate its psychological toll (World Health Organization 2009). Among such proposed measures, some policy makers recommend that the state provide generous long-term unemployment insurance. According to advocates, generous benefits schemes not only shore up personal income; they also help to reduce distress and bolster happiness among the unemployed.

This advocacy has found staunch opposition among some labor economists who fear that generous unemployment benefits may prolong the very unemployment spells they are designed to soothe. According to this view, overly

generous benefits may increase the attractiveness of unemployment and reduce incentives to re-enter the workforce (Feldman and Altman 2007). Thus, benefits levels should strike a delicate balance: they should be high enough to prevent dire material hardship, but not so high as to deter job seeking. In this view, the state should not seek to eradicate the unpleasantness of unemployment, as it provides a useful incentive to remain in the job market.

Though their policy prescriptions are diametrically opposed, these perspectives share a common belief that generous benefits bolster the happiness of the unemployed. Perhaps because it is highly intuitive, this belief has not been subjected to rigorous empirical testing. It remains to be determined whether, and to what extent, generous state programs can mitigate the psychological cost of unemployment. Among the few studies to examine the issue, Young (2012) finds that within the United States, benefits eligibility does not appear to substantially bolster well-being among the unemployed. However, because the author relies on data from a single country, the study design contains little variation in benefits policy. A more fruitful approach might exploit the considerable degree of cross-national variation in welfare generosity, examining whether unemployed citizens of expansive welfare states suffer less than those of more austere regimes.

Carroll (2007) employs this approach through a meta-analysis of single-country studies. The author concludes that the psychological impact of unemployment may indeed differ across varying welfare regimes. However, this conclusion is undermined by two methodological shortcomings. First, the variation in impact may be an artifact of the inconsistent modeling techniques used across the

studies under comparison. Second, the studies cited rely upon cross-sectional data, casting doubt upon causal inferences regarding the effect of unemployment on happiness. The observed correlations may be products of reverse causality. They may also be biased by unmeasured individual-level confounders: unhappy individuals might possess unmeasured traits that also increase their risk of joblessness. Because the penalty for such traits might vary across national labor markets, this issue is of particular concern in the context of a cross-national comparison.

In the present study, I revisit the question of cross-national differences in the psychological impact of unemployment using a more robust methodological strategy. Using cross-national panel data, I estimate fixed-effects models to test for differences in the impact of unemployment on life satisfaction across a set of four countries. The four countries under investigation—Germany, Switzerland, the UK, and South Korea—exhibit substantial variation in social welfare policy. My main hypothesis is that the drop in life satisfaction following a job loss is lower in those countries that provide generous long-term unemployment insurance (the UK and pre-2004 Germany), and more severe in austere regimes (Switzerland and South Korea). I also conduct a within-country comparison for Germany, comparing the psychological impact of unemployment before and after benefits were reduced under the 2004 austerity bill. In both the between- and within-country comparisons, I find little evidence for my hypothesis. The estimated impact of job loss on happiness is generally consistent across all four countries under investigation, and in case of Germany, the impact appears to be unaffected by the 2004 reduction in



benefits. I conclude that the reduction in life satisfaction due to job loss is consistent across policy regimes.

## BACKGROUND AND LITERATURE REVIEW

### *Unemployment and Psychological Well-Being*

Scholars have explored a variety of mechanisms that might help explain the link between unemployment and well-being. Perhaps the most obvious consequence of job loss is a drop in personal income. There is ample evidence for a positive relationship between income and life satisfaction (Frey and Stutzer 2002; Layard 2010), suggesting that the psychological cost of unemployment may be due in part to income loss. However, numerous studies suggest that the strong negative impact of unemployment persists even while controlling for income loss (Helliwell 2001; Appleton and Song 2008; Bockermann and Ilmakunnas 2006). Winkelmann and Winkelmann (1997, p13) find that “the non-pecuniary costs of unemployment by far exceed the pecuniary costs associated with loss of income while employed.”

These “non-pecuniary” costs of unemployment have received much attention in social-psychological literature. The earliest theoretical perspectives adopt a “needs-based” approach. According to this view, stable employment is beneficial for well-being because it meets a variety of fundamental psychological needs:

First, employment imposes a time structure on the working day; second, employment implies regularly shared experiences and contacts with people outside the nuclear family; third, employment links individuals to goals and purposes that transcend their own; fourth, employment defines aspects of personal status and identity; and finally, employment reinforces identity (Jahoda 1988, p. 188)

Thus, beyond its basic economic function, employment helps an individual meet a variety of higher-level needs, and so its abrupt disappearance can undermine well-being.

Later theories eschew the needs-based approach and focus instead on the importance of employment to social roles and identity formation. In the “process-based” framework, psychological well-being relies upon the successful formation and maintenance of identity. Aided by social rites of passage, the individual embraces self-affirming roles, such as “adult,” “spouse,” and “worker.” Job loss, conversely, constitutes a “divestment passage” whereby the individual is stripped of a central social identity (Ezzy 1993; Gowan and Gatewood 1997; Thoits 1985).

In the stress process model of unemployment, which is tied to the process-based framework described above, the psychological impact of job loss depends on an individual's *cognitive appraisal* of the event—the “intellectual process which determines whether or not the individual perceives that her or she has been harmed or has benefitted...” (Gowan and Gatewood 1997). The cognitive appraisal of job loss varies across individuals: some view it as a fatal hindrance social role fulfillment; others see it as an opportunity to re-train for a more fulfilling career, or as an opportunity to embrace new social roles and alternative sources of self worth. Certain individuals might seek to regulate their emotional response through *cognitive coping*, deliberately adopting more favorable perceptions (Thoits 1985). Attempts to cope with unemployment might also involve the pursuit of new knowledge and skills, the attempt to build identity through new forms of social

engagement, or the pursuit of previously neglected hobbies, interests, and social relationships (ibid).

Informed by the stress process approach, empirical researchers have discerned several cognitive traits and coping strategies that appear to moderate the psychological impact of unemployment. Thoits (2006) finds that a higher level of identification with one's occupation is associated with a greater loss of well-being in the wake of job loss. Hamilton et al. (1995) and Wheaton (1990), find that certain types of cognitive appraisals—such as the perception of unemployment as a 'blessing in disguise'—appear to reduce its psychological cost. Beyond these cognitive mechanisms, researchers have also identified a variety of external coping resources, including social support and education, which appear to moderate the stress response to job loss (Hamilton et al. 1995; Pearlin 1981).

### *Cultural and Gender-Based Differences*

Past literature suggests that the impact of unemployment on well-being might differ according to gender-based and cultural factors. In general, research on the stress process has suggested stressful events cause women more distress than men (Grove 1978; Kessler 1979). However, the case of unemployment has proven an exception to this pattern, as women appear more resilient than men in the face of job loss (Artazcoz et al. 2004). This is probably because a man is more likely to derive self-worth from being the chief breadwinner for his family, and is therefore more likely to perceive job loss as a central threat to his identity (ibid). An unemployed woman, in contrast, can more easily fall back on the traditionally

female role of nurturer and caretaker in the event of a job loss—a coping device that is less available to men (ibid).

Attitudes toward employment may also be affected by cultural factors, producing cross-cultural differences in the psychological impact of job loss. Based on voter preferences and survey data, Brugger et al. (2009) find substantial variation in attitudes toward work across cultural-linguistic groups in Switzerland. The study finds that French-speaking Swiss exhibit a greater value for leisure, and are more likely to support policies that curtail the prevalence work in daily life. German-speaking Swiss, in contrast, tend to place a higher intrinsic value on work, and to oppose public policies that promote vacation time, earlier retirement, and shorter workweeks. The authors argue that these attitudinal differences help to explain regional patterns in unemployment and labor-force participation, with French-speaking regions exhibiting longer unemployment spells and lower rates of labor force participation.

If cultural factors can generate differences in behavioral responses to unemployment, as Brugger et al. (ibid) suggest, they may also produce differences in psychological responses. In a society where a higher cultural value is placed on work, unemployment may take a larger psychological toll. The analysis below features four countries with substantial variation in cultural attitudes toward work and employment (more detail below). While the chief set of hypotheses focuses on the mitigating role of social policy, an alternative hypothesis accounts for the potential role of cultural factors in shaping the psychological impact of unemployment.

## HYPOTHESES

Much of the research on unemployment and well-being focuses on individual-level coping resources such as social support; very little attention has been paid to the potential stress-buffering effects of contextual factors such as state policy. However, there are good reasons to expect that the promise of generous, long-term state support might reduce the psychological impact of unemployment. First, by guaranteeing long-term support in the event of a prolonged unemployment spell, state benefits might reduce stress due to economic insecurity. Second, generous state benefits may help to facilitate coping strategies, allowing the individual to adopt favorable cognitive appraisals and respond effectively. With the guarantee of long-term state support, the individual may perceive unemployment as an opportunity to reflect and retrain, free from the demands of a job and the urgent need to find re-employment. They may pursue a long-term approach to re-employment, holding out for a new job that reflects personal goals and preferences. This may, in turn, help to promote happiness when an unemployed individual transitions back into employment: because generous long-term benefits reduce the pressure find work immediately, the individual may wait until a favorable opportunity is presented, leading to greater happiness in the new job. Finally, the provision of state unemployment benefits may imbue the individual with a sense that he or she remains a valued member of society who is worthy of public support,

as unemployment benefits may carry less stigma than other forms of needs-based public assistance.

To investigate whether generous unemployment insurance help to buffer the stress of joblessness, this investigation compares the impact of job loss across four countries that vary substantially in terms of benefits generosity (see Figure 2.1). While all four countries provide substantial benefits within the first year of unemployment, two of the countries—South Korea and Switzerland—offer no income support beyond the first year. The United Kingdom, in contrast, continues to provide generous support (67% of previous income) for duration of up to five years. Germany, which reduced benefits in 2004, from 57% to 29%, offers both a generous and a more austere case in its pre- and post-reform periods. While I expect the psychological cost of job loss to be substantial in all countries, I expect it to be most severe where long-term benefits are absent. Thus, I expect to observe a greater psychological impact of job loss in Korea and Switzerland relative to the UK; furthermore, I expect the psychological impact in Germany to increase after the 2004 benefits cuts. In more formal terms:<sup>9</sup>

**Hypothesis 1:  $(E \rightarrow U) | UI = 1) < (E \rightarrow U | UI = 0)$**

***The psychological cost of transitioning from employment into unemployment is greater in the absence of generous long-term unemployment insurance (UI).***

While hypothesis 1 focuses on the transition into unemployment ( $E \rightarrow U$ ), I also expect to see cross-national difference in the impact of longer-term unemployment spells, defined as the continuation of an unemployment spell across two or more

---

<sup>9</sup> This symbolic notation is modeled after Young (2012)

periods ( $U \rightarrow U$ ). The hypothesis regarding longer-term unemployment is similar to that regarding recent job loss: I expect the psychological cost of longer-term unemployment to be lower in the presence of generous state benefits. More formally:

**Hypothesis 2:  $(U \rightarrow U | UI = 1) < (U \rightarrow U | UI = 0)$**

***The psychological cost of remaining unemployed across two or more periods is greater in the absence of generous long-term unemployment insurance (UI).***

The literature reviewed above also indicates that generous benefits may increase an individual's chance of finding favorable re-employment, as benefits allow an individual to refuse unfavorable offers and remain in the market until a satisfactory position becomes available. Therefore, I expect that where benefits are generous, the expected well-being associated with re-employment will be greater. Conversely, in the absence of generous benefits, I expect the well-being associated with re-employment to be lower, as the absence of state support may pressure the individual to accept working conditions less favorable than those previously enjoyed. More formally:

**Hypothesis 3:  $(U \rightarrow E | UI = 1) > (U \rightarrow E | UI = 0)$**

***The psychological well-being associated with re-employment is greater in the presence of generous long-term unemployment insurance (UI).***

In addition to their variation in social policy, the four countries in this analysis vary substantially in their cultural attitudes toward work, according to data from the most recent round of the World Values Survey (2014). When asked about importance of work in one's life, 61.9% of South Koreans answered that work was

“very important”, compared to 52.3% of Swiss, 49.6% of Germans, and 35.5% of British. Similarly, 50.2% of South Koreans feel that “people who don’t work turn lazy,” compared to 20.1% of Swiss and 16.5% of Germans (question was not asked in the UK). Finally, 72.4% of South Koreans selected “hard work” as one of the most important qualities that a child should learn at home, compared to 43.5% in Great Britain, 26.0% in Germany, and 20.3% in Switzerland. Based on these metrics, South Korean society appears to place a much higher cultural value on work than the other three countries. In the South Korean context, therefore, one might expect unemployment to carry a much greater psychological cost. This leads to hypothesis 4, an alternative to hypothesis 1. Where hypothesis 1 expects the psychological cost of unemployment to vary based on social policy, hypothesis 4 expects that variation in cultural factors will play a more dominant role:

**Hypothesis 4: (U→E | South Korea) > (U→E | UK, Switzerland, Germany)**

***The psychological cost of transitioning from employment into unemployment is greatest in South Korea, where a high cultural value is placed on work.***

## DATA AND METHODS

The analysis uses data from the cross-national equivalency file (CNEF), a composite of four distinct national surveys that have been harmonized into a single cross-national panel. The four datasets comprising the CNEF are the Korean Labor Income Panel Study (KLIPS), the British Household Panel Study (BHPS), the German Socio-economic Panel (GSOEP), and the Swiss Household Panel (SHP). Each survey follows a sample of households on an annual basis; each also utilizes a two-stage



cluster design intended to produce a nationally representative sample. Information is collected from a representative adult living in the household, who provides information pertaining to the household and to each individual within it. Because the dependent variable in this study is self-reported psychological well-being, only those who directly answer the survey can be included in the models. The longest running of the four surveys, the GSOEP, began in 1984, while the youngest, the KLIPS, began in 1999. Therefore, I restrict the timespan to 1999-2009 for all four countries to ensure comparability across contexts. Table 2.1 provides information about sample size for each household panel, as well as descriptive statistics for key variables.

As a measure of SWB, this analysis uses self-reported life satisfaction, measured on a 10-point scale. Fortunately, the wording of this question is fairly consistent across the four surveys:

SHP: "In general, how satisfied are you with your life?"

SOEP: "How satisfied are you with your life, all things considered?"

KLIPS: "Overall, how satisfied are you with your life?"

BHPS: "How dissatisfied or satisfied are with your life overall?"

Each of these questions taps the cognitive dimension of subjective well-being, which concerns an individual's overall assessment of his or her life circumstances. This is an appropriate measure for this investigation's empirical hypotheses, which focus on the utility of state benefits in the cognitive coping process.

Due to the longitudinal nature of the dataset, the models are able to track individuals as they transition into and out of unemployment. Because the hypotheses above are focused on transitions between employment and

unemployment, the sample only includes individuals who are either employed or unemployed. I exclude other categories of individuals such as students, stay-at-home parents, and retirees. The models measure unemployment using a single binary variable that takes on a value of 1 if the individual is unemployed and a value of 0 if the individual is employed. For an alternative measure that is more attentive to specific transitions, I measure employment status using a four-fold categorization based on an individual's current status and their status in the previous period. These categories are captured using three dummy variables and one reference category: `emp_to_unemp` (for individuals who were previously employed and are now unemployed), `unemp_to_unemp` (for individuals who were previously unemployed and remain unemployed), `unemp_to_emp` (for the recently re-employed) and `emp_to_emp` (the reference category, made up of individuals who were previously employed and remain so). In addition to these variables measuring employment status, the models include a set of demographic controls: age, household income (logged), and marital status.

I estimate fixed effects regression models for the UK, Germany (pre- and post-reform), Korea, and Switzerland. Individual fixed effects are included account for time-invariant individual characteristics related to both job loss and life satisfaction, allowing for stronger causal inferences regarding the impact of unemployment. The dependent variable is treated as cardinal and continuous. I expect unemployment to be negatively related to life satisfaction in all four cases, but for this relationship to be strongest in Korea and Switzerland, where benefits are least generous. Furthermore, I expect the negative impact to become stronger in

Germany after 2005, when unemployment benefits were reduced. The fixed effects regression model takes the following reduced form equation:

$$Y_{it} = \beta_1 E_{it} + \beta_2 X_{it} + u_i + \varepsilon_{it}$$

The dependent variable is self-reported life satisfaction.  $E_i$  is the categorical measure of employment status,  $X_i$  is a vector of demographic control variables,  $\beta_1$  and  $\beta_2$  are coefficients,  $u_i$  represents individual fixed-effects, and  $\varepsilon_{it}$  is an error term.

## RESULTS

The results from the parallel fixed effects regression models are displayed in Table 2.2. For each national case, two models are displayed. The first treats unemployment as a single binary variable, while the second breaks employment status into a series of three categorical variables measuring the various transitions into and out of unemployment, with uninterrupted employment (emp\_to\_emp) serving as the reference category. Overall, the results suggest a remarkably consistent association between unemployment and life satisfaction across all four countries. Figure 2.2 displays the estimated impact of unemployment (measured as a single binary variable) in each case, with error bars to illustrate the 95% confidence interval. This estimated impact ranges from .625 in Switzerland to .699 in the UK, with no statistically significant difference between any two of the cases. Furthermore, the estimated impact of unemployment is virtually unchanged in Germany following dramatic cuts to long-term unemployment insurance in 2004.

Hypotheses 1 and 4 both fail to find support in these results: regardless of their variation in social policy and cultural attitudes, the countries under investigation exhibit no significant differences in the psychological impact of unemployment. Similarly, the within-country comparison for Germany suggests that the reduction in benefits had virtually no impact on the well-being of the unemployed. Furthermore, the two contexts where the estimated negative impact is highest—the UK and pre-reform Germany—correspond to the *highest* levels of unemployment insurance, directly contradicting hypothesis 1. However, the confidence intervals suggest that these higher point estimates may well be due to sampling error and do not necessarily reflect true underlying differences across populations.

Under the alternative specification, with unemployment measured using a series of three transitional coefficients with continued employment (*emp\_to\_emp*) as the baseline, the results generally support the same conclusion. Relative to continued employment, the transition from employment to unemployment is associated with a drop in well-being ranging .624 points in Switzerland to .754 points in Germany—a fairly consistent estimate with no statistically significant difference between any two countries.

However, there is marginal support for hypothesis 2. The point estimate for long-term unemployment (*unemp\_to\_unemp*) is lowest in the UK, where benefits are most generous. Relative to the UK, the estimated impact of long term unemployment is 64% higher in Switzerland and 52% higher in Korea, the two countries with the least generous benefits policies. Though the difference in

coefficients is not statistically significant, these results are directionally consistent with hypothesis 2.

Hypothesis 3 also finds marginal support. In South Korea, the transition back into employment from unemployment (unemp\_to\_emp) is associated with a statistically significant drop in SWB, relative to the baseline category of consistent employment (emp\_to\_emp). In the UK, on the other hand, the transition back into unemployment appears to be associated with a full recovery to the level of SWB experienced during long-term employment. This is consistent with the idea that unemployed individuals in South Korea experience a more urgent need to find work, perhaps under less favorable circumstances, while individuals in the UK can afford to wait for a satisfactory opportunity, leading to higher SWB upon re-employment. The results for Switzerland and Germany, however, do not conform to the expected pattern. The coefficient in the Swiss case is very small and statistically indistinguishable from 0.

The models in table 2.3 explore the gender gap in the psychological response to unemployment. Because gender, as a time-invariant characteristic, cannot be included as a covariate within the fixed-effects framework, I explore the gender gap by estimating separate models for men and women for each country. Furthermore, separate models are estimated for men and women in East and West Germany and in French- and German speaking regions of Switzerland. This is done to explore potential within-country differences in both the gender gap and the main effect of unemployment.

It should be noted that due to cross-country differences in female workforce participation, the female samples may not be strictly comparable across countries. In South Korea, 2010 female workforce participation was 57%, compared to 70% in the UK, 71% in Germany, and 83% in Switzerland (OECD 2011). Therefore, the Switzerland sample is most likely to be representative of the overall female population, while the South Korean sample provides insight into a narrowing subset of women who participate in the workforce.

The results in table 2.3 suggest that the gender gap in the psychological response to unemployment holds across five of the six contexts. Figure 2.3 provides a visualization of this result. In French- and German-speaking Switzerland, the UK, West Germany, and South Korea, the experience of unemployment appears more taxing for men than for women. This conforms to the past literature reviewed in section 2 above. The size of the gap is comparable across all five cases, though it is only significant in the Korean, West German, and British contexts, with a lack of significance in the Swiss context due to much larger standard errors.

With respect to the gender gap, the outlier is East Germany, where the impact of unemployment is roughly equal for men and women. This is due perhaps to the high level of participation of women in the East German labor force prior to the collapse of communism (Bonin and Euwals 2002). Communist ideals regarding gender equality and the importance of female workers may have created a cultural environment where women identify more strongly with their jobs. Thus, following a job loss, East German women might feel disenfranchised in equal measure to their male counterparts.

## DISCUSSION AND CONCLUSION

The present study has developed and tested the hypothesis that generous unemployment insurance helps to reduce the stress of job loss. It has found little evidence to support this hypothesis. Rather, the results support the opposite conclusion: the impact of unemployment is generally consistent across national contexts, regardless of social policy or cultural differences. Among the theoretical perspectives reviewed above, the results seem most compatible with the needs-based perspective; they are consistent with the idea that employment serves a set of fundamental psychological needs, and that its disruption reduces well-being in a predictable manner across a variety of national contexts.

While there is little evidence that generous benefits can buffer the initial stress of a job loss, there is marginal evidence that they shore up well-being for the long-term unemployed. Among the four countries, unemployment appears to be the least detrimental to well-being in the UK, where benefits are most generous. However, the difference in the impact between the UK and the other countries is not statistically significant, so caution is required in interpreting this result. The results also provide some evidence for cross-national variation in well-being among those transitioning back into employment, but the pattern does not fully conform to expectations and is difficult to explain.

Perhaps the most surprising result is the absence of a gender gap in the psychological cost of unemployment in East Germany, especially considering the consistency of this gap across the other countries. This suggests that the gender gap in the psychological response to unemployment might vary based on cultural and

historical factors. It is possible that the gap will narrow elsewhere in the coming years, as many developed countries witness an increased female participation in the labor force and a growing reliance on dual incomes for many families. In this environment, women may come to identify more strongly with their jobs, thus growing more psychologically vulnerable to the effects of unemployment. Future investigations might track the gender gap in responses to unemployment as these trends progress.

One significant methodological weakness in the present study lies in the limitations of the fixed effects approach. While fixed effects can control for time-invariant individual characteristics, they can't correct for unmeasured characteristics that are time-variant. For example, an individual might experience interpersonal difficulties at work, which might lead to both reduced SWB and a job loss. If these difficulties were to emerge at some point during the time series, they would not be captured using individual fixed-effects. This could cause a bias in the coefficient estimating the reduction in SWB following a job loss. One potential way to overcome this issue would be to identify instances of job loss that are known to be exogenous, such as plant closings. However, among the countries studied in this analysis, only the German data provide details on the cause of job loss.

Future research on this topic might investigate potential cross-national differences in the factors moderating the impact of job loss. Although the impact of job loss appears consistent across countries, there may be differences in the stress-buffering effects of social support, education, and personal wealth. Such an investigation may offer further insight into the degree to which the psychological



impact of unemployment is universal or context-dependent. Finally, the sample of countries examined in this study is quite limited in size; if the proper panel datasets become available, future investigations might benefit by examining a wider spectrum of countries.

TABLES AND FIGURES

Table 2.1  
*Descriptive Statistics*

Country	Variable	Mean Value, Employed	Mean Value, Unemployed	Mean, Combined	Significance test for equality of means
United Kingdom	Life Satisfaction	7.06	5.86	7.03	.000
	Age	42.3	40.5	42.2	.000
	HH Income	28949	21254	28803	.000
	Married	.53	.45	.53	.000
	Sample Size	36766	714	37480	
Korea	Life Satisfaction	5.46	4.43	5.43	.000
	Age	43.5	40.4	43.4	.000
	HH Income	3220	2546	3203	.000
	Married	.77	.61	.77	.000
	Sample Size	45096	1184	46280	
Germany	Life Satisfaction	7.00	5.58	6.93	.000
	Age	43.8	45.0	43.9	.000
	HH Income	42642	27006	41937	.000
	Married	.69	.57	.66	.000
	Sample Size	94231	4450	98681	
Switz	Life Satisfaction	7.97	6.56	7.95	.000
	Age	44.9	43.9	44.9	.000
	HH Income	98547	69527	98197	.000
	Married	.77	.58	.76	.000
	Sample Size	32428	396	32824	

Table 2.11  
*Determinants of Happiness Across Countries*

VARIABLES	United Kingdom		Korea	
	1	2	3	4
age	-0.008** (0.004)	-0.009** (0.004)	0.061*** (0.003)	0.060*** (0.003)
log_hhincome	0.045** (0.022)	0.045** (0.022)	0.295*** (0.014)	0.280*** (0.015)
married	0.236*** (0.039)	0.235*** (0.039)	0.365*** (0.043)	0.356*** (0.043)
unemployed	-0.699*** (0.066)		-0.629*** (0.049)	
emp_to_unemp		-0.718*** (0.071)		-0.653*** (0.052)
unemp_to_emp		0.096 (0.072)		-0.185*** (0.045)
unemp_to_unemp		-0.548*** (0.116)		-0.838*** (0.088)
Constant	6.802*** (0.250)	6.833*** (0.251)	0.239* (0.138)	0.414*** (0.140)
Observations	37,480	37,480	46,280	46,280
R-sq (within)	0.006	0.006	0.042	0.044
Number of IDs	10,513	10,513	9,612	9,612
VARIABLES	Switzerland		Germany, TOTAL	
	5	6	1	2
age	-0.030*** (0.002)	-0.030*** (0.002)	-0.045*** (0.002)	-0.044*** (0.002)
log_hhincome	0.089*** (0.019)	0.084*** (0.019)	0.233*** (0.017)	0.211*** (0.017)
married	0.237*** (0.034)	0.237*** (0.034)	0.089*** (0.023)	0.093*** (0.023)
unemployed	-0.625*** (0.061)		-0.681*** (0.024)	
emp_to_unemp		-0.624*** (0.066)		-0.754*** (0.029)
unemp_to_emp		0.009 (0.062)		-0.074** (0.031)
unemp_to_unemp		-0.901*** (0.105)		-0.791*** (0.033)
Constant	8.100*** (0.227)	8.156*** (0.227)	6.427*** (0.176)	6.651*** (0.177)
Observations	32,824	32,824	98,681	98,681
R-sq (within)	0.014	0.015	0.021	0.024
Number of IDs	7,444	7,444	18,435	18,435

Table 2.2 (continued)  
*Determinants of Happiness Across Countries*

VARIABLES	Germany, 1999-2004		Germany, 2005-2009	
	3	4	5	6
age	-0.113*** (0.004)	-0.114*** (0.004)	-0.025*** (0.004)	-0.026*** (0.004)
log_hhincome	0.237*** (0.027)	0.222*** (0.027)	0.178*** (0.027)	0.166*** (0.027)
married	0.074* (0.043)	0.079* (0.043)	0.082* (0.042)	0.085** (0.042)
unemployed	-0.698*** (0.037)		-0.697*** (0.040)	
emp_to_unemp		-0.721*** (0.042)		-0.768*** (0.048)
unemp_to_emp		-0.075 (0.048)		-0.064 (0.047)
unemp_to_unemp		-0.801*** (0.053)		-0.774*** (0.060)
Constant	9.323*** (0.315)	9.547*** (0.315)	6.163*** (0.325)	6.324*** (0.326)
Observations	49,621	49,621	49,060	49,060
R-sq (within)	0.033	0.035	0.011	0.012
Number of IDs	15,147	15,147	13,905	13,905

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

*Fixed Effects included in models, but not displayed*

Table 2.12  
*Determinants of Happiness Across Countries and by Gender*

VARIABLES	United Kingdom		South Korea	
	Male	Female	Male	Female
age	-0.010** (0.005)	-0.005 (0.006)	0.055*** (0.004)	0.069*** (0.005)
loghhincome	0.049* (0.027)	0.019 (0.038)	0.298*** (0.018)	0.293*** (0.024)
married	0.423*** (0.063)	0.125** (0.051)	0.541*** (0.054)	0.098 (0.069)
unemployed	-0.827*** (0.081)	-0.482*** (0.110)	-0.695*** (0.060)	-0.479*** (0.088)
Constant	6.669*** (0.313)	7.010*** (0.416)	0.346** (0.169)	0.026 (0.238)
Observations	20,466	17,014	29,145	17,135
R-sq (within)	0.011	0.002	0.045	0.040
Number of Ind	5,506	5,007	5,567	4,045
Switzerland				
	German-Speaking Male	German-Speaking Female	French-Speaking Male	French-Speaking Female
age	-0.028*** (0.004)	-0.024*** (0.004)	-0.026*** (0.007)	-0.055*** (0.007)
loghhincome	0.074** (0.033)	0.096*** (0.033)	0.068 (0.065)	0.076 (0.074)
unemployed	-0.794*** (0.128)	-0.546*** (0.113)	-0.850*** (0.167)	-0.521*** (0.172)
married	0.282*** (0.060)	0.045 (0.064)	0.335*** (0.098)	0.361*** (0.114)
Constant	8.246*** (0.383)	8.078*** (0.394)	7.892*** (0.714)	9.005*** (0.819)
Observations	8,663	8,739	3,427	3,617
R-sq (within)	0.017	0.009	0.019	0.028
Number of Ind	1,718	1,741	676	733
Germany				
	East Male	East Female	West Male	West Female
age	-0.043*** (0.005)	-0.028*** (0.005)	-0.050*** (0.003)	-0.047*** (0.003)
loghhincome	0.215*** (0.048)	0.277*** (0.052)	0.279*** (0.025)	0.204*** (0.028)
unemployed	-0.618*** (0.051)	-0.640*** (0.062)	-0.863*** (0.040)	-0.494*** (0.049)
married	-0.061 (0.071)	-0.080 (0.077)	0.192*** (0.034)	0.071* (0.041)
Constant	6.214*** (0.513)	4.985*** (0.562)	6.260*** (0.268)	6.927*** (0.304)
Observations	11,788	10,811	42,238	33,844
R-sq (within)	0.026	0.019	0.029	0.015
Number of Ind	2,102	2,000	7,762	6,750

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

*Fixed Effects included in models, but not displayed*

Figure 2.1

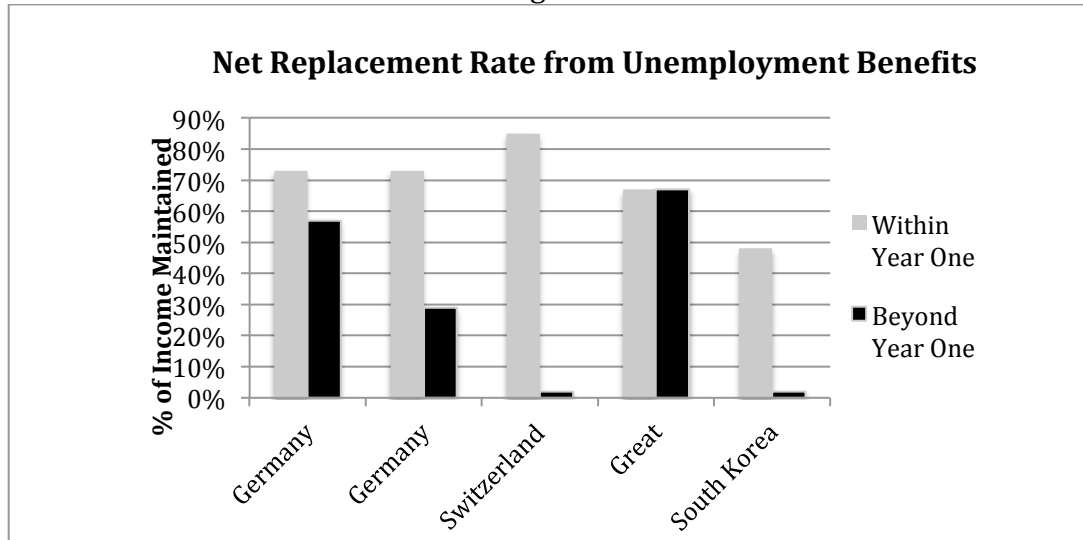


Figure 2.2

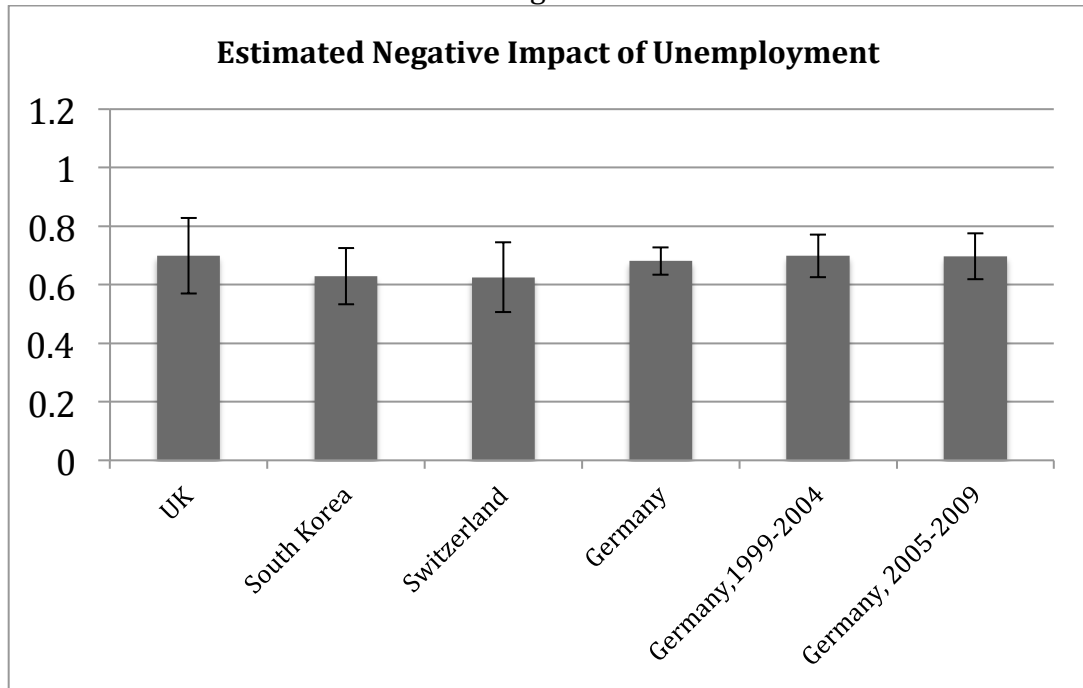
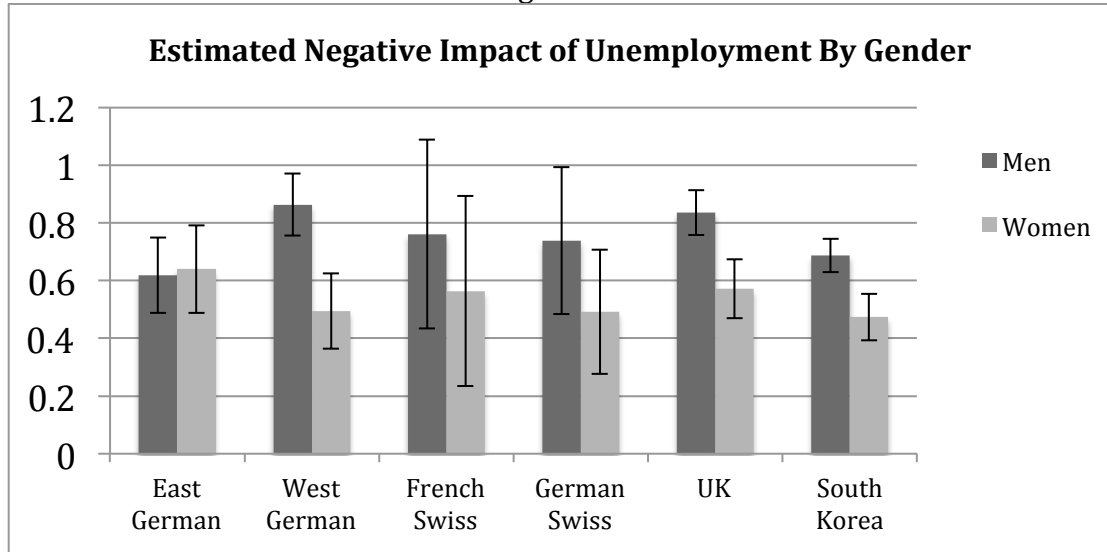


Figure 2.3



## **Paper 3**

### **Happiness and Market Reform in Urban China**

#### INTRODUCTION

It is widely perceived as self-evident that China's recent economic success has improved the welfare of its people. Thanks to market reforms initiated in 1978 and accelerated through the 1990s, millions have escaped from poverty, living standards have improved across much of the country, and large segments of the population now enjoy access to modern infrastructure, nutrition, and medical care (Montalvo and Ravallion 2010).

However, simultaneous with its impressive economic growth, 21<sup>st</sup> century China has witnessed a surprising decline in mental health and life satisfaction. Epidemiological data suggest that common mental illnesses such as depression and anxiety disorders are on the rise (Guo et al., 2011). Furthermore, time series data suggest that happiness and life satisfaction are declining. Table 2.1, reproduced using data from Knight and Gunatilaka (2012), displays evidence for this trend. Data on life satisfaction and happiness from three distinct surveys all suggest a downward trajectory. This surprising co-existence of rising incomes and declining happiness has been deemed "the China Puzzle" (Brockmann et al. 2009).

Counterintuitive as it may seem, this failure of growth to enhance happiness has been witnessed elsewhere. Throughout the latter half of the 20<sup>th</sup> century and the



beginning of the 21<sup>st</sup>, happiness levels have remained constant across a large number of growing economies, including the United States, Colombia, South Korea, and 14 Western European Countries (Easterlin 1974, 2009). This observation is puzzling, as both common sense and empirical evidence suggest that there is a strong relationship between income and happiness at the individual level. If a boost in income enhances individual happiness, why shouldn't this effect apply to broader populations? This apparent discord is known as the "Easterlin Paradox."<sup>10</sup>

Easterlin and others have offered a compelling explanation for this paradox (for a summary, see Layard 2010). According to Easterlin (2010), income enhances happiness by helping an individual to draw favorable comparisons between oneself and one's peers. Therefore, an increase in income *relative to peers* will enhance an individual's happiness, but when an income boost is distributed across a society, no individual is better off in relative terms, so aggregate happiness levels do not change.

The Chinese case represents a notable departure from the Easterlin Paradox. In the countries that exemplify the paradox, such as the United States, happiness levels tend to remain static in the face of growth. China, in contrast, has seen happiness decline. Nonetheless, Brockmann et al. (2007) offer an explanation for the China Puzzle that shares Easterlin's emphasis on relative income. The authors point out that China's rising incomes have accrued disproportionately to the wealthy; thus, although absolute income levels have risen, most individuals are worse-off in

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<sup>10</sup> Not all scholars accept the Easterlin Paradox, and purport to find evidence that GDP does enhance happiness. For a detailed summary of this debate, see Graham and Pettinato (2010).

relative terms. According to the authors, this decrease in relative income for most individuals explains why overall happiness has declined. In short, the China puzzle is a function of rising inequality.

This explanation is unsatisfactory for simple reason: many growing economies, such as the United States, Korea, and several Latin American countries, have experienced rising inequality without accompanying decreases in happiness (Inglehart and Welzel 2010). A more satisfying explanation for the Chinese anomaly might focus on factors that are specific to the case at hand. In their exclusive emphasis on income inequality, Brockmann et al. (2007) overlook the unique institutional dynamics of China's market transition. Beyond their effects on the distribution of wealth, market reforms have fundamentally transformed the Chinese social contract in a manner that undermines economic security for many individuals, placing a potential downward pressure on happiness even as incomes rise.

More specifically, market reform has dismantled a state sector that once provided a high measure of stability to urban workers. From the Maoist era through the mid-1990s, state-owned enterprises (SOEs) dominated the urban labor market. Although SOEs paid relatively low wages, they offered secure lifetime employment and a range of benefits, including medical care and housing (Hughes 1998). In recent years, a large portion of the urban workforce has had to forfeit this security. Starting in 1995, due to insolvency and inefficiency in SOEs, the state began laying off workers, selling enterprises, and allowing the private sector to grow. The "iron

rice bowl” was shattered as SOEs were replaced by privately owned enterprises (POEs) that operated under a much looser set of labor standards (Pringle 2011).

Although these changes have diminished workers rights across the urban labor market, conditions are particularly poor in the rapidly expanding private sector. Because private enterprises lack government support and are more exposed to market forces, they are less likely to provide secure contracts and benefits. Furthermore, because they operate at a greater distance from the government, they may be more likely to violate health and safety standards, and to engage in abuses such as wage withholding (ibid).

Previous investigations suggest that basic economic security is essential to a happy life (Inglehart & Welzel 2005). Security is constituted not only by a living wage in the present, but by the reasonable guarantee of a stable future. This latter aspect of security has been eroded by the growth of China’s private sector. From 1995 to 2007, the share of urban workers employed in the state sector declined from 76% to 24%, while the share employed in the private sector increased from 16% to 42% (Demerger 2010). This is precisely the same period over which happiness levels have declined. In this paper, I suggest that these two trends are linked. I test the hypothesis that employment in China’s private sector is negatively associated with happiness, estimating series of logistic regression models to explore this relationship across a range of occupational categories. I find evidence to support the main hypothesis, particularly among unskilled workers. I conclude that the negative relationship between private sector employment and happiness,

coupled with the recent surge in private sector jobs, helps to explain why happiness levels have declined.

## BACKGROUND AND LITERATURE REVIEW

### *Happiness in China*

Until recently, the majority of research on happiness and SWB focused on developed countries. In the past few years, however, attention has shifted to the developing world. Thanks to its size and global significance, China has received much attention. Several investigations focus on particular populations within China, including rural residents (Knight, Song, & Gunatilaka, 2009), rural-urban migrants (Knight & Gunatilaka, 2010), and the elderly (Brown & Tierney, 2009). In the interest of brevity, I limit the present review to studies focused on the urban population.

Cross-sectional investigations of happiness among China's urban population by Appleton & Song (2008) and Wang & VanderWeele (2010) suggest that several of the findings commonly observed in developed countries also apply to urban China. The authors find that happiness has a U-shaped relationship with age and is positively associated with income, self-reported health, occupational prestige, employment, marriage, and size of social network.

Happiness in China also appears to be linked to factors unique to the Chinese context. Migration in China is regulated by the *hokou* system, a household registration scheme that officially classifies individuals as either urban or rural residents. Initially, the state forbade rural-to-urban migration; it is now permitted, but the rights of rural migrants are limited. Municipal governments typically restrict

the employment options of rural migrants and deny them access to public benefits and services (Knight & Gunatilaka, 2010). Knight & Gunatilaka (ibid) find that rural-to-urban migrants are less happy than their counterparts who remain in rural areas, while Jiang et al. (2012) find that migrants are more sensitive to the negative psychological impact of relative deprivation. Another determinant unique to the Chinese context is party membership. Members of China's Communist Party, who make up 5.2% of the population, enjoy greater political influence and more access to state benefits (Appleton & Song 2008). Several investigations have found that party membership is associated with higher levels of happiness (ibid; Jiang et al. 2012; Wang et al. 2010).

Finally, a considerable amount of attention has been devoted to the impact of income inequality on happiness in China. As mentioned, Brockmann et al. (2007) identify rising inequality as the primary cause of China's declining happiness. The authors show that as income has climbed, so too has financial dissatisfaction, which has in turn depressed happiness. This is because income gains have accrued disproportionately to the wealthy, causing the "frustrated achievers" of the middle and lower classes to feel unsatisfied with their own progress. Similarly, Knight & Gunitalka (2010) and Wang & VanderWheel (2012) have found that among urban Chinese, feelings of relative deprivation are associated with high levels of unhappiness.

Can rising inequality explain the China Puzzle? Several considerations leave room for doubt. First, a large number of countries across North America, Europe and Latin America have experienced rising inequality without an accompanying

decrease in happiness (Easterlin 2009). Second, in contrast to the findings discussed above, two investigations suggest that inequality may *enhance* happiness among China's urbanites. Both Jiang et al. (2012) and Knight et al. (2009) find that city-level income inequality, measured using the GINI coefficient, is *positively* associated with happiness. In both cases, the authors explain this using Hirschman's (1973) theory of the "tunnel effect:" if two lanes of traffic are stuck in a tunnel and lane A begins to move, drivers in lane B will feel more optimistic about their own prospects.

Because rising inequality does not offer a sufficient explanation for the China puzzle, this paper looks to the erosion of working conditions as a potential alternative. In the following section, I review previous literature on working conditions in urban China.

#### *Wages and Working Conditions in the Private Sector*

There is some evidence to suggest that Chinese workers in the private sector earn lower wages compared to their public sector counterparts (Knight & Li 2005). However, Demurger et al. (2012) report that the wage gap has narrowed in recent years, particularly for unskilled and less educated workers. The authors attribute this narrowing gap to an increasing trend toward market-driven wages in the public sector, so that workers in SOEs are compensated at rates comparable to those in the private sector.

Previous investigations conducted in Italy (Ghinetti 2007), Greece (Demoussis & Giannakopoulos 2007), and the Ukraine (Danzer 2012) suggest that relative to public sector employment, private sector employment is associated with

poorer working conditions and lower job satisfaction. Due to the particular dynamics of the Chinese labor market, the gap may be even wider in China. While recent reforms have undermined job security, benefits, and working conditions across the urban labor market, these effects are particularly pronounced in the private sector. Drury (2001) writes:

“Chinese mobility research has been too narrowly focused on occupation and wage...The most important distinction in the Chinese labor market is between the state and non-state sectors” (43)

Below, I provide evidence that this distinction continues to define the market, with private sector workers experiencing several disadvantages.

China’s privately owned enterprises (POEs) are much less likely to provide health care, pension contributions, and other benefits. Although the 1994 Labor Law eliminated the requirement that employers provide benefits, the great majority of SOEs continue to do so, while most POEs do not. Giles et al. (2006) report that 82% of workers in SOEs receive employer-provided health insurance, while the corresponding figure for POEs is only 25%. Those who lack employer-provided care generally go without coverage, as the national insurance scheme remains limited in scope (Lee 2005). Workers in POEs are also less likely to receive pension benefits. Giles et al. (2006) estimate that 80% of workers in SOEs are covered by pension schemes, while the corresponding figure for POEs is between 40% and 45%.<sup>11</sup>

In addition to their lack of benefits, jobs in the private sector also tend to be less secure. While SOEs no longer offer lifetime employment, most offer contracts

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<sup>11</sup> Although benefits coverage is indeed more common in SOEs, it is important to note that many workers in SOEs have been denied promised benefits. Lee (2005) provides a compelling account of the workers movement that has arose to combat this problem.

that protect against dismissal for specified periods. Contracts in the private sector are much less common, and where they do exist, they are generally short (Drury 2001). Accordingly, Giles (2006) finds that workers in the private sector are twice as likely to report a job loss within the past 12 months.

Due perhaps to their greater distance from the government and higher level of exposure to market pressures, POEs have proven more likely to violate labor laws and subject workers to harsh conditions (Chan 2001; Pringle 2011). In 2010, following several suicides among employees of Foxconn, China's largest private sector employer, a series of investigations suggested that the company had subjected its workforce to various forms of abuse. Among other allegations, the company was found to have required overtime without adequate compensation and to have violated health and safety standards (F.L. Association 2012). In the aftermath of these events, ongoing unrest among workers across the private sector suggests that the Foxconn allegations reflect a wider trend. By comparison, allegations of abuse in the state sector remain relatively rare.<sup>12</sup>

Another common form of mistreatment in the private sector is the practice of wage withholding. In an attempt to combat employee turnover, private sector employers often withhold a portion of each monthly salary, which is paid only if the employee completes the year. According to Chan (2001), this makes workers more likely to tolerate mistreatment.

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<sup>12</sup> However, grievances over pension and wage arrears have led to the occasional protest. For a discussion of this problem, see Lee (2005).



Compared to other types of workers, low-skilled workers may be particularly vulnerable to mistreatment in the private sector, largely because they enjoy less leverage in the labor market. This is especially true for low-skilled rural migrants who lack many of the citizenship rights afforded to urban residents. Rural migrants often experience restricted mobility within the city, and must rely on their employers for housing. Employer-provided housing generally takes the form of shared dormitories, and often comes with longer hours and steeper wage withholdings. Furthermore, migrant workers must actively maintain their legal status or risk being evicted from the city. This requires a heavy burden of paperwork and fees, as well as the cooperation of the employer, exposing rural migrants to an additional measure of vulnerability. The state may choose to revoke one's migration rights at any time, and migrants are often beholden to their employer for their residential status (Chan 2001).

## HYPOTHESES

Based on the poor working conditions reviewed above, the following analysis tests the hypothesis that employment in China's private sector is associated with lower happiness:

***H1: Private sector employment is negatively associated with happiness.***

Furthermore, I explore the possibility that certain types of workers are more vulnerable than others to the negative impact of private sector employment. First, due to their tenuous legal status and greater reliance on employers for housing and migration support, rural migrants may experience harsher treatment in the private

sector. Second, because abuses in the private sector have been observed primarily among unskilled laborers, who enjoy less leverage in the labor market, I expect that the negative impact of private sector employment will be more pronounced among these workers. This leads to hypotheses 2 and 3:

***H2: The negative association between private sector employment and happiness is more pronounced for rural migrants than for city residents.***

***H3: The negative association between private sector employment and happiness is more pronounced for unskilled workers than for skilled workers and professionals.***

Finally, I test a hypothesis regarding the contextual effect of labor force privatization on individual-level well-being. Because the privatization of the Chinese economy has been associated with structural changes across the labor market, undermining conditions for public- and private-sector workers alike, I test the hypothesis that workers in highly privatized cities tend to exhibit lower happiness, relative to workers in cities that maintain large public sectors:

***H4: City-level privatization is negatively associated with individual-level happiness.***

## DATA AND METHODS

The analysis uses data from the Spiritual Life Study of Chinese Residents (SLSC), a nationally representative sample funded by the John Templeton Foundation. The stated purpose of the study is to explore patterns in religious belief and affiliation in mainland China, and it is a trusted source of information on this topic (Pew Research Center 2011). But beyond its information on religious belief, the dataset contains a range of demographic indicators as well as a measure of happiness.

Furthermore, the SLSC provides rich information on occupational status and employer characteristics, making it uniquely fit for the present investigation. Respondents were selected using a clustered design with two stages: locale (city or town) and household. One adult was then randomly selected within each household. The sample comprises 56 locales and 7,021 individuals. However, due to the particular scope of my hypotheses, I use a subsample comprising urban residents who are members of the labor force (N=2,540).

The key outcome variable in the study is happiness, measured using the following question: “In general, how happy are you with your life as a whole these days? Would you say you are very happy (4), somewhat happy (3), so-so (2), somewhat unhappy (1), or very unhappy (0)?” Since it requests a global assessment of one’s life circumstances, this question taps the global dimension of well-being discussed in the introduction above. Given that the present hypothesis focuses on the impact of private sector employment on overall life satisfaction, this measure is appropriate for the dependent variable. Table 3.2 displays the distribution of this variable across the sample. Approximately one third of the respondents report the highest level of happiness. This is a low proportion relative to that observed in developed countries (see, for example, Diener 2011), and is consistent with the idea that despite a booming economy, happiness in China remains low.

The independent variable of chief interest is private sector employment. This is captured using a binary variable (private) that takes on a value of 1 if the individual works in a privately owned enterprise and a 0 if the individual works in the government or a state-owned enterprise. Beyond asking an individual about

their occupational status and sector, the survey also asks individuals to identify their occupational category. The potential choices are “Supervisor,” “Office Staff,” “Skilled Laborer,” “Professional,” and “Unskilled Laborer.” As outline in hypothesis 3 above, I expect that the association between private sector employment and happiness will be stronger among unskilled laborers than among the other categories.

The model also includes several demographic controls: annual household income (measured in hundreds of Renminbi), age, marital status (binary; 1 = “married”), and two dummy variables measuring educational background (“High School,” “College,” and a reference category made up of non-high school graduates). In numerous studies (for a review, see Kahnemann 2006), educational attainment and marital status have been positively linked to life satisfaction, while its association with age appears to be U-shaped with a nadir around age 45. Finally, the models control for migration status (rural). This variable takes on a value of 1 for rural migrants and a 0 for city residents. Following past findings, I expect rural migration status to be negatively associated with life satisfaction.

Tables 3.3 and 3.4 show descriptive statistics. Table 3.3 displays the mean values for each demographic variable by sector. Table 3.4 displays happiness by sector and occupational category, with happiness measured using the proportion identifying as “very happy” in each group. The descriptive statistics lend initial support to the hypothesis that private sector employment is associated with lower happiness. For the overall sample, the proportion of very happy individuals in the private sector is nine percentage points lower than that in the public sector, while

the significance test carries a highly significant p-value. Across the job type subgroups, there appears to be a similar gap, although it is only significant for skilled and unskilled laborers.

Because the dependent variable is an ordered categorical variable, I cannot use the ordinary least squares (OLS) modeling approach. The OLS approach assumes, among other things, homoscedasticity, which is violated in the case of a multinomial response variable. An alternative option would be to use ordered logistic regression. However, this would require a very strong assumption that is often violated: the proportional odds assumption that each coefficient is identical across all cut points. Yet another alternative, which does not require the proportional odds assumption, is to use stereotype logistic regression; however, this approach would produce somewhat unwieldy results, as it requires a separate set of estimates for each cut point. Therefore, in the interest of parsimony without strong assumptions, I group the data into two categories and estimate a binomial logistic regression model. The model predicts the outcome that an individual falls in the “very happy” category, rather than one of the lower four categories (“somewhat happy”, “so-so”, “somewhat unhappy”, “very unhappy”), as a function of the test variable and relevant controls. Because this approach has the disadvantage of collapsing the responses below the highest level into a single category, I explore alternative approaches in Appendix A. Results for these alternative specifications are consistent with those in the main analysis section.

## RESULTS

Because past studies have suggested that the relationship between income and life satisfaction is complex and varies across contexts (Graham et al. 2010), I do not impose any initial constraints on the income covariate. Rather, I estimate a lowess smoother to explore the association. The lowess smoother is displayed in figure 3.1. The figure suggest that the relationship between income and the log odds of happiness is positive and very strong at low levels of income (¥ 0-2225), weak at moderate levels of income (¥ 2225-6250), and positive and moderate at high levels of income (¥ 6250 and over). The weak relationship in the middle of the income scale is consistent with the notion of the “frustrated achiever” put forth by Graham and Pettinato (2002). According to the authors, many middle-income individuals in developing economies increase their aspirations at a faster rate than their incomes; thus, income gains are not sufficient to meet expectations, and so income gains fail to increase happiness. The relationship shown in figure 3.1 would be difficult to capture using polynomial terms, so I use regression splines to allow for non-linearity, with knots placed at ¥2225 and ¥6250.

Models of life satisfaction frequently find a U-shaped association with respect to age. Figure 3.2, which displays a lowess smoother for age, suggests that the data conform to this pattern. Accordingly, I model this relationship by including covariates for both age and age squared. The remaining individual-level demographic variables—rural, married, private, and the two educational variables—are captured using binary covariates.

Finally, the analysis includes two variables measuring contextual conditions at the city level. Because conventional methods risk underestimating the standard

errors for cluster-level coefficients, I adjust for this using clustered standard errors, as recommended by Primo et al (2007). The first contextual variable is a measure of city-level gdp per capita (*city\_gdp*), which I expect to be positively associated with happiness. The second is a gauge of privatization at the city level (*mean\_private*), measured as percentage of workers employed in the private sector.

Results for six model specifications are displayed in table 3.5. Column 1 shows a bivariate model with *private* as the sole predictor; column 2 shows a model that introduces several controls. In model 2, both the *age* and *age squared* terms carry significant coefficients, suggesting that the relationship between age and income is indeed curvilinear. The three income coefficients, corresponding to low, middle, and high income, suggested that the use of splines is appropriate; the relationship appears highly positive and significant for low-income individuals, insignificant for middle-income individuals, and moderately positive and significant for high-income individuals. The binary coefficients measuring education and marriage are positive, although the high school coefficient is not significant. The coefficient for rural migration status is also insignificant, counter to expectations.

The models provide strong support for the main hypothesis. In model 2, the coefficient associated with private employment carries a highly significant value of -0.396. This translates into 5.0 percentage point drop in the probability of reporting the highest level of life satisfaction (see Figure 3.3, "Overall").

The model in column 3 introduces an interaction term between *rural* and *private*, testing the hypothesis that private sector employment has a stronger negative impact on rural migrants. Surprisingly, the result suggests the opposite: the

interaction between rural and private is positive and significant. Figure 3.3 provides a visualization of this result, showing the differences in expected happiness across public and private sectors for both rural migrants and urban residents. The graphic suggests that the negative impact of private sector employment applies uniquely to urban residents, while rural migrants exhibit no discernible difference across sectors. One potential explanation for the results displayed in figure 3.3 is that urban residents suffer harsher treatment in the private sector, but the hardships of being a rural migrant are universal and felt equally by workers across both sectors. Interestingly, the penalty associated with rural migration status appears to be roughly equal to that of private sector employment for urban residents, with these groups experiencing similarly low happiness relative to urban residents in the public sector.

Model 4 of table 3.5 introduces a categorical control for job type. The reference category is office staff, while the other four job categories – professionals, skilled laborers, unskilled laborers, and supervisors – receive binary coefficient estimates. Only the unskilled laborer coefficient is significant, suggesting that these workers have lower happiness relative to office staff.

In model 5, each job type is interacted with the binary private sector variable. The interaction terms are not statistically significant. However, the point estimates are consistent with the hypothesis that certain types of workers are more vulnerable to the negative aspects of private sector employment. Figure 3.4 translates the findings into predicted probabilities, illustrating the likelihood of reporting the highest level of life satisfaction (with all other controls held constant)



for public and private sector employees of each job type. Supervisors and professionals exhibit a smaller gap in life satisfaction across public and private sectors. In contrast, office staff, skilled laborers, and unskilled laborers exhibit larger gaps. While this does not directly conform to hypothesis 3, the result is consistent with the notion that those lower in the occupation hierarchy are more vulnerable to the negative effects of private sector employment.

Finally, the model in column 6 introduces contextual controls for city-level GDP and city-level privatization. The coefficient for city-level GDP is insignificant. The coefficient for city-level privatization (`mean_private`) is negative and significant, lending support to the hypothesis 4. This is consistent with the idea that public sector workers experience some negative spillover effects of privatization. Furthermore, relative to the model in column 2, the negative coefficient for individual-level private sector employment is reduced by 40%, from -0.369 to -0.220, when city-level privatization is added to the model. This suggests that some of the negative association between private sector employment and happiness is explained by contextual conditions in the labor market.

## ROBUSTNESS TEST

In this section, I use the propensity score matching technique to test the robustness of the findings. Propensity score matching offers a strong alternative to regression when the primary interest is on the causal impact of a single binary treatment variable (for more detail, see Rosenbaum 2010). In this section, I treat

private sector employment as a binary treatment variable, using the propensity score matching to estimate its impact on happiness.

In an ideal design, the privatization treatment would be randomly assigned to a subset of workers, with a control group of workers remaining in the public sector. Under such a design, the mean difference in life satisfaction between the two groups could be attributed to causality. However, given the absence of random assignment in the data at hand, it is necessary to address the possibility for confounding variables. As shown in table 3.7, the treatment and control groups vary on several covariates that are likely linked to the outcome. Thus, the mean difference in happiness between the treatment and control groups could be attributable to this systematic variation on “pre-treatment” covariates, rather than the impact of the treatment.

The logistic regression models the previous section offer one way to confounding covariates, but this approach requires that the functional form be properly specified with respect to each predictor (Berk 2004). This requirement can be difficult to meet in the presence of complex interactions or non-linear relationships. If this requirement is not met, the estimated effect of the treatment is subject to bias. Propensity score matching offers a more direct way of adjusting for controls that is less vulnerable to misspecification: it produces treatment and control groups that are balanced on the pre-treatment covariates. This is achieved by estimating an initial model to predict the likelihood of receiving the treatment. Based on the score from this model, a set of “matched pairs” is identified. Within each matched pair, the subjects have similar estimated propensities to receive the

treatment, but only one has actually received it while the other has not. These pairs form the basis for a subsample of the data in which the treatment and control groups exhibit greater balance on pre-treatment covariates (Joffe and Rosenbaum 1999). If a high level of balance is achieved, the potential for bias due to confounding covariates is reduced.

Following this procedure, I first estimate the propensity to receive the treatment as a function of the covariates used in the previous section. Thus, in this initial stage, private sector employment is the dependent variable. Table 3.6 shows the results. All covariates in the model are highly significant. In the next stage of the analysis, the model is used to assign a propensity score to each subject. Each member of the treatment group is then matched with its “nearest neighbor” – a member of the control group with the most similar propensity score. To be a suitable match, the nearest neighbor must be within 0.25 standard deviations of the sample propensity score (this value is known as the ‘caliper’); if there is no neighbor within this range, the subject is not assigned a match and is excluded from the matched pairs subsample.

Based on these criteria, 776 matched pairs are identified, resulting in a matched sample of 1,552. This is smaller than the unmatched sample used in the prior regression models, but it has the highly favorable advantage of balance on the pre-treatment covariates. Table 3.7 shows the mean values for each covariate in the treatment and control groups for both the matched and unmatched samples. T-tests for equality of means are displayed, along with the standardized difference in means (%bias). Rosenbaum (2010) recommends using the latter to assess covariate

balance. The author recommends that in a properly balanced sample, the standardized difference in means should not exceed 20% for any covariate. Based on this rule, the results suggest that the matching procedure was successful in balancing the covariates: in the unmatched sample, several values exceed 20%, while in the matched sample, all values are well under this threshold.

In the final phase of the analysis, I estimate the difference in happiness across the balanced treatment and control groups. Thanks to the superior covariate balance, it is not necessary to include control variables in this phase of the analysis. Rather, it is sufficient to compare proportions across the two groups. The proportion of very happy individuals in the private sector group is 30.9%, while the proportion in the public sector group is 37.9%. The two-proportion z-test carries a highly significant value of  $p=0.002$ . The point estimate for the difference between the two proportions is 7.0%, while the 95% confidence interval is [2.2%, 11.7%]. This is consistent with the findings from the regression models in part 5, and lends additional support to hypothesis 1.

## DISCUSSION AND CONCLUSION

The results provide support for the main hypothesis, suggesting that the privatization of China's labor market is associated with lower life satisfaction. Furthermore, findings support the idea that the negative association is due in part to conditions within the private sector that affect private sector workers only, and in part to structural changes that affect workers across the urban economy. These findings provide a potential explanation for China's recent decline in life satisfaction.

Whereas Brockmann et al. (2007) attribute the “China Puzzle” to rising inequality, the present findings suggest that it may be due to the unique institutional dynamics of the Chinese market reform.

I fail to find statistically significant support for the secondary hypothesis that the association is more pronounced for unskilled workers, but the results are directionally consistent with the idea that workers lower in the occupational hierarchy suffer more adverse effects in the private sector. Workers with greater leverage, such as supervisors and professionals, may possess a measure of power that insulates them from poor treatment in the private sector. Finally, I fail to find support for the hypothesis that rural migrants are especially vulnerable to mistreatment in the private sector, with the results suggesting the opposite.

The findings must be interpreted with caution in light of several methodological limitations. Foremost among them is the inability to control for potential endogeneity on the main independent variable. If public sector jobs are more desirable and attract greater competition, it is plausible that individuals with certain personality traits are more successful in obtaining such jobs. These traits—which might include persistence, talent, and interpersonal skills—might also be associated with greater happiness. Neither the regression models nor the propensity score analysis can correct for this source of potential bias. One potential way to address this problem is through an instrumental variables approach. However, the data do not contain a suitable instrument that is predictive of private sector employment but otherwise unassociated with happiness. Another method to address this problem would be to use longitudinal fixed-effects models to control

for unobserved time-invariant individual traits. However, since the data are cross-sectional, this is not an option.

Another weakness, also due to data limitations, is the lack of ability to explore the mechanisms by which private sector employment is linked to life satisfaction. In the introduction, I discuss several mechanisms through which private sector jobs might reduce well-being: they require workers to work longer hours, they are less likely to provide medical insurance and health benefits, and they are more likely to subject workers to harsh conditions. However, because the data do not measure working hours, benefits provision, or other working conditions, I am unable to explore these potential mechanisms. Therefore, in light of these shortcomings, the results are primarily descriptive: while I find strong evidence for an association, I am unable to infer causality nor explore the potential mechanisms behind it.

## APPENDIX A

In the main analysis section above, happiness is treated as a binary outcome variable, with models estimating the likelihood of reporting the highest level happiness, rather than one of the four lower categories. While this offers a parsimonious approach that does not require strong assumptions, it risks oversimplification, since it does not capitalize on variation in reported happiness below the highest level. In this section, I adopt two alternative approaches: OLS regression and ordered logit regression. Both require stronger assumptions but are better able to capitalize on variation across all levels of the dependent variable.

Results for these two alternative approaches are presented in table 3.8. The OLS approach requires self-reported happiness to be treated as an interval variable, while the ordered logit approach requires the 'proportional odds assumption' that each coefficient is identical across all cut points. While one may test the proportional odds assumption empirically, the test is not highly conservative, implying that one may fail to reject the null hypothesis that all coefficients are equal across cut points, even if this is false (Allison 1999). For the model in table 3.8, the chi-squared for this test is 12.01 with a p-value of 0.28, implying a failure to reject the null. Thus, based on this evidence, the proportionality of odds assumption appears to be justified. Results shown in table 3.8 for both the ordered logit and the OLS approaches are consistent with the results in the main analysis above. In both models, there is a negative and significant relationship between private sector employment and self-reported happiness.

TABLES AND FIGURES

Table 3.1  
*Declining Life Satisfaction in China*

Survey	Indicator	Year	Mean Score
Gallup	Happiness	1997	2.82
		2004	2.67
Asiabarometer	Happiness	2003	3.73
		2007	3.68
World Values Survey	Life Satisfaction	1995	6.83
		2007	6.76
	Happiness	1995	3.05
		2007	2.94

Table 3.2  
*Distribution of Life Satisfaction in Sample*

Life Satisfaction	Frequency	Percentage
1	9	0.00%
2	49	0.02%
3	362	14.25%
4	1,238	48.74%
5	882	34.72%



Table 3.3  
*Demographic Variables by Sector*

Variable	Overall Sample Mean	Public Sector Mean	Private Sector Mean	Significance Test; Equality of Means
Age	37.12	39.57	33.31	0.000
Married	0.78	0.87	0.69	0.000
Income (¥100)	28.35	28.37	28.33	0.480
Rural	0.13	0.08	0.19	0.000
High School	0.40	0.38	0.43	0.020
College	0.29	0.40	0.24	0.000
Party Affiliation	0.24	0.33	0.18	0.000

Table 3.4  
*Income and Life Satisfaction by Job Category and Sector*

Job Category	Sector	Frequency	Proportion Very Happy	Significance Test, Equality of Means
Overall Sample	Public	1262	0.39	0.00
	Private	1278	0.30	
Supervisor	Public	147	0.44	0.27
	Private	96	0.36	
Office Staff	Public	351	0.42	0.41
	Private	241	0.38	
Skilled Labor	Public	209	0.44	0.04
	Private	159	0.34	
Professional	Public	66	0.41	0.39
	Private	71	0.34	
Unskilled Labor	Public	489	0.33	0.00
	Private	711	0.25	

Table 3.5  
*Determinants of Happiness*

VARIABLES	1	2	3	4	5	6
private	-0.396*** (0.121)	-0.369*** (0.117)	-0.433*** (0.123)	-0.352*** (0.118)	-0.174 (0.204)	-0.220** (0.089)
age		-0.144*** (0.037)	-0.145*** (0.037)	-0.144*** (0.037)	-0.147*** (0.038)	- (0.038)
age_sq		0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)
married		0.628*** (0.171)	0.628*** (0.171)	0.653*** (0.173)	0.666*** (0.172)	0.602*** (0.173)
hs		0.115 (0.150)	0.113 (0.150)	0.079 (0.150)	0.077 (0.149)	0.083 (0.126)
coll		0.384* (0.200)	0.384* (0.201)	0.248 (0.221)	0.247 (0.219)	0.327* (0.189)
income100_S1		0.037*** (0.013)	0.037*** (0.013)	0.034** (0.014)	0.034** (0.014)	0.046*** (0.012)
income100_S2		-0.002 (0.005)	-0.002 (0.005)	-0.003 (0.005)	-0.003 (0.005)	0.000 (0.005)
income100_S3		0.013*** (0.005)	0.014*** (0.005)	0.014*** (0.005)	0.014*** (0.005)	0.012** (0.005)
rural		-0.158 (0.166)	-0.526*** (0.190)			
rural_X_private			0.554*** (0.206)			
supervise				-0.037 (0.178)	-0.003 (0.197)	
prof				-0.109 (0.215)	-0.092 (0.230)	
skilled				-0.019 (0.209)	0.072 (0.230)	
unskilled				-0.286** (0.144)	-0.151 (0.159)	
supervise_X_priv					-0.074 (0.321)	
prof_X_priv					-0.073 (0.363)	
skilled_X_priv					-0.229 (0.306)	
unskilled_X_priv					-0.297 (0.247)	
city_gdp						-0.009 (0.006)
mean_private						-2.530** (1.014)
Constant	-0.438*** (0.126)	1.114* (0.667)	1.154* (0.666)	1.311* (0.691)	1.292* (0.716)	1.841** (0.773)
Observations	2,540	2,540	2,540	2,540	2,540	2,540

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 3.6  
*Propensity Model*  
*Dependent Variable: Private*

VARIABLES	1
age	-0.063*** (0.005)
married	-0.513*** (0.124)
hs	-0.428*** (0.112)
coll	-1.218*** (0.138)
income100	0.004* (0.002)
rural	0.524*** (0.141)
supervise	0.363** (0.174)
prof	0.570*** (0.208)
skilled	0.096 (0.146)
unskilled	0.629*** (0.121)
Constant	2.359*** (0.246)

Observations 2,540

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 3.7  
*Summary Statistics Before and After Matching*

Variable	Matched	Mean				T-Test	
		Treated	Control	bias (%)	Reduction (%)	t	p>t
Age	U	33.308	39.571	-62.2		-15.68	0.00
	M	37.343	36.893	4.5	92.8	0.90	0.366
married	U	0.68936	0.87163	-45.1		-11.36	0.000
	M	0.83763	0.81186	6.4	85.9	1.34	0.182
hs	U	0.42801	0.38273	9.2		2.33	0.020
	M	0.43041	0.43428	-0.8	91.5	-0.15	0.878
coll	U	0.24491	0.40333	-34.3		-8.65	0.000
	M	0.31314	0.30026	2.8	91.9	0.55	0.582
income10	U	28.332	28.377	-0.2		0.05	0.960
	M	28.72	28.858	-0.6	-213.4	-0.12	0.902
rural	U	0.18858	0.07924	32.5		8.18	0.000
	M	0.10309	0.10567	-0.8	97.6	-0.17	0.868
city_gdp	U	30.967	28.746	15.2		3.82	0.000
	M	29.6	30.036	-3	80.4	-0.6	0.551
supervise	U	0.07512	0.11648	-14.1		-3.55	0.000
	M	0.09536	0.09923	-1.3	90.7	-0.26	0.797
prof	U	0.05556	0.0523	1.4		0.36	0.716
	M	0.06186	0.0567	2.3	-58.2	0.43	0.667
skilled	U	0.12441	0.16561	-11.7		-2.95	0.003
	M	0.15464	0.13789	4.8	59.3	0.93	0.351
unskilled	U	0.55634	0.38748	34.3		8.64	0.000
	M	0.44716	0.47938	-6.5	80.9	-1.27	0.203
officestaff	U	0.18858	0.27813	-21.3		-5.37	0.000
	M	0.24098	0.2268	3.4	84.2	0.66	0.510

Table 3.8  
*Determinants of Happiness: Alternative Specifications*

VARIABLES	Ordered Logit	OLS Regression
private	-0.348*** (0.083)	-0.126*** (0.040)
age	-0.152*** (0.029)	-0.063*** (0.013)
age_sq	0.002*** (0.000)	0.001*** (0.000)
married	0.687*** (0.122)	0.289*** (0.067)
hs	0.083 (0.097)	0.034 (0.052)
coll	0.349*** (0.109)	0.124* (0.064)
outward	-0.192* (0.116)	-0.070 (0.048)
income100_S1	0.042*** (0.007)	0.017*** (0.006)
income100_S2	-0.000 (0.003)	0.000 (0.001)
income100_S3	0.011* (0.006)	0.003* (0.002)
_cut1	-3.549*** (0.522)	
_cut2	-1.179** (0.518)	
Constant		4.910*** (0.235)
Observations	2,540	2,540
R-squared		0.069
Pseudo R-squared	0.033	

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Figure 3.1

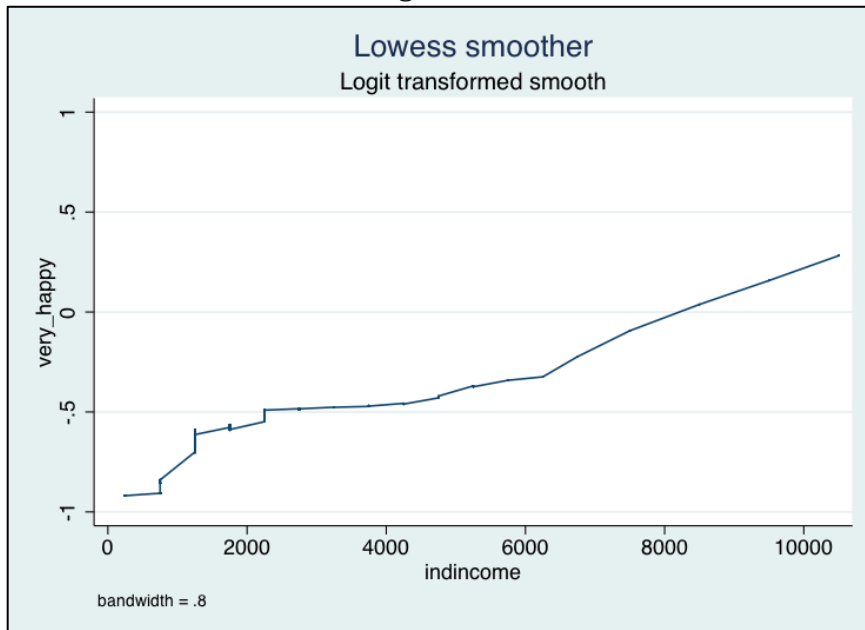


Figure 3.2

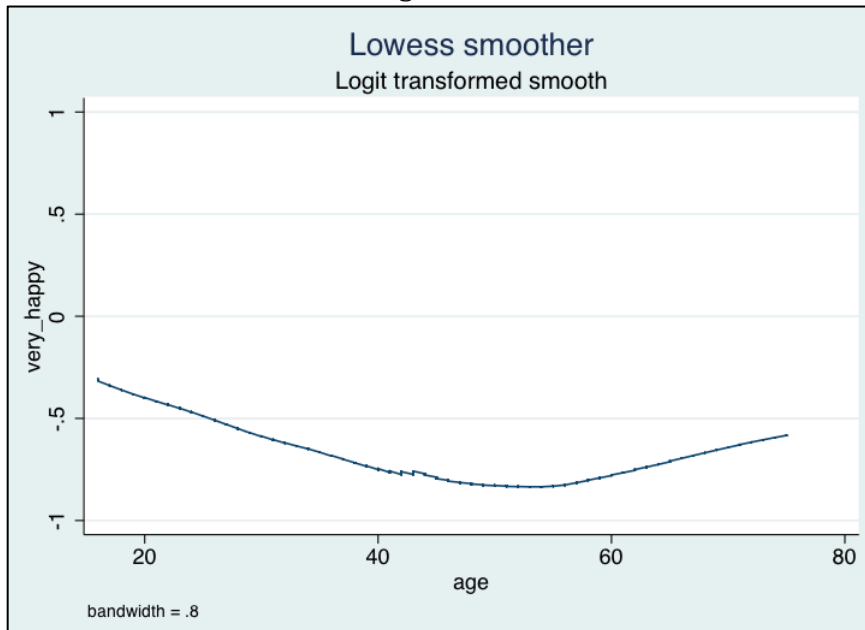
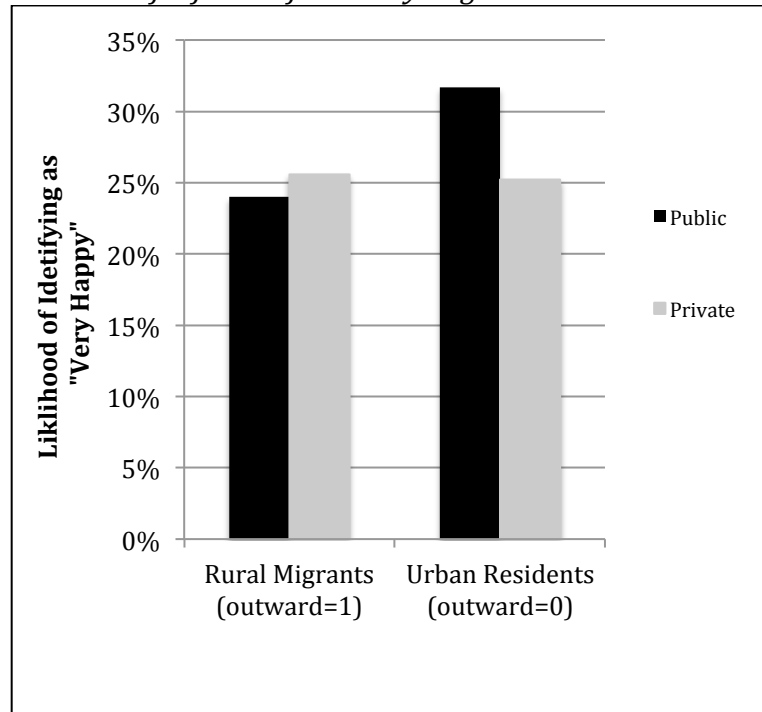
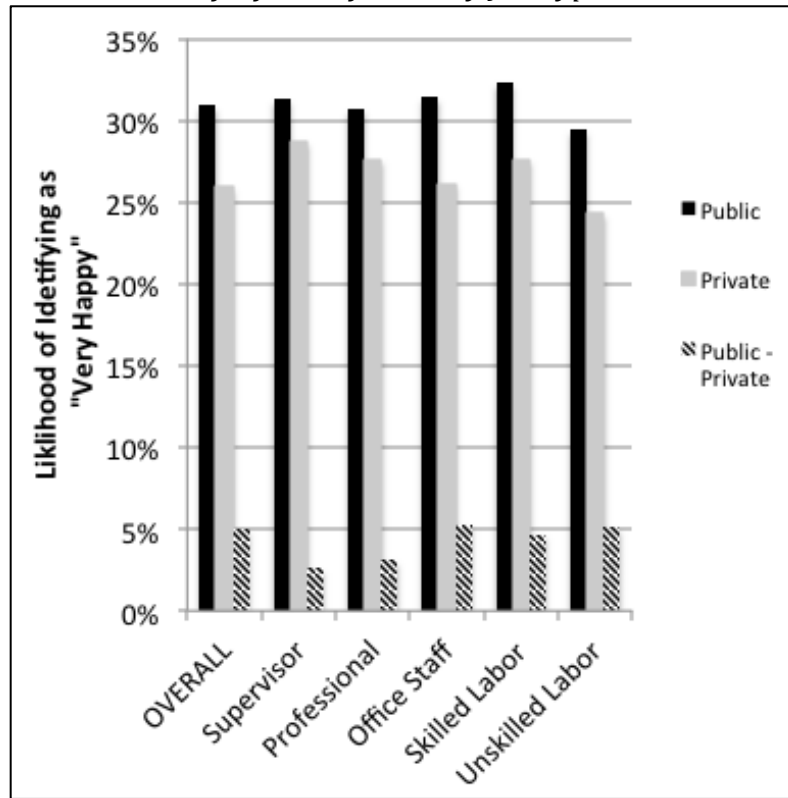


Figure 3.3  
*Likelihood of Life Satisfaction by Migration Status and Sector*



*Note: Predictions assume mean value for continuous controls and mode for categorical controls*

Figure 3.4  
Likelihood of Life Satisfaction by Job Type and Sector



Note: Predictions assume mean value for continuous controls and mode for categorical controls



## **Conclusion**

In a recent piece, Nussbaum (2008) reiterates a critique that has been leveled at positivist notions of happiness since their earliest incarnation in the work of philosopher Jeremy Bentham. Nussbaum concedes that it may be possible to gauge an individual's level of momentary pleasure, but that happiness researchers wrongfully conflate this superficial measure with more meaningful and lasting types of fulfillment. For Nussbaum, it is a mistake to advocate public policies aimed at maximizing empirical indicators of happiness, because such indicators cannot capture the essence of a life well lived. True human flourishing is not a matter of momentary gratification; it is the fulfillment of deeply held values and the cultivation of human capacities. For Nussbaum, these aspects of happiness are beyond the purview of empirical research.

But by claiming that happiness researchers wrongfully conflate pleasure with fulfillment, the author ignores recent advances in theoretically and empirically distinguishing these separable aspects of well-being. A robust body of evidence suggests that we can measure both the momentary pleasures that Nussbaum derides and the longer-term fulfillment that she prefers.

The findings in this dissertation help to counter Nussbaum's contention that happiness research cannot provide insight into the capacity of individuals to lead fulfilling lives. In the turbulent context of China's capitalist transition, workers in the relatively stable public sector report greater satisfaction than their private sector

counterparts; confronted with relative economic deprivation, the global poor find an alternative source of fulfillment in religion; stripped of a central source of identity and self-worth, unemployed individuals across a variety of national and cultural contexts experience a substantial drop in well-being. These findings are consistent with the idea that self-reported happiness is not a superficial measure, but a useful tool for exploring the effects of difficult conditions on disadvantaged groups.

Nussbaum offers a more compelling second indictment, alleging that much of contemporary happiness research lacks a proper appreciation for context. Self-reported satisfaction is likely to be shaped by one's aspirations, which are in turn shaped by local circumstances. A low-income single mother might perceive a stable job in retail as her best opportunity, and so might report optimal life satisfaction upon obtaining one. But it could be dangerous to claim that her level of well-being is higher than that of a frustrated professional who has recently been passed over for a promotion, even if the latter reports a lower level of life satisfaction. This faulty comparison would be especially dangerous if happiness indicators were used to inform public policy, as many researchers advocate.

This second critique points to the value of a sociological approach to happiness research, wherein the role of context is given its proper due. Happiness researchers should avoid lofty generalizations about universal determinants of happiness, but should instead appreciate that self-reported indicators, and the factors that drive them, are shaped by cultural, economic, and social conditions. The investigations above are my attempt to exemplify this approach.

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### INTRODUCTION

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