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Gender differences and cultural contexts: psychological well-being in cross-national perspective

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GENDER DIFFERENCES AND CULTURAL CONTEXTS: PSYCHOLOGICAL WELL-BEING IN CROSS-NATIONAL PERSPECTIVE

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ABSTRACT

This study examines gender differences in psychological well-being and its causal factors in 33 countries. Previous studies documented women's vulnerability in mental health, and according to social role explanations, gender differences in mental health are attributed to gendered socialization and gender roles assigned to men and women. Gender differences in mental health thus should disappear when we see gender-neutral socialization and social roles.

I incorporate contextual factors, such as the country-level gender equality and gender norms, and argue that the effects of gender and family-related factors at the individual-level on psychological well-being are conditional on societal-level factors in each country. I hypothesize that gender differences in psychological well-being are smaller in countries with greater gender equality and more egalitarian gender norms. Utilizing data from the 2002 International Social Survey Program and multi-level modeling, I investigate how the contextual factors impact the effects of marriage, employment, and parenthood on psychological well-being for men and women.

The results show that gender differences in mental health remain, though it is not as simple as women experiencing lower psychological well-being than men. Women show lower psychological well-being that is related to the extent of family responsibility, and caring roles are negatively associated with women's psychological well-being more than men's. Meanwhile, men indicate more stress with work responsibility, and provider roles have more impacts on males than females. I interpret these results to mean that the gendered socialization and gender roles still have strong influences on mental health and these are gender specific.

In addition, more significant effects of the country-level variables--both direct and cross-level-- are found for the female sample, and the effects of gender equality and egalitarian gender norms on women's psychological well-being are mixed. In other words, women in more

egalitarian countries are not necessarily better in mental health than those in more traditional countries. These results suggest the polarization of women's gender role preferences and work orientations, implying that women are more heterogeneous than men not only within country but also between countries.

CHAPTER 1: INTRODUCTION

Gender inequalities in individual relationships and societal systems still exist in most societies and cultures. Even in the most egalitarian countries, domestic responsibilities such as household chores and child care are primarily assigned to women (e.g., Batalova and Cohen 2002). When women engage in paid work, it is common for women to shoulder both paid work and domestic responsibilities. As a result, women in the world face similar problems balancing work and family responsibilities, and due to socially expected nurturing and caring roles for women, combined with their economic dependence and more involvement in family responsibilities, it has been believed that family matters affect women's physical and mental health much more than men's (Kessler et al. 1985; Pearlin and Lieberman 1979; Simmon 1998).

Meanwhile, the level of gender inequality, how it has been reduced, gender ideology at the societal level, and how systems of gender equality are structured vary across countries. Do women in the world feel the same way with these common female problems, in spite of these cross-national differences? For example, do they feel pressured to the same extent when they have to juggle family and work responsibilities, regardless of the differences in the expectation from their counterparts in other countries? When they can not handle their "female" roles well, is it socially acceptable in some countries but not in others? Do these differences in societies influence how people react to the same life experience?

This study examines if the differences in social structure, specifically, the gender climate in a society, make differences in the psychological well-being of men and women across countries. My specific goal is to add a comparative perspective to the research of mental health and to examine if the effects of gender, marriage, employment, and parenthood on the individual's psychological aspects of well-being vary in different societies. For the purpose of exploring the interplay between national contexts and individual-level factors affecting mental health, I utilize

multi-level modeling and the data from the 2002 International Social Survey Program (ISSP), which includes information on the individuals from 33 countries. Specifically, I explore the interaction between the degree of gender stratification and gender norms in society and individual-level gender- and family-related factors on psychological well-being of adults. I expect that the effects of individual-level factors on mental health depend on the national context, and I try to see how the structural and cultural differences impact mental health of individuals in different countries.

The world appears to be becoming more egalitarian in terms of gender relationships than previous generations – departing from the traditional division of labor in which men earn in paid labor while women stay home and take care of family members (Bianchi et al. 2000; Coltrane 2000; Shelton and John 1996). People in these days are no longer restricted to the traditional roles determined by their gender and participate in both spheres as workers and family members in many countries. A number of wives and mothers work for pay. Many of the household and child care responsibilities are increasingly being shared by both husband and wife (Bianchi et al. 2000).

These changes, either at the individual- or macro-level, have been occurring in many societies, gradually or rapidly. The higher levels of female labor force participation and educational attainment among women during the past decades accelerated the changes. Women's increasing labor force participation changed not only women's roles but also men's. Due to the fact that women are now contributing to family finance, men need to increase their family responsibility to maintain their households.

Although gender gaps in many aspects still exist, studies have documented that people in the United States are more gender equal and support egalitarian ideas as compared to many other countries (Alwin et al. 1992; Batalova and Cohen 2002; Panayotova and Brayfield 1997; Treas

and Widmer 2000). What social forces in the United States created this more egalitarian society in terms of gender? How gender gaps in a given society and individual relationships have been reduced? What are distinctive characteristics of the social changes that the United States experienced, and how these changes affected individuals and the society? In the next section, I overview social changes and its impact on gender relations in the United States, before discussing the effects of the national context.

Social Changes and Their Impacts on Gender Relations – A Case of the United States

Changes in Work and Family

In the United States, the transformation in gender relationships was triggered by a dramatic increase of female labor force participation since the 1960's, as a result of a shift of industries from the production of items to the provision of services (Judy and D'Amico 1997). This change resulted in an increased demand for labor in the service sectors (or sectors related to human services). Traditionally, female workers had held these positions. As a consequence, wages in this industry increased, and this, in turn, encouraged women to work for pay rather than staying at home.

Previously, women who worked outside the home were more likely to be single and usually left the labor force when they got married (Cherlin 1992). However, wives from the lower class always worked for pay to add more money to their insufficient household income (McLoyd 1993; Spitze 1988). Yet, during the 1960's and 1970's, more married women with children from affluent families entered the paid labor force. During the same time period, more women entered college to receive higher education than previous generations (Cherlin 1992; Judy and D'Amico 1997; Waite and Nielsen 2001). Many women with higher education began to enter the labor force not only for pay, but also for career building. Women's participation in the labor force became a pervasive trend regardless of the socioeconomic status of individuals and households.

On the other hand, the paid labor force and labor market are still gender-stratified, and not all occupations are open to women. Gender composition varies depending on the sector, and the population of female workers is concentrated in traditionally "female" occupations, such as clerical, nursing, and domestic jobs. Professional jobs are still male-dominated and females occupy fewer managerial or executive positions, although the recent proportion of female workers in these jobs is much higher than that in previous generations. The gender difference in wages is also apparent, with the average wage for female full-time employees being still around 80 percent of the average male wage (U.S. Bureau of Labor Statistics 2009).

In addition to gender segregation in occupations and wages, the career building path for women is often different from men because of their family responsibilities (Moen and Han 2001). They often have some interruption in building their career and periods of leaving the labor force, such as during pregnancy or childbearing. Moreover, even after this period ends, balancing work and family is difficult for many female workers and forces them to juggle two different responsibilities. Therefore, women's career tracks are more likely to be interrupted than men's (Hynes and Clarkberg 2005; Moen and Han 2001). Studies have also shown that taking primary responsibility for housework and child care will negatively impact women's wages, and mothers often receive lower wages compared to men and women without children (Budig and England 2001).

The division of household labor and child care has been studied intensively since the 1970's. Before then, wives carried out most responsibilities in the household as full-time homemakers. Because of their increased participation in the paid labor force, the domestic responsibility was expected to be shared equally with the husbands, but recent empirical studies have shown that despite their engagement in the paid labor market, wives are still shouldering most burdens at home. In 1995, wives' reported average hours of housework was 2.8 times their husbands', as

compared to 8.8 times in 1965 (Bianchi et. al. 2000). This change, however, was not because of an increase in husbands' housework hours but a decrease in wives' and the purchase of domestic services. Moreover, although the wives reduced the hours for housework during past decades, they still engaged in most of traditionally "female" tasks such as cooking and cleaning, while husbands' hours were spent on less regular tasks, such as yard work and automobile maintenance (Bianchi et. al. 2000).

Demographic Trends in the United States

Changes in American families were evident after the Second World War. The mid-1960's witnessed an increase in delayed marriages among a large proportion of the population. In the 1970's, high divorce rates were observed, and cohabitation and remarriage showed significant increases (Cherlin 1992; Goldscheider and Waite 1993; Waite and Nielsen 2001).

During wartime, people had to postpone marriage and delayed having children because of the economic depression and military services. In the 1950's, the marriage and birth increased at rates which were much higher than previous decades. This period was later referred to as the "baby boom" period. However, in the middle of the 1970's, when the people who were born during baby boom reached adulthood, many delayed their marriages resulting in a decrease in the marriage rate (Cherlin 1992). Instead of marrying, more couples came to share the household without a legal relationship. Although premarital cohabitation was not common among earlier generations, it became increasingly acceptable in the 1970's and 80's. However, cohabitation was not a substitute for marriage for young adults, but more common among people who experienced divorce than those who were never married. For those ever-married cohabitators, cohabitation was a transitional phase toward remarriage (Cherlin 1992; Goldscheider and Waite 1993).

Divorce rates were stable and low during the 1950's. In the period from the 1960's to the

1980's, however, the divorce rate doubled, and even after the 1980's, it still showed a higher rate than the historical standards (Cherlin 1992). As a consequence, a rapid increase in remarriages after divorce was witnessed. The increase in divorce and remarriage also resulted in an increase in the number of single-parent households and stepfamilies. The majority of these single-parent households were headed by mothers because in most cases mothers took custody of the child/children after divorce.

Effects of National Context

Changes that American society experienced are not necessarily unique to the United States. The increase in female labor force participation, for example, is a common phenomenon in many industrialized societies after the 1950's. The increase in divorce rate and never-married mothers is also seen around the world. However, how these social changes started and continued is different depending on the national context, and as a result of these differences, it affects the attitudes and behaviors of individuals differently among countries.

For example, Panayotova and Brayfield's study (1997) examined differences in the attitude toward maternal employment between Hungary and the United States. They paid attention to the fact that previous cross-national studies regarding the differences in gender role attitudes basically compared similar countries (i.e., Western nations) and lacking clear comparisons such as between socialist and capitalist societies. According to the authors, Hungary and the United States both indicate relatively high female labor force participation rates, although the national context and the history to reach the current level are very different between the two countries. The female employment rate in Hungary, for example was "forced" by a communist government trying to accomplish women's emancipation, while gender relations at individual-level and gender role attitudes among individuals remained traditional. Therefore, combined with the opposition against the oppressing control by the government, Hungarians in general are less

likely to support mother's employment than Americans. On the other hand, the U.S. women's labor force participation was not led by their government, and it was rather caused by the demand from labor market and the needs from individual families for extra income. The authors contended that these national differences conditioned the effects of individual factors on the attitude toward mother's employment. They found that the positive effect of employment on supportive attitude toward mother's employment was stronger for American women. The employment experience was expected to encourage women to adopt egalitarian ideas, but it was not relevant to Hungarian women's attitudes. It is because their employment was required by labor registration, and many families needed two sources of income due to low wages for both men and women.

Another example of national context can be found in a comparative study examining the relationship between a husband's participation in housework and wife's psychological distress in Japan and the United States (Inaba 1994). Studies in the United States documented that a husband's participation in housework improved his wife's psychological distress, because the equal share of family responsibility can be interpreted as the husband's expression of love and understanding in Western context while it lightens the wife's physical burden (Kessler and McCrae 1982; Thompson 1991). Meanwhile, a study in Japan, where gender relations are still traditional and the gendered division of labor is normative, found that the husband's participation in household tasks did not improve the wife's psychological well-being (Inaba 1994). Instead, the support from the wife's parents and relatives can mitigate her double burden and improve her psychological well-being in Japan (Inaba 1994). The author speculated that under traditional gender climate at societal level, Japanese working mothers tend to feel guilty for not being able to fulfill the "female" roles when their husbands take part of family responsibilities. The findings in this study illustrate that the individual-level predictors (e.g., full time employment or

husband's hours for housework), which are expected to make women more egalitarian or reduce their distress in a Western context, may affect them differently in non-Western countries. Regardless of financial independence they attained through their employment, working mothers in Japan still see nurturing and caring roles as their own, instead of expecting more equal share of housework and child care with their husbands.

The examples above provide clear cases that the national context conditions the effects of individual-level factors. The differences in gender role attitudes between Hungary and the United States seem to come from the contrasts in their economic and political systems as socialist and capitalist countries. According to Panayotova and Brayfield (1997), the level of female labor force participation achieved is similar between the two countries, but due to the differences in how it was accomplished under each national context, its influences on people are much different from each other, leading to different attitudes. Meanwhile, Japan and the United States are somewhat similar in economic and political systems as highly capitalist countries, but these two do not hold similar levels of gender equality either in social structure or in individual relationships. Furthermore, these two countries do not even share the ideas on what is an ideal marital relationship. Japan or Asian culture in general has been considered as conservative and traditional especially in gender relations, and marriage is oriented toward family welfare. Meanwhile, the United States achieved more egalitarian atmosphere at both work and family, and a romantic relationship between the spouses is the most important in marriage, according to various studies documented (e.g., Bianchi et al. 2000; Rogers and Amato 2000; Thompson 1991; Treas and Widmer. 2000).

Comparing one nation to another, we observe many differences and similarities in their social structure. Some of these social structural differences cause the diversities among societies in how the individuals perceive reality and life experience, how they form the attitude, and how

they respond to life events. By taking a comparative perspective, we can shed light on the influence of these structural differences and/or similarities among societies on psychological outcomes of individuals, and it may help us to understand why the same life experience may cause different outcomes among people in different countries.

Instead of making a comparison between two or three countries, the current study takes a further step and conducts a systematic analysis of a large number of countries. My goal is to place the previous studies from the United States in a broader context and examine if the findings are applicable to the individuals in different countries. The study also attempts to capture general patterns in the relationship between psychological well-being of individuals and the country-level gender equality and ideology.

Dissertation Outline

I have organized the remaining chapters of the dissertation as follows. Chapter Two reviews definitions and theoretical frameworks in the research of psychological well-being focusing on gender differences in social roles and its impact on mental health. For this literature review, most comes from research in the United States. Furthermore, I review previous studies which dealt with cross-national comparisons and examined the influence of the macro-level factors on individual outcomes. I incorporate the comparative perspective taken from these studies into the research on psychological well-being.

Built upon the conceptual framework in Chapter Two, Chapter Three explains the data set used in this study, measures constructed, and the methods employed. The results of the analyses are presented in Chapters Four and Five. The analyses are conducted for separate samples, and the results of the whole sample are presented in Chapter Four, while the results of the married and employed sample are presented in Chapter Five. In these two finding chapters, in order to fully understand the countries which this study examines, country characteristics and

comparisons among countries are described in the first part, followed by reports of the results from the multi-level analyses. The final chapter, Chapter Six, summarizes the research findings and contributions to the literature. I also address the limitation of the study and conclude with the implications.

CHAPTER 2: THEORETICAL PERSPECTIVES: FACTORS AFFECTING PSYCHOLOGICAL WELL-BEING

Scholars in various fields of research have paid enormous attention to well-being. Despite intense scientific discussions, there is no consensus about the meaning of the term and how it should be measured. Rather, it has been defined in many different ways, and various measures have been proposed based on these definitions (e.g., Ryan and Deci 2001). This may be because each field has its own purposes and/or goals in studying well-being, and researchers may also have different ideas about what contribute to well-being. As a result, while voluminous literature and findings exist, there is no single theoretical common ground on the term's definition and measurement. Despite this, the well-being remains an important subject to scholars in various fields.

In the clinical psychology field, the amelioration of mental illness and depression has been the primary interest to approach well-being (Ryan and Deci 2001). In sociology, scholars have paid more attention to well-being as a psychological outcome generated by social changes (e.g., Land et al. 2001) or as involvement in personal relationships (e.g., Amato 1994). Based on these diverse purposes, various indicators have been created and developed.

The term has been widely used both in academic research and in daily conversation. While it is often used to mean a happy and healthy life in general, well-being has not been clearly defined even in academic research. The researchers in various areas have used the term based on what they believe should be measured or what they can measure. Some scholars narrowly use the term as psychologically being well or having a good mental life, while others use the term to mean all aspects of life and put 'psychological' or 'emotional,' simply to distinguish it from other kinds of well-being such as material well-being. The former usage is based on the belief that being well is solely of a mental rather than material nature, while the latter conceptualization includes material aspects of our life as a foundation of being well. Most psychologists and many

sociologists have used the term in the former manner (e.g., Ryan and Deci 2001; Schuessler and Fisher 1985), and economists have tended to conceptualize the "well-being' in the latter fashion (e.g., Gasper 2007).

In general, although sociologists and psychologists have used the term in similar fashions, their foci vary. For example, sociologists have been more interested in investigating the relationship between well-being and sociological determinants and refining its measurement (e.g., Cummins 1996), while psychologists have focused more on discussing how to define the concept and what determinants improve well-being (e.g., Diener and Lucas 1999; Ryff and Singer 1998).

In this chapter, I first review the definitions and dimensions of well-being in both psychology and sociology and then highlight the unique contribution of the sociological perspective to the debate. Next, I shift the focus more toward how the relationship between well-being and gender- and family-related factors has been studied in sociological literature, mainly in the United States. My focus here is on the impact of traditional gender relations and its change on well-being. I review studies discussing the gender relations in marriage, employment, and parenthood and their impact on psychological consequences. Then, I explore the approaches to measure societal gender stratification and discuss the role of the national context on individual well-being. Based on these discussions, I close the chapter with my model and research hypotheses.

Definitions and Dimensions of Well-Being

This section begins with the definitions and dimensions of well-being in psychology. While many sociologists have been interested in well-being, psychology has a longer history of studies in well-being. I first review the literature in psychology and move onto sociological approaches to well-being.

Well-Being in Psychology

Well-being has received considerable attention in psychology, and the term 'well-being' has been broadly defined. Psychologists have defined 'being well' as the absence of ill-being or negative psychological functioning (Ryan and Deci 2001). Based on this definition, psychological well-being has been measured by whether people have or show any symptoms indicating mental illness or depression. This research orientation has fitted well with the needs of clinical fields, whose focus is on the amelioration of mental illness or psychopathology. Due to a relatively long history of studies in these fields, there is an accumulation of findings using these indicators, and measurement and operationalization of these indicators have been well established.

Recently, however, the definition of well-being has shifted to what is called 'positive psychology" (Seligman and Csikzentmihalyi 2000), which defines "being well" as positive psychological functioning, because the positive affect is not necessarily opposite of the negative affect (Cacioppo and Berntson 1999). The more crucial difference between these two perspectives is that the positive psychology aims to contribute to research on personal growth and development, while the purpose of the former perspective is to contribute to research on mental illness. Within positive psychology, there are two major perspectives; one referring to hedonism (Kahneman et al. 1999) and the other eudaimonism (Waterman 1993) to define the meaning of well-being.

Definition of Well-Being from the Hedonic View

Hedonic well-being is based on an ancient Greek philosopher, Aristippus' thought, which taught that the goal of life is to maximize pleasure or happiness. His philosophical hedonism has been referred to by many scholars in various fields, and the meaning of pleasure and happiness has been expressed in many forms from physical to mental pleasure (Ryan and Deci 2001).

In psychology, the hedonic well-being is defined as human happiness and pleasures of the mind, and its focus is to find what are good or bad elements of life in order to maximize happiness (Kahneman et al. 1999). Diener (1984) further developed the idea of happiness and proposed the concept of subjective well-being (SWB). He argued the importance of people's cognition of having a good life and their subjective evaluation of their life experiences, rather than the professional's definition of a good life.

In order to measure human happiness, Bradburn (1969) stressed the importance of using both positive and negative affects. He argued that people could have positive and negative affects at the same time and that positive and negative affects are not opposites of each other. As a result, he conceptualized well-being as a balance between positive and negative affects, although the meaning of this balance has not been clearly defined. Another indicator of well-being is life satisfaction. The label of life satisfaction leads scholars to ask the respondents to evaluate their lives (Diener 1984). Diener and his colleagues concluded that subjective well-being (SWB) refers to people's evaluation of their lives, and the evaluations include both affective and cognitive aspects (Diener et al. 1999; Diener 2000). Thus, SWB consists of three components: life satisfaction, the presence of positive affect, and the absence of negative affect (Diener 1984, 2000; Diener et al. 1999). In other words, when people are satisfied with their lives, have more positive affect, and less negative affect, their well-being is high. The life satisfaction has been measured for the life as a whole and for various domains (e.g., family, job, and so on).

Criticism from the Eudaimonic View

Although the hedonic view has been supported by many scholars, it has also been criticized. One of the criticisms was motivated from an ethical view of human being, arguing that the hedonic definition of well-being is not appropriate because subjective pleasure does not

necessarily contribute to human growth and potential. Aristotle criticized hedonic pleasure as potentially harming human nature and argued to distinguish subjectively felt needs from objectively valid needs (Ryan and Deci 2001). In other words, hedonic happiness is temporary and may lead people to seek vulgar desires. Aristotle then argued that the true happiness has to contribute to human growth and is found when people do what is worth doing. True happiness produced by right actions is called eudaimonia. It is strongly influenced by concepts of the ethics and teaches what is a right action as a human being. Therefore, the eudaimonic view states that not all desire and pleasure which a person values lead to true happiness or optimal well-being. Rather, someone's well-being increases when s/he does what is worth doing from an ethical point of view, not when s/he fulfills his/her own subjective needs. In psychology, the eudaimonic view defines well-being as the psychological functioning that promotes human wellness, rather than subjective evaluation of life experience. Thus, while the hedonic view argues that subjective happiness promotes human wellness, the eudaimonic view argues that human wellness is linked to personal growth and development (Waterman 1993).

A second criticism of the hedonic view is that the components of subjective well-being are neither theoretically nor logically formulated (Ryff and Keyes 1995). The studies using these components have been described as being data-driven (Headey et al. 1993), and mainly used for practical reasons: to apply the research findings (Sauer and Warland 1982). Therefore, the critics of the hedonic view proposed to frame positive functioning with more theoretical foundations.

In response to these criticisms, Ryff (1989) conceptualized psychological well-being (PWB) as distinct from subjective well-being (SWB) and argued that there are six dimensions of psychological well-being: autonomy, personal growth, self-acceptance, life purpose, mastery, and positive relatedness. She constructed these dimensions by referring to the accounts of wellness in various subfields of psychology, such as mental health, clinical psychology, and life

span developmental theories. Ryff and Singer (1998) showed that the indicators for these six dimensions positively influenced mental and physical health, which subjective well-being did not necessarily contribute to.

While hedonism and eudaimonism are distinctively different, they may be complementary. For example, eudaimonic well-being could increase subjective happiness. People with a large amount of autonomy may be happier than those without it. Those who accepted themselves and live with a clear purpose of life may be happy. However, the fundamental difference between the two perspectives is whether people's subjective evaluation (SWB) or what an external, ethical criterion determines is good for our growth and potential (PWB). The former perspective concerns what makes people feel happy with their own lives or when people perceive themselves happy, while the latter tries to define human wellness more objectively, supported by the findings that the components of psychological well-being may contribute to better physical health.

Well-Being in Sociology

I now turn to the definitions of well-being in sociology and overview sociological approaches to well-being. In sociology, the term well-being has been used more ambiguously than in psychology. The term is not even clearly defined. Unlike psychology, well-being in sociology does not always mean "psychological or subjective well-being." Many studies have referred to concepts such as "psychological," "emotional," or "perceived" well-being and have used the term to mean some emotional states or outcomes, either positive or negative. Some studies have used psychological well-being interchangeably with satisfaction or morale (e.g., Knoester 2003; Lee and Ishii-Kunz 1988), while other studies have used psychological distress or depression to measure (in a reverse fashion) the level of psychological well-being as a single indicator (e.g., Umberson 1992). Meanwhile, in contrast to the previous studies that have used a

single indicator, newer studies have used multiple indicators to measure well-being. For example, self-esteem is sometimes used as one indicator of well-being, along with depression and satisfaction as other indicators (e.g., Amato 1994; Proulx et al. 2007; Roberts and Bengtson 1993).

As in psychology, the current trend in sociology is to measure well-being as a multidimensional concept, although no distinction is made between subjective and psychological well-being. While "psychological well-being" has a more specific meaning in psychology, what sociologists may call "psychological well-being" covers a broader ground. Even when what is measured is subjective well-being, they may call it "psychological well-being." There has not been much concern or fundamental discussion among sociologists about the meaning of well-being either (whether positive or negative). There is more interest among sociologists in the determinants of well-being than the definition of its meaning. Overall, sociology has borrowed the meaning and measurement of well-being from psychology without much scrutiny. Sociological determinants of well-being have been paid much more attention in sociology, while the structure of well-being itself and its psychological determinants have received less attention.

Research on Well-Being in Sociology

In earlier periods, there were two tides of studies related to well-being among sociologists: quality of life research and examining the impact of close relationships on individual's mental health. Quality of life research was popular in the 1960's and 70's. Researchers was especially interested in the role(s) of social change, if any, in influencing people's qualities of lives over time and whether people were living better lives compared to those in earlier generations. Although the society and many citizens have become financially better off, there are other social problems such as high crime rates, growing economic inequalities, pollution, and health hazards.

Therefore, quality of life researchers have focused on developing social indicators to measure the term and the elements that compose it.

As with well-being, researchers in this area have defined and measured quality of life in many different ways. In the early days, well-being was a key word in quality of life research, and the term was almost always used interchangeably with quality of life. In the studies by Campbell et al. (1976) and Andrews and Withey (1976), quality of life was equivalent to subjective evaluation of life. While the preceding research measured quality of life only by a global measure, using such as that questions as "Are you satisfied with your life as a whole?" these studies tried to determine the life domains that affect people's level of satisfaction and to ask respondents to evaluate their level of satisfaction in these life domains. According to Campbell et al. (1976), quality of life or subjective well-being is a higher level of human needs that Maslow (1970) contended, and people seek to gratify their psychological needs after they have fulfilled needs at lower levels in Maslow's hierarchy (many of which seemed accomplished by most citizens in the United States at that time). In these studies, well-being or quality of life means people's psychological needs, and more effort was devoted to define the life domains or to develop measures of subjective well-being.

More recently, sociologists have started to pay more attention to the effects of social changes over time and attempted to capture human life more comprehensively. In addition to subjective well-being, researchers added more indicators including what is called the "objective" sides of life or environmental conditions such as the material, health, and safety aspects as fostering or facilitating the quality of life (Schuessler and Fisher 1985). Well-being was interpreted more flexibly, and researchers were more interested in developing social indicators rather than conceptualizing its meaning (e.g., Land et al. 2001; Meadows et al. 2005). Psychological well-being, within this approach, is often included as one of the dimensions of

quality of life, representing emotional aspects of one's life (Cummins 1996), but the measurement tended to use more objective aspects (for example, instead of using people's subjective evaluations, religious attendance or leisure was often used as an indicator of emotional well-being [e.g., Cummins 1996; Land et al. 2001; Meadows et al. 2005]). So, if a respondent attends religious services more often than others, this person is regarded as emotionally more fulfilled. These variables could be relatively easily drawn from secondary data, and using these variables as indicators of emotional well-being allows researchers to use aggregated secondary data and to do time series analyses.

In sum, the meaning of quality of life has changed over time as has the meaning of well-being, and measurement has been different from one study to another. The recent trend is that the people's subjective evaluation of life and/or mental aspects of their life has been receiving more attention than the objective measures, although the subjective measures also have been criticized for their questionable validity (Schuessler and Fisher 1985).

Within this larger framework, psychological outcomes of close interpersonal relationships have also been examined. Close relationships studied include those between husband and wife (Bolger et al. 1990; Rogers and Amato 2000; VanLaningham et al. 2001), parent and adult children (Amato 1994; Roberts and Bengtson 1993; Umberson 1992), elderly person and the family members (Dean et al. 1990; Lee and Ishii-Kuntz 1988), and caregiver and care recipient (Hong et al. 2001; Wright and Aquilino 1998). These relationships have been considered to be crucial for psychological consequences of the people involved in the relationship because they spend a lot of time together and are involved in close interactions in these relationships.

The psychological consequences of close interpersonal relationships have been measured by the levels of distress or depression (e.g., Umberson 1992) as well as happiness or satisfaction (e.g., Knoester 2003), depending on the purpose of the study or the availability of data. For

example, the quality of marital relationships was studied extensively in 1980's after the divorce rate accelerated and became a major concern of our society (Cherlin 1992; Cherlin and Furstenberg Jr. 1994). As a part of this research, various aspects of the relationship between husband and wife, such as the division of labor between them (Ross et al. 1983; Suitor 1991) and demographic characteristics of the couple (Rogers and Amato 2000; VanLaningham et al. 2001), have been found to be critical determinants for satisfying marriages for women, Meanwhile, from the feminist perspective, researchers have contended that the inequality between husband and wife in family responsibilities could negatively impact the wife's psychological well-being, leading them to measure the level of well-being with psychological distress (Bolger et al. 1989; Bolger et al. 1990; Eckenrode and Gore 1990). Although many studies used distress to measure the well-being without careful examination, this line of research was concerned with the association between family responsibilities and distress and emphasized the negative, emotional outcomes of marital relationships, focusing especially on women's well-being. Distress or depression has been used as a major indicator of well-being because its measurement is well-established (e.g., the Center for Epidemiological Studies Depression [CES-D] Scale explained in Radloff 1977).

In sum, sociology and psychology have shared the interest in psychological aspects of life and their determinants. One of the differences between them is that in psychology the objectivity of measures is deemed more important than people's subjective evaluations. On the other hand, in sociology, studying people's perception of their own psychological states is deemed important as well, because it may reflect people's attitude and the social context within which they have been embedded. This may be a reason why subjective measures of well-being have been used more often in sociology than in psychology.

Another difference between the two disciplines is the type of predictors in which researchers in each discipline are interested. Researchers in sociology are more interested in sociological determinants, such as close relationships or interactions with others at the micro level, or social change at the macro level, while psychologists are more interested in personality characteristics or individual attributes.

Well-being, in either discipline, is a concept that has not been carefully defined leading to its ambiguous use. The concept has been measured with various indicators, both negative and positive, and multiple dimensions have been utilized for the measurement. The following section focuses on sociological approaches to the indicators of well-being and discusses how previous studies have conceptualized and measured these indicators.

Mechanisms of Happiness, Satisfaction, and Psychological Distress

Sociological studies of well-being that use satisfaction or distress as an indicator have focused on the mechanisms of these perceptions and how these perceptions may change under various circumstances. One way to view this situation is to see satisfaction as a result of the congruence between expectation and performance (Hicks and Platt 1970; Rhyne 1981; Thibaut and Kelley 1959). In case of marital satisfaction, for example, one will be satisfied with his/her marriage when the actual marriage matches what he/she expects it to be. In other words, if someone has too high an expectation toward marriage, he/she will be frustrated with the actual marriage to a greater extent than those who have lower expectations. On the other hand, if one does not expect so much in marriage, s/he can be satisfied even when the marriage does not seem very satisfying from other people's eyes.

Therefore, the key indicator for satisfaction is what one expects toward the subject matter (marriage, job, etc.). The expectations people hold should reflect not only their own sense of value or thought but also what is valued in the larger society or culture to which they belong.

Individual expectations are affected by the ideology the society or community holds as a group, the background in which they grew up, the education they attained, and anything else that leads them to believe 'what things should be.' For example, a woman in a male-dominated society may not feel that it is unfair when she has to shoulder more work and family responsibilities and may not even expect to share the responsibilities with her husband. Meanwhile, a wife in a relatively egalitarian society should expect equally-shared family responsibility with her husband, and she will be dissatisfied with him when he does not share the burden.

On the other hand, depression or distress is usually measured by a scale, asking if the respondents have certain somatic or mental symptoms associated with depression or distress (e.g., Amato 1994; Roberts and Bengtson 1993; Umberson 1992). Some of these scales have been used in previous studies and considered to have sufficient validity. While psychological distress is defined as an 'unpleasant subjective state' (Mirowsky and Ross 1989), some scholars measure the concept with clinically diagnosed depression (Whisman and Bruce 1999). Psychological distress has been examined from the viewpoint of role theory. In the area of work and family research, psychological distress is considered to occur when one cannot fulfill his/her roles with which he/she identifies (Bolger et al. 1989, 1999). For example, a working mother has multiple roles of mother, wife, and worker. When she recognizes that she cannot fulfill family responsibilities due to her work responsibilities (i.e., role overload and role conflict), she feels stressed. Most studies in sociology, however, have paid attention to psychological distress simply as an emotional outcome affected by the quality of one's close relationships (e.g., Amato 1994).

Although both satisfaction and psychological distress have been used to measure psychological well-being in sociology, each of them seems to measure different aspects of well-being. First, satisfaction and happiness are intended to measure a positive dimension of well-

being, while the depression and/or distress measure a negative dimension. Secondly, unlike clinically diagnosed depression, satisfaction and happiness are based on people's subjective evaluation, by directly asking if and how much the individual is satisfied or happy. Therefore, satisfaction and happiness indicate a more direct sense of gratification, which may detect subtle changes or aspects of well-being. Meanwhile, the level of depression or distress is determined by diagnostic questions about various symptoms. It may measure more objective outcomes but capture them only when the respondents answer that they have those symptoms. People express and hide their depressive feelings in different ways, and the difference is distinctive especially between men and women (Gilligan 1982; Williams 1985). In other words, typical diagnostic questions may determine if the one is depressed but not sufficient enough to detect all depressive feelings people may have. I now turn to detailed discussions of factors affecting psychological well-being, especially gender- and family-related factors.

Well-Being and Traditional Gender Relations among Individuals

Social-Role Explanations - Women's Role and Psychological Well-Being

As previously mentioned, there has been a great deal of interest among researchers in well-being, and they have paid special attention to gender differences of mental health and traditional gender roles as the reasons for the gendered pattern in well-being. In previous studies concerned with depression, researchers have claimed that women are more likely to have higher rate of depressive symptoms than men and this prevalence is due to traditional gender role expectations. According to social role explanations, "males and females have different predispositions to depression because of the way they are socialized, the different sex-role expectations to which they are supposed to conform, and/or the power/status differences between males and females" (Rosenfield 1980: 34).

As a result of socialization processes organized by gender, males and females come to acquire different styles of expressing frustration or negative states of mind. For example, it is acceptable for males to externalize anger or become aggressive, while females are supposed to control aggressive feelings so that they are more likely to internalize negative feelings, leading them to have depressions (Block 1973; Gilligan 1982). Another difference between males and females is the way to form relationships with others. Since girls are provided with fewer opportunities for individuation than boys while they are socialized, they tend to depend on others for developing positive self identity and have less sense of separation from others (Gilligan 1982; Henry 1972). Furthermore, due to the socially-expected caring and nurturing role, women's well-being in general may be lower than men's, because nurturing and caring could cost them their lives and emotional energy (Gilligan 1982; Kessler et al. 1985).

All arguments claimed by social role explanation suggest that gender differences in psychological well-being arise from the different socialization and expectation by gender which form the way males and females express, respond, and react to their life experience. Meanwhile, it is also expected that this gendered pattern in behavior may change if the socialization process and social expectations between males and females change.

Marriage, Parenthood, and Women's Role

Previous studies have documented that being married in general has positive impacts on the health of people in general and also enhances their mental health (e.g., Horwitz et al. 1996; Mirowsky and Ross 1989; Rogers 1995; Ross et al. 1990; Waite 1995). Ross et al. (1990) documented in their review of literature regarding the relationship between marriage and health that marriage provides individuals with both economic stability and social support. The mental health problems are associated with financial insecurity (Kessler 1982; Kessler and Cleary 1980; Ross and Huber 1985), and social support buffers or helps to solve the problem that causes

people to have lower psychological well-being. Marriages often provide both benefits, resulting in positive effects on psychological well-being. The negative impact of being non-married, especially divorced and widowed has been found in many studies on mental health (e.g., Umberson 1987; Williams et al. 1992). The findings regarding the effect of being never-married, on the other hand, have been inconsistent. There is little empirical support about mental health advantage of marriage compared with never married (Horwitz and White 1991; Williams et al. 1992).

Although marriage has a positive impact on health, some studies documented that marriage protects men better than women (e.g., Bernard 1972; Gove and Tudor 1973). In a traditional marriage, the gender-based division of labor posits that a wife takes care of home and children and supports her husband who is supposed to be the sole breadwinner of their household. However, the traditional female gender role is considered as more stressful for several reasons. First of all, "female" tasks at home may drain women physically and emotionally compared to "male" tasks because of their different natures. "Female" tasks of housework generally are usually more repetitive, time-consuming tasks such as cooking, laundry, or cleaning, while "male" tasks are more contingent and time-flexible such as yard work or maintaining garage (Noonan 2001; Coltrane 2000; Coltrane and Adams 2001). Mothers' role is usually related to "nurturing" children, such as changing diapers, feeding children, handling school meetings and so on, while fathers' role is likely to be a "play mate" of their children (Coltrane and Adams 2001). Secondly, the housework and childcare are unpaid, invisible, and low prestige (Gove and Tudor 1973), and tend to be considered as "a woman's duty" rather than a job. It is thus hard to obtain some sense of accomplishment from housework, although it could be emotionally rewarding. Furthermore, expectations toward women as playing caring and nurturing roles go beyond their immediate family, and women are expected to play the same role within the

extended family. Although they may also get social support and help from this network for themselves, marriage increases the chances that women perform female roles. Therefore, women, who are required to take this traditional female role, are more likely to have psychiatric disorders or mental health problems. Married women with children may have even more disadvantages and suffer from lower psychological states since these role assignments and configurations based on their gender are emphasized more after the marriage and the arrival of their children.

These women's disadvantages in mental health, however, are due to traditional gender relations, which bind women to female roles. These relations may change if women play another role as a worker – a traditionally male role. How do women's employments change the traditional gender relations?

Social Changes and Division of Labor among Individuals

Female Labor Force Participation and Traditional Women's Role

Employment provides women with more opportunities, not only to have financial independence, but also to change the traditional gender relations at home. For example, by contributing to household income, women may have more advantages in their marital relationships. In other words, they may gain more marital power to negotiate with the husband on how to divide family responsibilities. Bianchi et al. (2000) found that the gender relations between husband and wife have changed in the United States since the 1980s as the women's labor force participation increased. Previous studies also found that husbands share more equal family responsibilities with their wives when the wives have higher earnings (e.g., Bianchi et al. 2000; Coltrane 2000).

Thus, employment in general is considered to have a positive impact on women's psychological well-being (Kessler and McRae 1982; Rosenfield 1980), and it may contribute to

narrow the gender gaps in mental health. As a result, the average level of psychological well-being may have become similar between males and females especially when both husband and wife have full time jobs.

Additional Effects of the Increase in Women's Employment

The increase in women's employment may have other indirect effects on gender role attitudes, not only for employed women and their family but also for the general population. It may have changed general perception toward normative patterns of marriage and family formation as well. These attitudinal changes among individuals may be reasons for demographic trends the American society has experienced since the 1960's.

The increase in women's labor force participation could be seen as having an impact on the increase in postponing marriage and marital dissolution (Cherlin 1992; Goldscheider and Waite 1993; Waite and Nielsen 2001). Employment provides work experience and economic independence to women, and these may change typical life courses for them. Unlike times in the past when women usually quit their jobs when they married, working in the paid labor force became common for married women after the 1960's, even for those who had children. Therefore, young women in these days intend to work even after they marry and have children. Working in the paid labor force could also allow women to postpone their marriage when the marriage market is not so attractive. The change in attitude toward gender roles in the general population could encourage women to build their career rather than marry at an early age. The improvement of contraception enabled them to avoid unwanted pregnancy and stay in the paid labor force, focusing on career building.

Employment is also expected to have a similar impact on married women. Married women can maintain economic independence to some degree so long as they are employed. Therefore, they do not have to depend financially on their husbands and they do not have to remain married

when they are in an unhappy marriage. People's attitudes toward divorce have shifted to a more tolerant tone since the 1970's (Cherlin 2005), and these changes could allow couples in unhappy and low quality marriages to divorce more easily.

The attitudinal changes in social norms regarding marriages among the general population may have an impact on the relationship between marriage and health, which used to favor married people. In these days, marriage is no longer a necessity but a choice. The unmarried are not seen as deviant, so that the benefit of marriage may no longer be significant, and the difference in health between the married and unmarried may have disappeared. Horwitz et al. (1996) examined whether the change in the social role of marriage may affect the relationship between marriage and better mental health. The gender-related benefits of marriage may have also changed so that the possible advantage of marriage to men in earlier days may have declined or disappeared in recent cohorts (Horwitz et al. 1996). Changes in traditional gender role attitudes may also have decreased the social pressure on women doing domestic work, which may have helped to improve women's psychological well-being.

Work-Family Conflict – Multiple Roles and Personal Well-Being

Although employment may have contributed to changes in traditional gender relations and provide women with economic independence, it may have also brought more suffering to women's lives, especially when they are married or have younger children. Since women are still expected to be primary care providers at home, the positive effect of employment may be cancelled out for many, if not most, married women with children, due to the stress to juggle between work and family.

Unlike the time when the majority of women were expected to take responsibilities only for housework and childcare, employment adds the role of paid workers to many women. Responsibilities for work and home often conflict with each other, especially when women work

full time and have children to take care of. Balancing work and family is a major challenge for many working couples, and many mothers have to either do a "second shift" when they work full time (Hochschild 1989) or shorten work hours to juggle between work and family responsibilities (Budig and England 2001).

Taking on multiple roles can have either positive or negative effects on mothers. The role stress perspective assumes that the demands of multiple roles create overloads and conflicts among competing roles, and these increase the psychological distress among married women with children who work outside the home (Bolger et al. 1990). On the other hand, the role expansion perspective posits that multiple roles, in general, have positive effects on well-being because multiple roles provide alternative resources and the rewards to the role occupant; resources and rewards given could outweigh the stresses caused by role overloads and conflict (Bolger et al. 1990). Therefore, this perspective predicts that married women who are full time homemakers are more likely to have lower levels of psychological well-being than working mothers. The findings in previous studies have been inconsistent (e.g., Bolger et al. 1990).

A married woman's employment increases the role demands not only for herself, but also for her husband. As the social role explanation claims, traditional female gender roles (i.e., caring and nurturing) are more stressful, and thus those who take the "female" roles tend to be more stressed. When his wife is working, the husband is often forced to participate more in household labor or childcare, although his participation can still be described as "pitching-in" or "helping out," rather than equally splitting household labor (Bianchi et al. 2000). Therefore, mental health among husbands with employed wives may be worse than those with full-time housewives, although wives' employment may improve husbands' well-being by adding more income to the household (Ross et al. 1983). Previous studies showed more complicated associations between wife's employment and spouse's mental health. The negative effect of

wife's employment was found for men's mental health, and the association is stronger among those with traditional gender role orientations (Kessler and McRae 1982). On the other hand, higher levels of family stress were found among husbands whose wives were in the labor force than those whose wives were homemakers, while lower levels of job stress were found among husbands with employed wives (Bolger et al. 1990). These studies indicate that there are complicated associations between wives' employment and not only their own psychological well-being but also their spouses'. Working couples with children may be more likely to experience higher levels of stress as a result of juggling work and family responsibilities, while their better mental health is also expected because of more advantages in family finance than the traditional couples.

Parenthood and parental role, on the other hand, have been considered as sources of social identity and positive self image, in addition to being socially highly valued. Does the double burden of work-family conflict in fact cancel out these positive impacts of parenthood? This point will be examined in the next section.

Parenthood and Negative Psychological Consequences

It is the general perception that parenthood should have positive consequences on one's psychological well-being, but considering the double burden created by work-family responsibilities more couples have been experiencing, parenthood may also have negative impacts on psychological well-being, especially when children are young. The change in economic value of children during past years may have also added more to the negative consequence (e.g., McLanahan and Adams 1987). Studies have, in fact, suggested that parenthood has a negative impact or no positive impact on an adult's psychological well-being (Campbell et al. 1976; Gove and Geerken 1977; Glenn and Weaver 1979; Radloff 1975). Meanwhile, McLanahan and Adams (1989) showed that the negative consequence of parenthood

on mental health is a recent trend and attributed it to changes in the division of labor caused by increases in female labor force participation and single parenthood. Their findings show there is a cohort effect, where parents from the younger generation are more stressed than those from the older generation, although the negative effects of parenthood were found only for certain measures of psychological well-being (e.g., worry and efficacy).

Household Labor and Wife's Mental Health

According to previous studies, a wife's psychological well-being may be improved by the husband's participation in housework, especially when she is employed (Kessler and McRae 1982; Ross et al. 1983). It not only reduces the burden of housework from wives, but also may be interpreted as the husband's expression of understanding and loving toward his wife (Thompson 1991). Therefore, husband's participation in housework and childcare is important for wife's mental health, and it is also associated with marital satisfaction of the wife (Blair et al. 1992; Suitor 1991).

As more women have come to stay in the paid labor force even after they get married and become mothers, researchers expected that husbands' participation in household labor would increase. Between the 1960's and the 1980's, women's hours for housework drastically decreased and were almost cut in half. Husbands' housework hours almost doubled, but this only accounts for a small portion of the overall hours of domestic labor (Bianchi et al. 2000). Hence, the overall hours of domestic labor declined, because the increase in husbands' hours did not compensate the decrease of women's hours. Even though husbands' housework hours increased on the average, the division of housework is still far from equal, with wives still assuming a much larger share (Coltrane 1996).

It seems that the increase in women's labor force participation caused the decline in women's hours for housework. However, this decline in hours of domestic labor is also a

common observation for the household with full time housewives (Bianchi et al. 2000). The reason for the overall decline in domestic work hours may be attributed to the fact that many American households purchase domestic services or goods, rather than to the increase in women's employment (Artis and Pavalko 2003).

Meanwhile, studies have argued that the perception of fairness of the division of household labor is a better indicator of marital conflict or satisfaction than the extent of actual inequality in the division of labor (Blair et al. 1992; Suitor 1991). What matters to wives is not the quantity of the husbands' hours for housework, but whether they feel "fair" based on their idea of justice. Wives are more likely to compare their husbands' housework hours to other husbands' or "average" husbands,' rather than to their own. These wives' own gender ideology is also important to set their standard on the husbands' participation. In other words, when the husband seems to do more than other husbands and/or the wife has a traditional gender role attitude, she finds their division "fair" even when she does most housework. Thus, a wife may be satisfied with her husband who helps her for household chores to the extent which she feels "fair," even when the share is not completely equal (Greenstein 1996; Thompson 1991).

Do Gender Differences in Mental Health Still Exist?

After the changes in gender composition of labor force and many other demographic trends in the United States, gender relations at individual households and gender role attitudes in general population seem to be less traditional than before (e.g., Rogers and Amato 2000). The wives' employment encourages their husbands to share more equal family responsibility so that their psychological well-being suffering from juggling work and family may have improved on the average. According to the social role explanation, gender differences in mental health should decline or disappear when the differences between male and female roles become identical. Although the general pattern in household division of labor (i.e., breadwinning and housekeeping

responsibilities) among American couples has not become completely egalitarian (i.e., totally equal share of breadwinning and housekeeping responsibilities between husband and wife), it has already departed from the traditional division among many working couples, and it may be characterized as "transitional" (Hochschild 1989). Under this circumstance, are there still significant gender differences in mental health? Have these gender gaps narrowed, or are there other reasons to maintain female disadvantages?

Although both husbands and wives may experience work-family conflicts, the way they feel is somewhat different. Wives are more likely to experience stress about family problems or marital relationships and balancing work and family roles than husbands even when the husbands take some part of family responsibilities (Simon 1998). Meanwhile, husbands are more concerned with financial problems of the household (Pearlin 1975; Pearlin and Lieberman 1979). In other words, what they feel more stressed about is based on traditional gender roles, and women still view themselves as primary caregivers and struggle to fulfill this role expectation even when they work full time.

In addition, studies have found more detailed and complicated patterns of gender differences. It is not simply that females are more vulnerable to have mental health problems, when the researchers examine various mental disorders. For example, women tend to show lower mental states on depression or anxiety, while men are more likely to have personality disorders or alcohol abuse (Aneshensel et al. 1991). As previously reviewed, the social role explanation suggests that different socialization processes by gender create different patterns of expressing negative feelings between males and females, and recent studies have shown that these gender differences in socialization are also reflected in mental disorders men and women tend to experience.

Effects of National Context and Cross-National Comparison

The discussion thus far suggests, although female disadvantages in psychological well-being attributable to traditional gender roles are persistent, gender relations in the United States have become less traditional than before. As a result, these changes may have raised women's social positions leading to an improvement of their mental health. Gender, marriage, parenthood, and employment all currently have considerably different meanings to individuals from those of decades ago.

Most research findings related to well-being came from studies in the United States and other Western nations. The determinants found to be important in these countries, however, may not have the same impact on people in non-Western nations. Then, a key question of the present study is; Are the important determinants of psychological well-being and psychological outcomes different in one country from another?

There are few studies to take national contexts into account upon examining the impact of individual level factors, presumably due to difficulty in finding an appropriate data set to conduct this type of research. Recently, however, because of the improvement in statistical packages and availability of cross-national data sets, we have seen more studies to expand the research focus from single to multiple countries, in order to examine the impact of contextual factors by conducting systematic analyses. This section explores the previous research concerning the nations as contexts on individual outcomes and the perspectives these studies are built upon.

State Gender Ideology and Individual Gender Role Attitude

In addition to the United States, many Western nations have witnessed changes in attitudes toward women's roles. In those countries, women's labor force participation has dramatically increased compared to previous generations, and as in the United States, this applies to married women with children. As we have seen in past studies, the experience in the labor force may

make women's and their family members' attitudes towards gender roles more egalitarian. Female labor force participation in general, then, affects the perception in the entire population. On the other hand, wife's employment conflicts with the traditional female social role, and fulfilling these two contradicting roles becomes more challenging when they have children. Therefore, even after married women's employment became common, there is a strong opposition against mothers' employment, especially when their children are small (e.g., Alwin et al. 1992; Treas and Widmer 2000).

Meanwhile, even though the gender composition in the labor force has changed in many Western nations, the rate of this increase of married women in labor force and the way people interpret them may be different from one country to another. For example, in Britain, women do not necessarily support women's stronger labor force roles, due to the added strain caused by double burdens of work and family (Witherspoon 1988). In their comparison between the United State, Britain, and West Germany, Alwin and others (1992) found that there are some national differences in supports for working mothers and general attitude toward women's roles even among countries that have been experiencing similar changes in labor force. For instance, although a majority of people in all three countries support mother's employment when she has no children, many don't approve it when there are pre-school children. Among three countries, Americans are the most approving of women with pre-school children working outside home, while West Germans the least. There are some country differences in predictors as well, and being unmarried is positively associated with approving mother's employment among women in the United States and Britain but not in West Germany.

Treas and Widmer (2000), on the other hand, expanded this line of research and examined 23 nations, to see whether there are "families of nations" in terms of the attitude toward mother's employment. Unlike the previous studies which focused on case-by-case comparison or

compared countries relatively similar in cultural and historical backgrounds, they included former socialist countries and southern European countries, since their focus was to find differences, if any, between capitalist and former socialist nations. The authors argued that not only the increase in female labor force participation may lead to less traditional attitudes toward women's roles in family and work, but also historical experience, religion, national policies, and many other contextual factors may lead to national differences in gender role attitudes. Based on the national patterns of female labor force participation identified by Blossfeld and Hakim (1997), which partially parallels Esping-Andersen's (1990) typology,[1] [2] Treas and Widmer expected to find five national patterns (i.e., former socialist states, southern European states, Scandinavian social democracies, conservative welfare states, and liberal welfare states) based on the clusters of the public opinions toward mother's employment. Their results show, however, that 23 nations fall into only three clusters: "work-oriented" (Canada, East Germany, Israel, the Netherlands, Norway, Sweden, and the United States), "motherhood-centered" (Bulgaria, the Czech Republic, Hungary, Ireland, Poland, Slovenia, and Spain), and "family-accommodating" (Australia, Austria, West Germany, Great Britain, Italy, Japan, New Zealand, Northern Ireland, and Russia). Interestingly, they also found that many former socialist countries, which hold higher rates of female labor force participation and state ideologies stressing gender equality, fall into the "motherhood-centered" cluster.

[1] In his study (1990), Esping-Andersen classified post-war capitalist countries into three types of welfare states, called liberal, conservative, and social democratic, based on the degree of decommodification of the wage earner and how welfare is delivered. He discussed in his later work (1999) about the possibility of the fourth type of welfare states, which are southern European states. He concluded, however, the southern European states were similar to the conservative welfare states in terms of state policies assuming that family is a primary care provider ("familialism"), and therefore the typology based on three categories was deemed sufficient.

[2] The female labor force participation is highly associated with the state policies such as universal child care. The universalism or selectivism of state policies is one of the key components of Esping-Andersen's typology so that the national patterns proposed by Blossfeld and Hakim (1997) overlap his typology

Macro-Level Gender Stratification and Its Impact on Individuals

The degree of male dominance and gender-segregated culture varies both at the individual-level (e.g., household) and macro-level (society). Blumberg (1984) argues that "discount factors" of the macro-level male dominance have an effect of reducing women's power at the micro-level. In other words, individual women can not receive full "face value" at the micro-level (e.g., in family) obtained from their own economic power due to the macro-level male dominance. The degree of this "discount" depends on the degree of male dominance in a given society (1984: 49). Furthermore, she argues that the macro-level factors influence the micro-level phenomena more than the other way around, which she calls "nesting effect."

Based on Blumberg's theory, Fuwa (2004) found that the effects of these individual determinants on the division of household labor differ among countries. Specifically, she showed that women in more traditional countries benefit less from their individual assets to negotiate with their husband. In most societies, wives take primary responsibility of household chores, although there is difference among countries in the degree of how much responsibility wives shoulder. Previous studies found that three individual level factors (time availability, relative resources, and gender ideology) of husband and wife affect how they divide housework (e.g., Bianchi et al. 2000; Coltrane 2000; Shelton and John 1996). However, Fuwa's results showed that there was a relationship between the degree of gender inequality in a given country and the effect of wives' earnings or work hours on married couple's division of housework. Although wife's greater earnings or longer work hours increased equality in the division of housework, the effect was stronger for women from more egalitarian countries than those from more traditional ones. In other words, women in countries with more traditional structure in the labor force or traditional gender ideology among general population still can not utilize their individual assets to the same extent as those in more egalitarian countries. Unlike other studies

concerning nations as contexts but not systematically taking it into the analysis, her study captured the dynamics between macro-level gender stratification and the individual factors to determine how married couples divide household labor, as described in Blumberg's theory of the stronger influence of macro-level factors on the micro-level phenomena.

Research Hypotheses

The literature reviewed indicates that gender differences in psychological well-being are due to social roles assigned to males and females. The traditional social roles are reemphasized within marriage so that marriage and parenthood may be added a burden to women. The literature also suggests that female disadvantages in psychological well-being derive from not only the traditional female role but also different socialization processes by gender. In other words, gender differences may decline when social roles and socialization between males and females become less traditional. After women's labor force participation became normative, men were expected to take a "traditional female role" more than previous generations. Gender relations have been at what is called the transitional stage. Therefore, I expect that gender gap between males and females' well-being may have narrowed in the United States.

The discussion above also shows that the national contexts condition individual-level factors to affect the individual outcomes, and the cross-level interaction between the national contexts and individual-level factors had an impact on individual outcomes. The present study investigates whether the individual-level effects on the psychological outcomes are conditional and thus depend on the contextual factors. Specifically, I expect that the effects of individual factors on psychological well-being differ among countries. This conceptual model is presented in Figure 1. In the nations where gender relations are less traditional, I expect that gender-related factors do not have as large an impact on psychological well-being. For example, being female does not cause lower psychological well-being in less traditional nations, while it may have

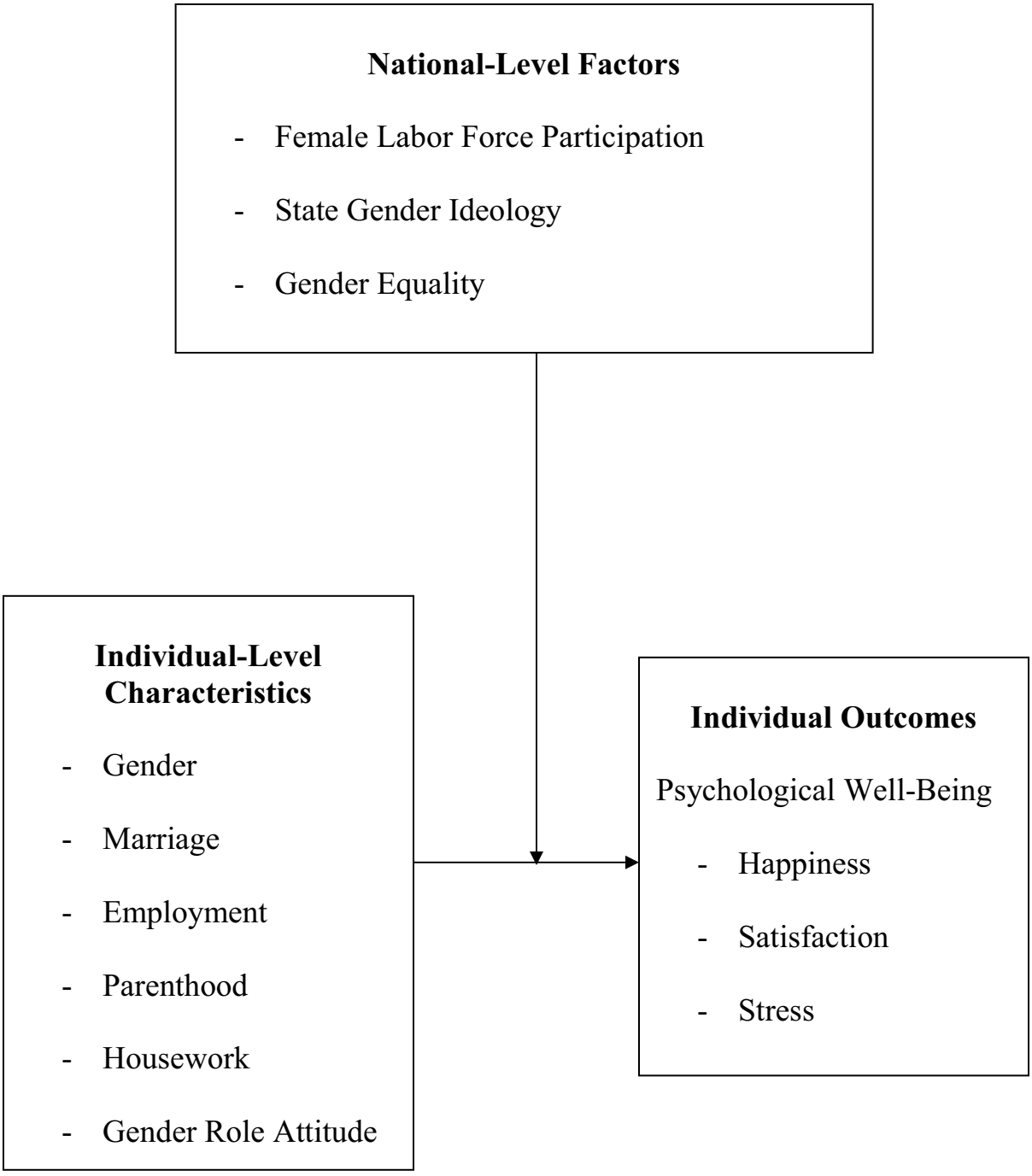

Figure 1: Conceptual Model for the Factors Affecting Psychological Well-Being

negative impact on psychological well-being in more traditional nations. As previously discussed, women's labor force participation is an indicator of the level of societal gender equality, and its increase has a strong impact on gender relations at both macro- and micro-levels. Thus the female labor force participation rate is included as one of the national contexts. Furthermore, since the effect of marriage, employment, parenthood, and division of housework on psychological well-being seems to be contingent on whether or not the gender relations at the macro-level are traditional or egalitarian, I also examine the interaction effect between these gender-related factors and other measures of macro-level gender equality and gender ideology. Based on the discussions above, seven hypotheses have been generated:

Hypothesis 1: Women in each country present lower psychological well-being than men.

Hypothesis 2: Being female has a more negative impact on psychological well-being in more traditional countries, but a less negative impact in more egalitarian countries.

Hypotheses 1 and 2 are based on the literature of female vulnerability in mental health. Although the social role explanation suggests that gender gap in mental health disappears when social roles and socialization become gender-neutral, most countries, even the most egalitarian countries, have not reached to that point. Therefore, I expect that women in each country present lower psychological well-being than men. I also expect that the negative effect of being female is conditional depending on the extent of gender equality and egalitarian gender norms at the societal level. Being female is expected to exert a more negative impact in more traditional countries because the division of labor and gender roles are more rigid in those countries.

The following four hypotheses derived from each individual's gender relations at the micro-level.

Hypothesis 3: Marriage has a more positive impact on people's psychological well-being in non-egalitarian countries than egalitarian countries, especially for men.

Hypothesis 4: Employment causes lower well-being for women in less egalitarian countries but has a positive impact for women in egalitarian countries.

Hypothesis 5: Being a parent has a negative impact on the psychological well-being of women, especially in egalitarian countries.

Hypothesis 6: Husband's participation in housework does not affect the psychological well-being on women in non-egalitarian countries, while women in egalitarian countries will have lower well-being when the husband does not share the equal responsibility.

Hypotheses 3, 4, 5, and 6 arise from the literature on traditional gender roles and gender relations, and I expect that their effects differ depending on the degree of country-level gender equality and gender norms. I suggest that traditional female roles have more negative impacts on women in more egalitarian countries, because women in those countries are expected to be more egalitarian and perceive the traditional gender roles, such as housework and parenthood, as sources of stress more than their counterparts in more traditional countries. Therefore, I hypothesize that parenthood has a negative impact on women's psychological well-being, especially in more egalitarian countries. I also expect that husband's small share of housework will have a negative impact on women's psychological well-being in more egalitarian countries but does not affect that of women in more traditional countries. A role of paid worker, on the other hand, is traditionally not a female role, but women's employment has become more common in more egalitarian countries. Therefore, I hypothesize that employment has a positive impact on women in more egalitarian countries but decreases psychological well-being among women in more traditional countries. Lastly, I expect that men gain more benefit from marriage especially in more traditional countries, because the traditional gender relations are reemphasized within marriage and the traditional female roles are more stressful, particularly among those in egalitarian countries.

In addition to the hypotheses above, I also examine the effects of gender role attitudes on the individual psychological well-being.

Hypothesis 7: Women with egalitarian gender role attitudes present lower psychological well-being, especially those in non-egalitarian countries.

Although the effect of gender role attitude on well-being has not been examined, I propose the gender role attitude may influence individuals when introduced in the interaction with the national level gender ideology. The relationship I posit is that it has a negative impact when the individual gender attitude is not consistent with the state gender ideology. Women in each society tend to be more egalitarian than men because the traditional gender norm benefits men more than women. The societies, on the other hand, are likely to be more traditional than what women with egalitarian attitudes expect. As women with egalitarian gender attitudes perceive the unequal division of housework as unfair, they may feel the same resentment against the traditional gender relations or ideology at the societal level. Therefore, I hypothesize that those in more traditional countries present lower psychological well-being.

The next chapter describes the data and methods employed for the analyses in this study. It includes the description of analytical techniques, sample, and variables. I also describe the details of how my measures are constructed.

CHAPTER 3: RESEARCH PROCEDURE

Data

The study utilized data from the 2002 International Social Survey Programme (ISSP). The ISSP is an annual program of cross-national collaboration, and the data are provided by Zentralarchiv fuer Empirische Sozialforschung, University of Cologne. Historically, the ISSP started from collaboration between the Allgemeinen Bevolkerungsumfragen der Socialwissenschaften (ALLBUS) of the Zentrum für Umfragen, Methoden, und Analysen (ZUMA) in Germany and the General Social Survey (GSS) of the National Opinion Research Center (NORC) at University of Chicago in the United States, by creating a common set of questions from ALLBUS and GSS in 1982. In 1984, representatives from ZUMA, NORC, the Social and Community Planning Research (SCPR) in Britain, and the Research School of Social Sciences at Australian National University organized ISSP. Currently, 44 countries are members of the ISSP, and new member institutions (countries) can join by applying for a membership. Since the purpose of the present study is to find contextual effects of nations and general patterns in psychological well-being of individuals, a systematic analysis for a large number of countries is necessary. The ISSP is one of the few data sets that covers a broad array of nations and aims to help add a cross-national perspective to individual-level studies. Because of the large number of countries included and the variety of modules for each year, the ISSP data have been utilized for several comparative studies (e.g., Alwin et al. 1992; Batalova and Cohen 2002; Fuwa 2004; Panayotova and Brayfield 1997; Treas and Widmer 2000).

Each year's survey has its module, and the 2002 survey focused on family and changing gender roles, which provides us with the information on family related behaviors such as the division of housework and the individual's attitudes toward gender roles. The following 34 countries participated in the 2002 survey; Austria, Australia, Brazil, Bulgaria, Cyprus, the Czech

Republic, Denmark, Finland, Flanders (Belgium), France, Germany, Great Britain, Hungary, Ireland, Israel, Japan, Latvia, Mexico, the Netherlands, New Zealand, Northern Ireland, Norway, the Philippines, Poland, Portugal, the Republic of Chile, Russia, Slovenia, the Slovak Republic, Spain, Sweden, Switzerland, Taiwan, and the United States.[1] The 2002 ISSP data also contain a series of questions asking people's level of psychological well-being, in addition to the information on the marital, employment, and parental statuses of the respondents.

Analytical Techniques

In order to examine whether the effects of independent factors are conditional upon the macro-level factors, I used hierarchical linear models (HLM) for the analyses. HLM allows the coefficients of the individual-level factors to vary across countries and also estimates the individual psychological outcomes separately for each country, while the traditional contextual models using ordinary least squares do not. HLM also examines the direct effects of country-level factors and cross-level interaction effects (i.e., country-level factors condition the effect of individual-level factors) on individual-level psychological well-being (Luke 2004).

I estimated both individual models and cross-level effects models in my analysis. As an example, the following is the conceptual model for the cross-level effects model in Table 14 (see Chapter 4). The detailed descriptions of the samples and variables are provided in the following sections. The conceptual model has two sets of equations, one is an individual-level model and the other is a country-level model.

The individual-level model is

[1] Since Ireland and Bulgaria are missing one key variable (the information regarding the number of children in the household), these two countries were not included in the analysis. Meanwhile, although Germany is now one country, ISSP 2002 data are available for East and West Germany separately. As a result, the total number of countries examined in this study is 33.

$$Y_{ij} = \beta_{0j} + \beta_{1j}(MENROLE_{ij}) + \beta_{2j}(GENDOL_{ij}) + \beta_{3j}(MOMWORK_{ij}) + \beta_{4j}(NOTMAR_{ij}) + \beta_{5j}(NEVERMAR_{ij}) + \beta_{6j}(OWORK_{ij}) + \beta_{7j}(FWORK_{ij}) + \beta_{8j}(NONWORK_{ij}) + \beta_{9j}(KIDSNUM_{ij}) + \sum \beta_{kj}(CONTROL_{ikj}) + r_{ij}$$

where Y_{ij} is the level of psychological well-being of the individual i in country j, β_{0j} is the individual-level intercept, and β_{1j} through β_{kj} are the coefficients of the individual-level variables. $\sum \beta_{kj}$ indicates the effects of control variables. r_{ij} is the error term, assumed to be normally distributed.

The country-level model is

$$\begin{aligned}
\beta_{0j} &= \gamma_{00} + \gamma_{01}(MMENROLE_j) + \gamma_{02}(MGENDOL_j) + \gamma_{03}(MMOMWORK_j) + \gamma_{04}(GEM_j) \\
&\quad + \gamma_{05}(FLP_j) + \gamma_{06}(SCLIST_j) + \gamma_{07}(SOCDEM_j) + \gamma_{08}(LIBERAL_j) + \gamma_{09}(DVLPING_j) \\
&\quad + \sum \gamma_{0m}(CONTROL_{mj}) + u_{0j} \\
\beta_{1j} &= \gamma_{10} + \gamma_{11}(MMENROLE_j) + \gamma_{12}(MGENDOL_j) + \gamma_{13}(MMOMWORK_j) + \gamma_{14}(GEM_j) \\
&\quad + \gamma_{15}(FLP_j) + \gamma_{16}(SCLIST_j) + \gamma_{17}(SOCDEM_j) + \gamma_{18}(LIBERAL_j) + \gamma_{19}(DVLPING_j) \\
&\quad + \sum \gamma_{1m}(CONTROL_{mj}) + u_{1j} \\
\beta_{2j} &= \gamma_{20} + \gamma_{21}(MMENROLE_j) + \gamma_{22}(MGENDOL_j) + \gamma_{23}(MMOMWORK_j) + \gamma_{24}(GEM_j) \\
&\quad + \gamma_{25}(FLP_j) + \gamma_{26}(SCLIST_j) + \gamma_{27}(SOCDEM_j) + \gamma_{28}(LIBERAL_j) + \gamma_{29}(DVLPING_j) \\
&\quad + \sum \gamma_{2m}(CONTROL_{mj}) + u_{2j} \\
\beta_{3j} &= \gamma_{30} + \gamma_{31}(MMENROLE_j) + \gamma_{32}(MGENDOL_j) + \gamma_{33}(MMOMWORK_j) + \gamma_{34}(GEM_j) \\
&\quad + \gamma_{35}(FLP_j) + \gamma_{36}(SCLIST_j) + \gamma_{37}(SOCDEM_j) + \gamma_{38}(LIBERAL_j) + \gamma_{39}(DVLPING_j) \\
&\quad + \sum \gamma_{3m}(CONTROL_{mj}) + u_{3j} \\
&\vdots \\
\beta_{9j} &= \gamma_{90} + \gamma_{91}(MMENROLE_j) + \gamma_{92}(MGENDOL_j) + \gamma_{93}(MMOMWORK_j) + \gamma_{94}(GEM_j) \\
&\quad + \gamma_{95}(FLP_j) + \gamma_{96}(SCLIST_j) + \gamma_{97}(SOCDEM_j) + \gamma_{98}(LIBERAL_j) + \gamma_{99}(DVLPING_j) \\
&\quad + \sum \gamma_{9m}(CONTROL_{mj}) + u_{9j} \\
&\vdots \\
\beta_{12j} &= \gamma_{120} + \gamma_{121}(MMENROLE_j) + \gamma_{122}(MGENDOL_j) + \gamma_{123}(MMOMWORK_j) + \gamma_{124}(GEM_j) \\
&\quad + \gamma_{125}(FLP_j) + \gamma_{126}(SCLIST_j) + \gamma_{127}(SOCDEM_j) + \gamma_{128}(LIBERAL_j) + \gamma_{129}(DVLPING_j) \\
&\quad + \sum \gamma_{12m}(CONTROL_{mj}) + u_{12j}
\end{aligned}$$

where γ_{00} is the country-level intercept, γ_{01} through γ_{09}, and $\Sigma\gamma_{0m}$ are the direct effect of *MMENROLE*, *MGENDOL*, *MMOMWORK*, *GEM*, *FLP*, *SCLIST, SOCDEM, LIBERAL, DVLPING*, and control variables on the individual-level of happiness; γ_{10} through γ_{90} are the predicted effects of each individual-level independent variable across countries, γ_{11} through γ_{91} are the cross-level interaction effects between each independent variable and the country's mean attitude toward men's caring roles, γ_{12} through γ_{92} are the cross-level interaction effects between each independent variable and the country's mean attitude the toward gendered division of labor, γ_{13} through γ_{93} are the cross-level interaction effects between each independent variable and the country's mean attitude toward mother's employment, and so on. For example, γ_{10} is the predicted effect of the individual attitude toward men's caring roles across countries, γ_{11} is the cross-level interaction effect between the individual attitude toward men's caring roles and the country's mean attitude toward men's caring roles, γ_{12} is the cross-level interaction effect between the individual attitude toward men's caring role and country's mean attitude toward gendered division of labor, γ_{13} is the cross-level interaction effect between the individual attitude toward men's caring roles and country's mean attitude toward mother's employment, and so on. γ_{100}, γ_{110}, and γ_{120} represent the predicted effects of each control variable. u_{0j} through u_{kj} are error terms, assumed to be normally distributed. By having these error terms, the coefficients for these variables in the country-level model are allowed to vary across countries.

Sample

The present study consists of two separate sets of analyses. The whole sample was used for the first set of analyses, and the married and employed respondents were selected for the second, in order to examine the effect of the marital relationship and use multiple measures of psychological well-being, including one's job-related stress. As the target sample is different

between the two sets of analyses, the measures of dependent/independent variables and hypotheses tested were slightly different.

Dependent Variables

The dependent variable of this study is the psychological well-being of each individual. The following describes which measure was used for each sample.

Whole Sample Analyses

For the first set of the analyses, I utilized the responses to the global measure of happiness (HAPPY), which is one's response to the question, "If you were to consider your life in general, how happy or unhappy would you say you are, on the whole?" For this item, there are seven response categories from "completely happy" to "completely unhappy." This item is reverse coded so that the higher score indicates greater happiness.

Married and Employed Sample Analyses

For the second set of analyses, I utilized the three variables, LIFESAT (life satisfaction), FAMWB (family-related well-being), and WORKWB (work-related well-being) as dimensions of psychological outcomes. These variables were measured by 3, 2, and 3 items respectively, and derived from the factor analysis of 11 items contained in the 2002 ISSP. Table 1 presents the statements and the results of factor analysis for each dimension. Three items (1, 2, and 3) in the life satisfaction factor were reverse-coded to match the direction with the items for the other dimensions, before the factor analysis.

The factor analysis for the whole sample including everyone in all countries, whole sample separated by gender, and whole sample separated by welfare regime, showed almost the same pattern for all analyses. I thus decided to use 8 out of 11 items composing three measures above. Although both Items 9 and 10 show factor loadings higher than .3, these were not included since omitting these items makes the measure (work-related well-being) conceptually clearer and also

Table 1: Results of Factor Analysis of 11 Items Included in the Measures of Psychological Well-Being for Married and Employed Sample from the ISSP 2002[1]

	Factors		
	1 (S)	2 (F)	3 (W)
1. If you were to consider your life in general, how happy or unhappy would you say you are, on the whole?	0.848	0.000	0.057
2. All things considered, how satisfied are you with your family life?	0.760	-0.009	0.058
3. All things considered, how satisfied are you with your (main) job?	0.429	-0.011	-0.041
4. I have arrived at work too tired to function well because of the household work I had done.	-0.017	0.839	0.014
5. I have found it difficult to concentrate at work because of my family responsibilities.	-0.074	0.666	0.080
6. I have come home from work too tired to do the chores which need to be done.	-0.019	0.144	0.636
7. It has been difficult for me to fulfill my family responsibilities because of the amount of time I spent on my job.	0.006	0.263	0.582
8. There are so many things to do AT WORK, I often run out of time before I get them all done.	0.072	0.023	0.509
9. There are so many things to do AT HOME, I often run out of time before I get them all done.	0.010	0.158	0.373
10. MY JOB is rarely stressful.	-0.045	-0.139	0.370
11. My life AT HOME is rarely stressful.	-0.130	0.040	0.157

Extraction Methods: Maximum Likelihood
Rotation Method: Oblimin with Kaiser Normalization
Notes 1. The labels for the three factors indicate; S = Life Satisfaction, F = Family-Related Well-Being, and W = Work-Related Well-Being.

the reliability among three items (Items 6, 7, and 8) was slightly better (alpha = .6481) than the case including Items 9 and 10 (alpha = .6356).

All questions are asked in a scale format, with the five response categories ranging from "strongly agree" to "strongly disagree" (Items 8), with the four response categories from "several times a week" to "never" (Items 4, 5, 6, and 7), or with the seven response categories from "completely happy (satisfied)" to "completely unhappy (dissatisfied)" (Items 1, 2, and 3), respectively. Item 8 is rescaled to range 1 to 4, in order to be consistent with Items 6 and 7. All

items are scored so that high scores represent better psychological states (high life satisfaction, high family-related well-being, and high work-related well-being). Furthermore, the average scores of the responses for each respondent are calculated to create LIFESAT, FAMWB, and WORKWB measures. I also used HAPPY (i.e., Item 1 alone) to compare the results with those from the first set of analysis. Figure 2 presents how the measures were constructed for each sample.

Independent Variables

Individual-Level Variables

Based on the discussions in Chapter 2, I examined the effects of the following individual-level independent variables and control variables on the several dependent variables pertaining to psychological well-being.

(1) MOMWORK, GENDOL, and *MENROLE* They measure individual gender role attitudes. In the questionnaire of the 2002 ISSP, there are 10 items related to respondent's gender role attitudes asking to what extent they agree or disagree. The items are measured by a 5 point scale, with 1 indicating strongly agree and 5 indicating strongly disagree. The factor analysis of 10 items indicated that there were four factors, which seem to be about mother's employment (1, 2, and 3), gendered division of labor (4, 5, and 6), men's caring roles (7 and 8), and women and job (9 and 10). Table 2 represents the statements and the results of the factor analysis with each measure. Only the first three factors were included in HLM analysis, since the reliability of the last factor was the lowest (alpha = .5035).[2] Items 3, 7, and 8 are reverse-coded so that a high score indicates a more egalitarian gender ideology. The average scores of the responses for each respondent were calculated to create the three measures.

(2) *NOTMAR* and *NEVERMAR* Two marital status dummy variables were created; not-married

[2] The reliabilities for the rest of three factors are: .6971 (mother's employment), .6472 (gendered division of labor), and .7928 (men's caring role).

Whole Sample

HAPPY (Happiness)
"If you were to consider your life in general, how happy or unhappy would you say you are, on the whole?"

Married and Employed Sample

HAPPY (Happiness)
"If you were to consider your life in general, how happy or unhappy would you say you are, on the whole?"

LIFESAT (Life Satisfaction)
"If you were to consider your life in general, how happy or unhappy would you say you are, on the whole?"

"All things considered, how satisfied are you with your family life?"

"All things considered, how satisfied are you with your (main) job?"

FAMWB (Family-Related Well-Being)

"I have arrived at work too tired to function well because of the household work I had done."

"I have found it difficult to concentrate at work because of my family responsibilities."

WORKWB (Work-Related Well-Being)

"I have come home from work too tired to do the chores which need to be done."

"It has been difficult for me to fulfill my family responsibilities because of the amount of time I spent on my job."

"There are so many things to do AT WORK, I often run out of time before I get them all done."

Figure 2: Constructs of Psychological Well-Being for Two Samples

Table 2: The Results of Factor Analysis of 10 Items Included in Gender Role Attitudes Scale in the ISSP 2002[1]

	Factors			
	1 (Mo)	2 (G)	3 (Me)	4 (W)
1. A pre-school child is likely to suffer if his or her mother works.	0.760	0.057	-0.002	-0.129
2. All in all, family life suffers when the woman has a full-time job.	0.723	0.101	-0.038	-0.052
3. A working mother can establish just as warm and secure a relationship with her children as a mother who does not work.	0.459	-0.033	0.016	0.186
4. A job is all right, but what most women really want is a home and children.	0.072	0.697	0.004	-0.129
5. A man's job is to earn money; a woman's job is to look after the home and family.	0.208	0.527	0.086	-0.015
6. Being a housewife is just as fulfilling as working for pay.	-0.063	0.524	-0.025	0.110
7. Men ought to do a larger share of household work than they do now.	0.016	0.011	0.825	-0.014
8. Men ought to do a larger share of childcare than they do now.	-0.037	-0.017	0.793	0.022
9. Both the man and woman should contribute to the household income.	0.069	-0.010	-0.010	0.679
10. Having a job is the best way for a woman to be an independent person.	-0.037	0.049	0.060	0.488

Extraction Method: Maximum Likelihood.
Rotation Method: Oblimin with Kaiser Normalization
Note. The four labels of factors indicate Mo = Mother's Employment, G = Gendered Division of Labor, Me = Men's Role, and W = Women and Job

(widowed, divorced, and separated) and never-married. Married is the reference category.

(3) *OWORK, FWORK,* and *NOWORK* They represent current employment status. In the ISSP 2002 data, hours worked per week were asked, and the four employment dummy variables were created from this question; over-time work (more than 41 hours per week), full-time (between 30 and 40 hours per week), part-time (between 10 and 30 hours per week), and no work (less than 10 hours or not in labor force). Due to the preliminary results that respondents with part-time employment indicated the highest level of psychological well-being for both men and women

(except for family-related well-being for males), part-time employment was the reference category. A series of categorical variable were created, instead of using work hours as an interval-level variable, because the effect of work hours on psychological well-being may be nonlinear.

(4) *KIDSNUM* This measures the number of people under 18 years old in the household. For New Zealand, the information was not available so that the number of people under 18 years was calculated by subtracting the number of people over 18 years old in the household from the total number of people in the household.

(5) *AGE* The respondent's age is measured in years.

(6) *FINCOME* This measures the respondent's family income. Although the respondent's individual earnings may be better, I used their family income since the information about the personal income in the Netherlands was not available. People answered the amount of family income in the currency of their own country so that the numbers were converted into the U.S. dollars, by using the average exchange rate during the fieldwork periods for each country. The average exchange rate for each country was drawn from the following website: http://www.oanda.com/convert/fxhistory. In addition, the family income was asked or recorded differently in some countries, such as yearly, monthly, or weekly. Therefore, the numbers were multiplied by 12 if the respondents provided their income per month or by 48 if they provided weekly family income. Finally, the figures after all modification were divided by 1,000 to avoid zero regression coefficients and make them more interpretable instead.

(7) *EDUYR* Education was measured in years. Since this information was not available for Austria and Northern Ireland, the year of education was recoded from another question asking the highest level of education for these countries. Also, there were cases coded as "still at school," "still at college," and "no formal schooling." Therefore, those cases were recoded by

cross-checking with the highest level of education as follows: (1) typical years of education were determined by finding modal years of education for each education level in each country, (2) when both years of education and the highest level of education seem logically consistent (otherwise they were coded as missing), the typical years of education were assigned to the cases which are "still at school" and "still at college," and (3) for "no formal schooling" cases, the typical years of education for each category of the highest education level was assigned. When the responses seem too high as the years of education (e.g., over 40), the cases were also assigned the typical years of education for each level.

(8) *HHWORK* This measures the division of housework between husband and wife. The ISSP 2002 asks the actual time spent on housework by the respondent and his/her partner. I used the percent share, by dividing the respondent's time for housework by the sum of his/her time and the partner's, then multiplied by 100. When both respondent's and his/her partner's time for housework were zero, the percent share of this respondent was coded 50.

The whole sample analyses used MOMWORK, GENDOL, MENROLE, NOTMAR, NEVERMAR, OWORK, FWORK, NOWORK, and KIDSNUM as independent variables and AGE, FINCOME, and EDUYR as control variables. For married and employed sample, I used MOMWORK, GENDOL, MENROLE, OWORK, FWORK, KIDSNUM, and HHWORK as independent variables and AGE, FINCOME, and EDUYR as control variables.

Country-Level Variables

The current study assumes that the effects of individual-level independent variables on psychological well-being differ depending on societal-level gender equality and ideology. Therefore, I included variables reflecting the macro-level gender equality and the aggregated gender ideology into the cross-level interaction models. As previous studies concerning gender inequality have argued, female labor force participation is one of the key indicators to measure

the level of gender stratification of the society in question. Furthermore, the United Nations has developed the measurement to evaluate women's political and economic status in each country. While the two measurements above are on the interval level, the categorical measurement employed by Treas and Widmer (2000) may also be useful as an indicator of societal gender equality. The 2002 ISSP data set, however, contains more countries than the study of Treas and Widmer so that some adjustments are needed to fit the typology to this data set. Finally, country-level economic development, educational standards, health, crime, and the cost of living were included as control variables.[3]

(1) *MMOMWORK, MGENDOL,* and *MMENROLE* They are mean values for each scale representing gender role ideology for each country. To measure the strength of a country's egalitarian gender norms, the mean values of gender ideology were calculated from the individual gender role attitudes, by taking the average score of all respondents for each scale in each country.

(2) *GEM* The Gender Empowerment Measure, standardized by the United Nations to measure the women's political and economic power in each country, was drawn from UNDP data (United Nations Development Program 2002).[4] [5] The index is created from the combination of four dimensions: the percentage of parliamentary seats held by women, the percentage of administrators and managers who are women, the percentage of professional and technical workers who are women, and women's share of earned income compared to that of men (United Nations Development Program 1995). The index ranges from 0 to 1, with 1 indicating the highest gender equality.

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[3] There are some countries for which I could not obtain the information from other data sources (e.g., the United Nations). For those countries, some adjustments were made. East and West Germany were given the same score as Germany. Also, Northern Ireland was given the score for Great Britain.

[4] The 2002 GEM index was not available for France and Brazil. This index was first calculated in 2008 and 2006 for France and Brazil, respectively. The study uses indices in these years for those countries.

[5] The 2002 GEM index for Taiwan was drawn from the Committee of Women Rights Promotion website (The Report on Women's Status in Taiwan: http://v1010.womenweb.org.tw/Page_Show.asp?Page_ID=94).

(3) *FLP* This represents female labor force participation. The percent of women in labor force (who work either full-time or part-time) was calculated from the ISSP 2002.

(4) *SCLIST, SOCDEM, LIBERAL, DVLPING* As reviewed in Chapter 2, based on the pattern of female labor force participation, Blossfeld and Hakim (1997) classified countries into five types: former socialist states, southern European states, Scandinavian social democracies, conservative welfare states, and liberal welfare states. Since Esping-Andersen (1999) proposed combining conservative welfare states and southern European states as the same "familialist" regime, I treated two regimes as one. Furthermore, the 2002 ISSP has data from the countries which have never been categorized in this manner because they are economically less developed. I thus combined them as one regime. Based on this approach, I created five categories, with four dummy variables: former socialist (the Czech Republic, Hungary, Poland, the Slovak Republic, Russia, East Germany, Slovenia, and Latvia), social democratic (Denmark, Finland, Norway, and Sweden), familialist (Austria, Cyprus, Flanders, France, Israel, Japan, the Netherlands, Portugal, Spain, Switzerland, Taiwan, and West Germany), liberal (Australia, New Zealand, Great Britain, Northern Ireland, and the United States), and developing (Brazil, Mexico, the Philippines, and the Republic of Chile,). The familialist regime is the reference category.

(5) *GDP* Gross Domestic Product (GDP) per capita (purchasing power parity in $1,000) was drawn from UNDP data (United Nations Development Program 2004).[6] GDP per capita indicates the economic development of each country as well as that country's standard of living.

(6) *EDU* The mean years of education for each country were calculated from the ISSP 2002 data.

(7) *LIFEEXP* The life expectancy at birth in years between 2000 and 2005 were used as an indicator of health condition of each country.[7] The data were drawn from UNDP report (United Nations Development Program 2007).[8]

[6] The 2002 GDP for Taiwan was drawn from CIA World Factbook (2003).

(8) *HOMICIDE* The numbers of intentional homicides per 100,000 people from 2000 to 2004 were used to measure the level of safety for each country.[9] The data were drawn from UNDP (United Nations Development Program 2007).[10] [11]

(9) *PRICE* The price level index was used to measure the relative cost of living for each country. The price level index is calculated by the World Bank International Comparison Program to measure the average cost of goods or services in one economy using currencies converted at prevailing exchange rates. A price level index of 100 indicates that the price level is the same as the base country, which is the United States (The World Bank Group 2005).

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[7] Data were estimates for the period specified (UNDP 2007).
[8] Life expectancy at birth in years for Taiwan was drawn from CIA World Factbook (2002).
[9] Data were collected during one of the years specified (UNDP 2007).
[10] Intentional homicides per 100,000 for Brazil were drawn from "UN data country profile" provided by The United Nations Statistics Division of the Department of Economic and Social Affairs (http://data.un.org/CountryProfile.aspx?crName=Brazil). The number is for 2006.
[11] Intentional homicides per 100,000 for Taiwan were drawn from "Economic & Social Data Rankings" provided by the European Institute of Japanese Studies, Stockholm School of Economics (http://www.dataranking.com/table.cgi?TP=so01-1&LG=e&FL=&RG=0). The number is for 1990-2000.

CHAPTER 4: FINDINGS FROM WHOLE SAMPLE ANALYSES

The current and following chapters examine the gender disparities in psychological well-being and the factors related to it among the 33 countries. I examine individual gender- and family-related factors on psychological well-being and also the cross-level interaction between national context in gender climate and the individual-level determinants. This chapter deals with the whole sample analyses. I first describe the trends and patterns in individual psychological well-being and its predictors among the 33 countries, including country-level characteristics on gender. After conducting a series of t-tests between male and female respondents on psychological well-being, I report the results from the Hierarchical Linear Model analysis. In order to examine gender differences in factors affecting psychological well-being, the HLM analyses are conducted for the male and female samples separately.

Descriptive Statistics

Comparison of Happiness by Country

I begin by describing the characteristics of the whole sample, and the general pattern of psychological well-being and other country characteristics. Table 3 presents the means, standard deviations, and percentages of the individual-level variables in the 33 countries. The standard deviations are in parentheses for the variables of psychological well-being, the three dimensions of gender ideology, age, and education. The counties are listed simply in the alphabetical order in Table 3. Table 4 shows which welfare regime a country is classified in.

The sample size for each country ranges from 431 (East Germany) to 2,471 (Spain), and the average sample size among the 33 countries is 1,345. Among countries from the ISSP 2002 data, East Germany has an extremely small sample size. Small samples are also found in West Germany (=936) and Northern Ireland (=987), but they are still twice as large as East Germany. Although it may not be a critical issue for the whole sample analysis, this relatively small sample

Table 3: Means, Standard Deviations, and Percentage of the Individual-Level Variables by Country, the Whole Sample

Country	N	Happiness		% Female	MENROLE		GENDOL		MOMWROK		% Married	% Employed	% Parent	Median Family Income	Age		Education	
Australia	1,352	5.39	(0.92)	54%	3.72	(0.76)	3.13	(0.85)	3.19	(1.03)	71%	52%	35%	15,121	48.38	(14.76)	12.11	(3.00)
Austria	2,047	5.54	(0.94)	62%	3.61	(0.90)	3.23	(1.06)	2.92	(0.97)	50%	51%	34%	23,631	45.91	(17.33)	11.04	(2.02)
Brazil	2,000	5.42	(0.89)	51%	4.12	(1.19)	2.49	(1.18)	2.36	(0.95)	44%	39%	63%	2,252	39.22	(16.15)	6.69	(3.98)
Cyprus	1,004	5.29	(1.08)	50%	3.11	(0.84)	3.11	(0.76)	3.46	(0.66)	65%	70%	46%	20,739	41.15	(15.27)	11.60	(3.76)
Czech Republic	1,289	5.03	(1.00)	63%	3.82	(0.93)	2.71	(0.90)	3.21	(0.96)	58%	41%	37%	6,614	42.92	(15.21)	12.23	(2.06)
Denmark	1,379	5.35	(0.97)	55%	3.75	(1.05)	3.62	(1.06)	3.77	(1.12)	55%	95%	35%	63,419	46.51	(16.28)	13.34	(3.63)
East Germany	431	5.02	(0.92)	49%	3.62	(0.84)	3.79	(1.01)	3.81	(0.90)	61%	49%	28%	21,169	48.33	(16.78)	11.46	(3.50)
Finland	1,353	5.26	(0.96)	55%	3.86	(0.76)	3.15	(0.78)	3.39	(1.00)	68%	60%	34%	36,416	44.20	(16.01)	12.18	(4.34)
Flanders	1,360	5.20	(0.90)	52%	3.61	(0.80)	2.98	(0.92)	3.06	(0.96)	64%	55%	31%	21,521	48.31	(17.42)	12.14	(3.36)
France	1,903	5.26	(0.95)	66%	4.00	(0.82)	3.35	(1.02)	3.35	(1.11)	59%	62%	44%	31,713	44.77	(15.98)	13.58	(2.98)
Great Britain	1,960	5.43	(1.01)	57%	3.64	(0.75)	3.22	(0.84)	3.25	(0.95)	55%	56%	30%	33,202	48.69	(17.85)	11.90	(2.74)
Hungary	1,023	4.99	(1.13)	59%	3.59	(0.87)	2.53	(0.87)	2.87	(0.87)	55%	40%	29%	5,187	49.55	(17.33)	10.97	(2.78)
Israel Jews, Arabs	1,209	5.32	(1.10)	56%	3.54	(0.95)	3.28	(0.96)	3.13	(0.87)	66%	62%	49%	17,181	42.38	(16.98)	13.18	(3.18)
Japan	1,132	5.56	(0.98)	53%	3.62	(1.20)	2.76	(0.90)	3.59	(1.05)	71%	59%	41%	45,210	48.83	(17.82)	12.18	(2.73)
Latvia	1,000	4.85	(0.97)	58%	3.58	(0.81)	2.79	(0.78)	2.89	(0.80)	53%	60%	47%	4,015	42.68	(16.18)	12.64	(2.89)
Mexico	1,495	5.58	(1.06)	59%	3.88	(0.93)	2.65	(0.91)	2.53	(0.81)	60%	64%	60%	3,280	41.23	(17.09)	9.57	(4.99)
Netherlands	1,249	5.28	(0.83)	52%	3.43	(0.77)	3.40	(0.80)	3.17	(0.88)	55%	59%	36%	40,221	44.41	(16.32)	13.56	(3.90)
New Zealand	1,025	5.48	(0.97)	57%	3.50	(0.79)	3.25	(0.85)	3.05	(0.96)	65%	66%	38%	26,022	49.70	(15.91)	12.36	(3.24)
Northern Ireland	987	5.56	(0.92)	60%	3.69	(0.90)	3.06	(0.94)	3.22	(1.01)	49%	46%	33%	19,749	49.34	(17.54)	10.84	(2.39)
Norway	1,475	5.29	(0.93)	53%	3.71	(0.73)	3.62	(0.81)	3.44	(0.96)	57%	94%	42%	60,120	45.39	(15.55)	13.27	(3.05)
Philippines	1,200	5.40	(1.25)	50%	2.78	(0.94)	2.24	(0.69)	3.08	(0.73)	73%	51%	78%	1,348	39.06	(14.42)	9.62	(3.47)
Poland	1,252	4.97	(1.02)	58%	3.77	(0.74)	2.72	(0.87)	3.00	(0.93)	60%	43%	46%	4,443	47.84	(16.95)	10.87	(3.07)
Portugal	1,092	5.16	(1.07)	59%	4.14	(0.71)	2.98	(0.90)	2.65	(0.88)	58%	82%	33%	15,475	47.68	(18.48)	8.40	(5.06)
Republic of Chile	1,505	5.54	(1.03)	56%	4.07	(0.67)	2.66	(0.72)	2.39	(0.72)	52%	49%	63%	3,506	43.71	(17.33)	10.27	(4.24)
Russia	1,798	4.83	(1.17)	61%	3.72	(0.84)	2.63	(0.83)	2.82	(0.84)	52%	53%	43%	1,161	46.88	(17.44)	11.58	(3.25)
Slovak Republic	1,133	4.88	(1.05)	52%	3.67	(1.01)	2.50	(0.90)	3.11	(0.98)	60%	54%	40%	4,763	43.06	(16.27)	12.32	(2.74)
Slovenia	1,093	5.18	(0.94)	54%	3.72	(0.75)	2.92	(0.88)	3.08	(0.84)	61%	57%	37%	13,027	46.54	(17.59)	11.31	(3.25)
Spain	2,471	5.24	(0.90)	52%	4.14	(0.68)	3.26	(0.90)	3.01	(0.90)	56%	49%	32%	14,445	45.99	(18.43)	10.99	(5.02)
Sweden	1,080	5.24	(0.97)	54%	3.78	(0.74)	3.55	(0.88)	3.60	(0.97)	50%	75%	36%	35,615	47.00	(16.27)	12.13	(3.70)
Switzerland	1,008	5.52	(0.79)	51%	3.72	(0.78)	3.17	(0.85)	2.97	(0.94)	51%	92%	31%	47,595	49.00	(17.19)	11.31	(3.65)
Taiwan	1,983	5.19	(1.11)	51%	3.38	(0.86)	2.40	(0.58)	3.39	(0.86)	64%	72%	53%	21,492	43.47	(16.63)	10.41	(4.11)
United States	1,171	5.52	(0.98)	58%	3.76	(0.93)	3.09	(1.03)	3.43	(1.19)	48%	63%	30%	37,500	44.94	(16.77)	13.49	(2.78)
West Germany	936	5.17	(0.86)	52%	3.62	(0.84)	3.41	(1.05)	3.22	(0.96)	59%	52%	31%	25,626	46.42	(17.07)	11.13	(3.53)

Note: Happiness is a measure of the psychological well-being. MENROLE (men's roles), GENDOL (gendered division of labor), and MOMWORK (mother's employment) are measures of the gender role attitudes. Standard deviations are in parentheses.

Table 4: Classification of the 33 Countries Based on Welfare Regimes (Blossfeld and Hakim 1997; Esping-Andersen 1999)

Welfare Regimes	Countries
Former socialist countries:	Czech Republic, Hungary, Poland, Slovak Republic, Russia, East Germany, Slovenia, Latvia
Social democratic countries:	Denmark, Finland, Norway, Sweden
Familialist countries:	Austria, Cyprus, Flanders, France, Israel, Japan, Netherlands, Portugal, Spain, Switzerland, Taiwan, West Germany
Liberal countries:	Australia, New Zealand, Great Britain, Northern Ireland, United States
Developing countries:	Brazil, Mexico, Philippines, Republic of Chile

size in East Germany might cause a statistical problem (lack of power) after decomposed by gender, marital status, and employment status.

The dimension of psychological well-being I utilize for the whole sample is happiness ("If you were to consider your life in general, how happy or unhappy would you say you are, on the whole?"). It ranges from 1 ("completely unhappy") to 7 ("completely happy"). The highest mean happiness among the 33 countries is 5.58 (Mexico) while the lowest is 4.83 (Russia). Table 5 lists the 10 countries with the lowest (left) and the highest (right) happiness scores. As Table 5 indicates, eight out of the ten countries with the lowest happiness score are former socialist countries, while no pattern was found in the countries with the highest happiness score. The mean and standard deviation of the mean happiness score of the 33 countries are 5.27 and .22, respectively. Overall, it seems that a majority of respondents indicated their psychological state in the happier side, because the mean happiness of all countries falls between the response categories 4 ("Neither happy nor unhappy") and 6 ("Very happy").

Comparison of Country-level Characteristics Related to Gender

Next, I compare the degree of gender stratification and gender norms among countries by looking at the measure of economic and political gender inequality, female labor force

Table 5: Ten Countries with the Lowest (Left) and Highest (Right) Happiness Scores

LOW			HIGH		
Country	**MEAN**	**S.D.**	**Country**	**MEAN**	**S.D.**
Russia	4.83	(1.17)	Mexico	5.58	(1.06)
Latvia	4.85	(0.97)	Japan	5.56	(0.98)
Slovak Republic	4.88	(1.05)	Northern Ireland	5.56	(0.92)
Poland	4.97	(1.02)	Austria	5.54	(0.94)
Hungary	4.99	(1.13)	Republic of Chile	5.54	(1.03)
East Germany	5.02	(0.92)	Switzerland	5.52	(0.79)
Czech Republic	5.03	(1.00)	United States	5.52	(0.98)
Portugal	5.16	(1.07)	New Zealand	5.48	(0.97)
West Germany	5.17	(0.86)	Great Britain	5.43	(1.01)
Slovenia	5.18	(0.94)	Brazil	5.42	(0.89)

participation, and societal gender norms. These are key variables I hypothesized to have cross-level interaction effects with the individual-level factors on psychological well-being. Each country's scores for three dimensions of the country-level gender norm are shown in Table 3. As described in the previous chapter, MENROLE, GENDOL, and MOMWORK measure the attitude towards men's caring role, gendered division of labor, and mother's employment. All three dimensions range from 1 to 5, and higher scores indicate more egalitarian gender role attitudes. Each country's score of the Gender Empowerment Measure (hereafter GEM) and female labor force participation rate (hereafter FLP) are presented in Table 6. The GEM is the measure of women's political and economic power created by the United Nations and ranges from 0 to 1 where a higher score represents greater gender equality.

Tables 7 and 8 list the top and bottom 10 countries of the GEM and FLP, respectively. Many of the lowest GEM countries are from either former socialist or developing countries, except for Japan and Cyprus. On the other hand, as expected, the top 4 on GEM are northern European countries, followed by a couple of conservative and liberal welfare states (the Netherlands, East Germany, New Zealand, West Germany, Australia, and the United States) categorized by Esping-Andersen (1990; 1999) and Blossfeld and Hakim (1997). Meanwhile, the

Table 6: Descriptive Statistics of the Societal-Level Variables by Country

Country	N	GEM	FLP	GDP	LIFEEXP	HOMICIDE	PRICE
Australia	1,352	0.76	48.9	28,260	80.4	1.3	106
Austria	2,047	0.75	45.3	29,220	78.9	0.8	109
Brazil	2,000	0.49	29.6	7,770	71.0	26.7	56
Cyprus	1,004	0.53	63.2	18,150	79.0	1.7	91
Czech Republic	1,289	0.56	33.5	15,780	75.4	2.2	60
Denmark	1,379	0.82	94.1	30,940	77.3	0.8	142
East Germany	431	0.77	42.4	27,100	78.7	1.0	111
Finland	1,353	0.80	57.3	26,190	78.4	2.8	122
Flanders	1,360	0.71	46.8	27,570	78.2	1.5	112
France	1,903	0.72	63.0	26,920	79.6	1.6	115
Great Britain	1,960	0.68	51.4	26,150	78.5	2.1	118
Hungary	1,023	0.50	33.1	13,400	72.4	2.1	64
Israel Jews, Arabs	1,209	0.60	57.8	19,530	79.7	2.6	83
Japan	1,132	0.53	46.7	26,940	81.9	0.5	118
Latvia	1,000	0.54	55.0	9,210	71.3	8.6	53
Mexico	1,495	0.52	53.2	8,970	74.9	13.0	65
Netherlands	1,249	0.78	50.2	29,100	78.7	1.0	112
New Zealand	1,025	0.77	60.8	21,740	79.2	1.3	108
Northern Ireland	987	0.68	40.2	26,150	78.5	2.1	118
Norway	1,475	0.84	93.7	36,600	79.3	0.8	137
Philippines	1,200	0.52	36.6	4,170	70.3	4.3	39
Poland	1,252	0.59	38.5	10,560	74.6	1.6	59
Portugal	1,092	0.64	74.0	18,280	77.2	1.8	88
Republic of Chile	1,505	0.47	32.2	9,820	77.9	1.7	60
Russia	1,798	0.45	45.9	8,230	64.8	19.9	45
Slovak Republic	1,133	0.55	53.5	12,840	73.8	2.3	55
Slovenia	1,093	0.59	49.1	18,540	76.8	1.5	76
Spain	2,471	0.70	37.6	21,460	80.0	1.2	95
Sweden	1,080	0.82	72.0	26,050	80.1	2.4	124
Switzerland	1,008	0.72	87.5	30,010	80.7	2.9	140
Taiwan	1,983	0.65	58.1	18,000	76.7	7.4	60
United States	1,171	0.76	57.0	35,750	77.4	5.6	100
West Germany	936	0.77	42.4	27,100	78.7	1.0	111

Notes: GEM = Gender Empowerment Measure (0-1), FLP = female labor force participation rate, GDP = Gross National Product per capita (PPP), EDU = mean years of education, LIFEEXP = life expectancy at birth, HOMICIDE = homicide rate (per 100,000), PRICE = price index (where U.S. = 100).

Table 7: Ten Countries with the Lowest (Left) and Highest (Right) GEM Scores

LOW

Country	GEM
Russia	0.45
Republic of Chile	0.47
Brazil	0.49
Hungary	0.50
Mexico	0.52
Philippines	0.52
Cyprus	0.53
Japan	0.53
Latvia	0.54
Slovak Republic	0.55

HIGH

Country	GEM
Norway	0.84
Sweden	0.82
Denmark	0.82
Finland	0.80
Netherlands	0.78
East Germany	0.77
New Zealand	0.77
West Germany	0.77
Australia	0.76
United States	0.76

Table 8: Ten Countries with the Lowest (Left) and Highest (Right) FLP Scores

LOW

Country	FLP
Brazil	29.6
Republic of Chile	32.2
Hungary	33.1
Czech Republic	33.5
Philippines	36.6
Spain	37.6
Poland	38.5
Northern Ireland	40.2
East Germany	42.4
West Germany	42.4

HIGH

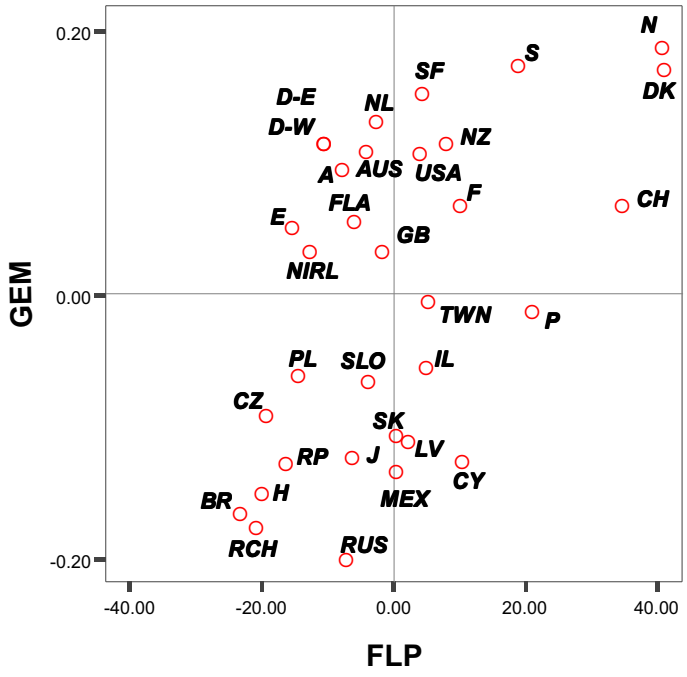
Country	FLP
Denmark	94.1
Norway	93.7
Switzerland	87.5
Portugal	74.0
Sweden	72.0
Cyprus	63.2
France	63.0
New Zealand	60.8
Taiwan	58.1
Israel Jews, Arabs	57.8

top and bottom 10 countries of FLP are diverse. Furthermore, the countries listed in Tables 7 and 8 are somewhat overlapping but not identical, although both measures are intended to capture the degree of gender equality in each society. For example, Brazil, the Republic of Chile, Hungary, and the Philippines are among the lowest for both, Denmark, Norway, Sweden, and New Zealand are among the highest for both, while East Germany, West Germany, and Cyprus are among the highest on one but the lowest on the other.

Figure 3 is a scatter plot of GEM and FLP measures of the 33 countries (centered for each measure), divided into four groups; high on both GEM and FLP (at the top right area), low on both (at the bottom left), high on GEM and low for FLP (at the top left), and low on GEM and high for FLP (at the bottom right). The closer to the center line on either GEM or FLP, the closer the country's score is to the average among the 33 countries. As expected, all northern European countries are in the top right area, while many developing countries, former socialist countries, and Japan are in the bottom left. As we have seen in Tables 7 and 8, the scatter plot also indicates that many countries do score high on one but low on the other. The correlation coefficient (N=33) is .522, which is statistically significant at the 0.01 level.

One possible explanation for this discrepancy is that the two measures utilized different elements to calculate the scores. The FLP figure includes part-time workers who work between 10 and 30 hours per week in addition to full-time workers (i.e., more than 30 hours). Meanwhile, the GEM index is calculated from the percentage of women at higher level positions such as politicians, corporate executives, or professionals, who tend to work full-time. There may be countries where women maintain higher labor force participation rates but most of these women work part-time. Some discrepancy between the two measures might be due to how to define "gender equality" and the elements used for the measurement.

Tables 9, 10, and 11 present the top and bottom 10 countries on the three dimensions of gender ideology. As well as the two gender equality measures above, many countries score differently on three dimensions of gender ideology depending on which dimension is used. However, there are a few consistencies. For example, Taiwan is in the bottom 10 countries on all dimensions (least egalitarian), while Spain is in the top 10 countries on all (most egalitarian). Other than these two, many countries tend to have inconsistent mean values among three dimensions. The Czech Republic, Sweden, France, Mexico, Poland, and Israel are among the



ABBR.	COUNTRY
A	Austria
AUS	Australia
BR	Brazil
CH	Switzerland
CY	Cyprus
CZ	Czech Republic
D-E	East Germany
DK	Denmark
D-W	West Germany
E	Spain
F	France
FLA	Flanders
GB	Great Britain
H	Hungary
IL	Israel Jews, Arabs
J	Japan
LV	Latvia
MEX	Mexico
N	Norway
NIRL	Northern Ireland
NL	Netherlands
NZ	New Zealand
P	Portugal
PL	Poland
RCH	Republic of Chile
RP	Philippines
RUS	Russia
S	Sweden
SF	Finland
SK	Slovak Republic
SLO	Slovenia
TWN	Taiwan
USA	United States

Figure 3: Scatter Plot of GEM and FLP Scores

top 10 in two dimensions but among the bottom 10 in one at the same time. As a result, these inconsistencies make capturing the general pattern of each country's gender ideology (i.e., more traditional or more egalitarian) difficult.

From the mean values shown in the table, however, we can see overall gender ideology across countries. It seems that people tend to agree with the idea that men should do more housework and child care. While they are the most conservative about the gendered division of labor, attitude toward mother's employment is somewhere between men's role and gendered division of labor. It is interesting that it may be an implication that we are at the transitional stage, somewhere between completely traditional and completely egalitarian. People tend to agree that men should increase their responsibility at home and somewhat agree with mother's

Table 9: Ten Countries with the Lowest (Left) and Highest (Right) MENROLE Scores

LOW			HIGH		
Country	**MEAN**	**S.D.**	**Country**	**MEAN**	**S.D.**
Philippines	2.78	(0.94)	Portugal	4.14	(0.71)
Cyprus	3.11	(0.84)	Spain	4.14	(0.68)
Taiwan	3.38	(0.86)	Brazil	4.12	(1.19)
Netherlands	3.43	(0.77)	Republic of Chile	4.07	(0.67)
New Zealand	3.50	(0.79)	France	4.00	(0.82)
Israel Jews, Arabs	3.54	(0.95)	Mexico	3.88	(0.93)
Latvia	3.58	(0.81)	Finland	3.86	(0.76)
Hungary	3.59	(0.87)	Czech Republic	3.82	(0.93)
Austria	3.61	(0.90)	Sweden	3.78	(0.74)
Flanders	3.61	(0.80)	Poland	3.77	(0.74)

Table 10: Ten Countries with the Lowest (Left) and Highest (Right) GENDOL Scores

LOW			HIGH		
Country	**MEAN**	**S.D.**	**Country**	**MEAN**	**S.D.**
Switzerland	2.24	(0.69)	Latvia	3.79	(1.01)
Brazil	2.40	(0.58)	Israel Jews, Arabs	3.62	(1.06)
Taiwan	2.49	(1.18)	Slovenia	3.62	(0.81)
Czech Republic	2.50	(0.90)	France	3.55	(0.88)
Japan	2.53	(0.87)	Spain	3.41	(1.05)
Sweden	2.63	(0.83)	Norway	3.40	(0.80)
Northern Ireland	2.65	(0.91)	Flanders	3.35	(1.02)
Poland	2.66	(0.72)	West Germany	3.28	(0.96)
New Zealand	2.71	(0.90)	Mexico	3.26	(0.90)
Denmark	2.72	(0.87)	Australia	3.25	(0.85)

Table 11: Ten Countries with the Lowest (Left) and Highest (Right) MOMWORK Scores

LOW			HIGH		
Country	**MEAN**	**S.D.**	**Country**	**MEAN**	**S.D.**
Taiwan	2.36	(0.95)	Northern Ireland	3.81	(0.90)
Australia	2.39	(0.72)	Sweden	3.77	(1.12)
Russia	2.53	(0.81)	Spain	3.60	(0.97)
Cyprus	2.65	(0.88)	Austria	3.59	(1.05)
Mexico	2.82	(0.84)	Czech Republic	3.46	(0.66)
Slovak Republic	2.87	(0.87)	Hungary	3.44	(0.96)
United States	2.89	(0.80)	Slovenia	3.43	(1.19)
Brazil	2.92	(0.97)	Poland	3.39	(1.00)
France	2.97	(0.94)	Israel Jews, Arabs	3.39	(0.86)
East Germany	3.00	(0.93)	Denmark	3.35	(1.11)

employment, but still believe that women should be a primary care provider and men should be a primary breadwinner. Then, the next question is: Is this attitude common between males and females? Gender differences in the gender role attitudes will be presented later.

Meanwhile, we also see a discrepancy between gender role attitudes and other measures of gender stratification. For example, Taiwan is listed among the most traditional countries on all three dimensions of gender role ideology but also listed among the countries with the highest female labor force participation rate. In the same manner, Spain is one of the most egalitarian countries on gender ideology but holds a relatively low rate of female labor force participation. We should note, however, that the country-level gender ideology is not necessarily equivalent to how the systems of each society are structured in gender relations. In other words, it is possible that in some country people hold egalitarian gender ideologies but its system does not support gender equality.

In sum, the overall pattern of gender equality and gender norms among the 33 countries is the following: northern European and liberal welfare states are more egalitarian in terms of the GEM and female labor force participation, while former socialist and developing countries are more traditional on these measures. Meanwhile, the descriptive statistics on gender ideology measures did not show any consistent patterns in the way to apply the typology from the previous studies. In the next section, I will compare the basic demographics of the 33 countries.

Comparison by Country Characteristics: Basic Demographics

Before I turn to examine gender differences in country characteristics, this section describes basic demographics of the 33 countries to fully understand the sample. Table 3 includes percent female, percent married, percent employed, percent parents, median family income, average age, and years of education. Table 6 presents GDP, the life expectancy at birth in years (LIFEEXP) as a health measure, the number of intentional homicides per 100,000 people (HOMICIDE) as a

measure of safety, and the price index (PRICE) as a measure of relative cost of living in each of the 33 countries. Gender composition is almost evenly split or indicated a slightly higher proportion for females in a few countries. The mean age ranges approximately from 40 and 50 years old, regardless of the level of economic development or life expectancy of the country. The average years of education among the 33 countries are from 6.7 to 13.6 years. Although each country has different education systems, in more than half of all countries, the average falls below 12 years. Developing countries rank among the lowest. Meanwhile, the median family income, calculated from the ISSP 2002 data, is apparently lower for developing countries and former socialist nations. Although these figures are not exactly the same as GDP (Table 6), the rank orders are almost identical. The relative cost of living for each country, on the other hand, shows somewhat different results. Taking the United State as the base country (=100), those below 100 are mostly from the developing and former socialist countries, while most European countries score above 100.

There is not much difference among countries in percent married, with approximately 50 to 60 percent of people married in most countries. Meanwhile, percent employed (at least part-time) and percent parents (who have at least one family member younger than 18 years old in the household) vary, from 39 to 95 percent and from 28 to 78 percent, respectively. It seems that the developing countries have a higher proportion of parents, while European countries show relatively lower percentages. No clear pattern was found in percent employed, except for northern European countries with higher proportions of being employed. Figure 4 is a bar graph of percent married, employed, and parents. The countries are ordered by percent married, where the top (the Philippines) is the country with the highest percent married while the bottom (Brazil) is the country with the lowest. The life expectancy at birth in years seems relatively lower for the developing and former socialist countries (Table 6), and there is no obvious trend in the

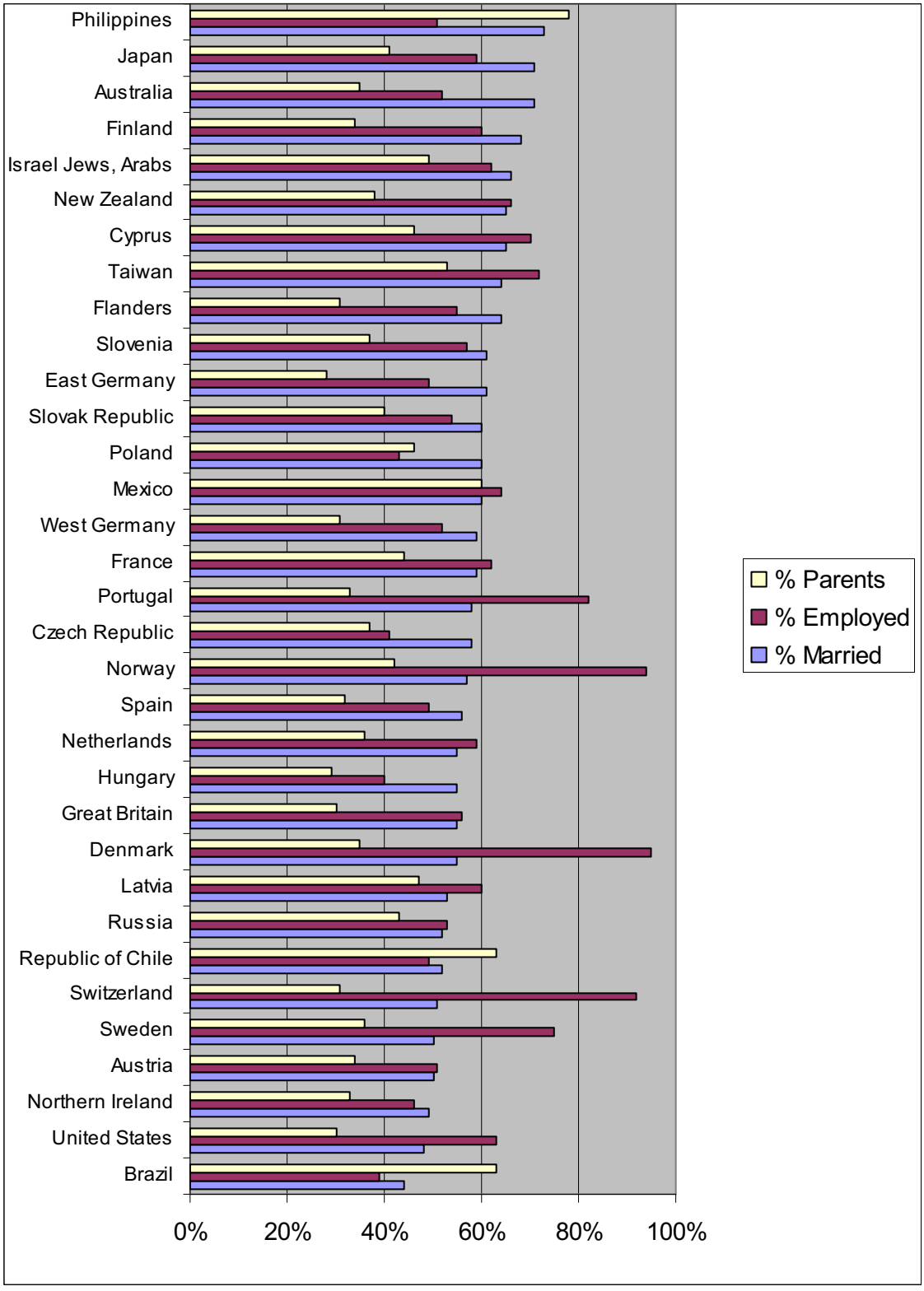


Figure 4: Percent Married, Percent Employed, and Percent Parents of the Whole Sample

number of intentional homicides per 100,000 people, except that it tends to be high in developing countries.

So far I attempted to capture the trend in the whole sample. The next step is to examine gender differences in the demographics and conduct t-tests between males and females. In the next section, I reexamine the trend of basic demographics by gender, and in the following section, I report the results from the t-tests on psychological well-being by gender.

Gender Differences in Country Characteristics

Table 12 shows the means of the three country-level gender ideology measures and years of education along with percent married, employed, and parents by country and gender. As the literature documented, in almost all countries, women present higher scores on all three gender ideology measures with a few exceptions such as the Philippines. Men tend to score higher on all three measures (more egalitarian) in the Philippines, and on two out of three in Mexico. For the average years of education, male respondents hold slightly higher values than females in many countries, regardless of the level of gender stratification or economic development of the country.

Percentages of married respondents present little difference between males and females in most countries. Meanwhile, percent employed shows higher for men consistently across countries. In most developing countries, several former socialist countries, and familialist countries including southern European and Asian countries, men have much higher percentages of being employed than women, indicating the largest gender difference at 38 percent in the Republic of Chile. Although the employment rate for males varies depending on the country ranging from below 50 percent to 95 percent, the higher employment rate for males than females is found in every country except France, and the difference is larger in more traditional countries. Percent parents, on the other hand, is slightly higher for female respondents in most countries,

Table 12: Means and Percentages of the Individual-Level Variables by Country and Gender, the Whole Sample

Country	MENROLE		GENDOL		MOMWORK		% Married		% Employed		% Parents		Education	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Australia	3.62	3.80	3.01	3.24	2.99	3.36	76%	66%	56%	49%	29%	41%	12.21	12.07
Austria	3.43	3.72	3.08	3.32	2.81	2.98	54%	48%	61%	45%	28%	38%	11.20	10.94
Brazil	3.94	4.29	2.36	2.61	2.36	2.36	44%	43%	49%	30%	58%	69%	6.61	6.78
Cyprus	2.63	3.56	2.98	3.23	3.41	3.50	62%	68%	77%	63%	44%	48%	11.63	11.56
Czech Republic	3.35	4.09	2.64	2.75	3.12	3.26	56%	59%	55%	33%	33%	40%	12.52	12.07
Denmark	3.64	3.84	3.55	3.69	3.64	3.87	57%	55%	95%	94%	35%	36%	13.53	13.20
East Germany	3.57	3.67	3.69	3.88	3.69	3.93	58%	64%	55%	42%	26%	30%	11.55	11.35
Finland	3.72	3.98	3.07	3.21	3.27	3.49	68%	67%	62%	57%	32%	35%	12.07	12.26
Flanders	3.46	3.74	2.87	3.08	2.99	3.13	66%	62%	63%	47%	28%	33%	12.24	12.04
France	3.89	4.05	3.12	3.46	3.14	3.46	67%	55%	60%	63%	31%	51%	13.33	13.70
Great Britain	3.54	3.72	3.14	3.28	3.11	3.36	59%	53%	62%	51%	26%	33%	11.93	11.88
Hungary	3.46	3.68	2.50	2.55	2.89	2.85	63%	49%	50%	33%	30%	28%	11.22	10.80
Israel Jews, Arabs	3.44	3.62	3.17	3.36	3.03	3.21	65%	67%	67%	58%	45%	52%	13.10	13.24
Japan	3.51	3.72	2.78	2.75	3.56	3.63	72%	70%	73%	47%	39%	42%	12.60	11.82
Latvia	3.30	3.78	2.69	2.86	2.94	2.85	61%	47%	68%	55%	45%	48%	12.63	12.65
Mexico	3.77	3.95	2.67	2.64	2.61	2.47	63%	58%	80%	53%	57%	62%	10.16	9.18
Netherlands	3.36	3.50	3.33	3.45	3.09	3.25	58%	51%	68%	50%	34%	37%	14.15	13.00
New Zealand	3.46	3.54	3.21	3.29	2.93	3.14	71%	61%	73%	61%	37%	39%	12.45	12.33
Northern Ireland	3.39	3.89	2.98	3.11	3.19	3.24	56%	44%	55%	40%	27%	37%	10.77	10.88
Norway	3.58	3.83	3.53	3.69	3.28	3.57	58%	56%	95%	94%	41%	42%	13.43	13.13
Philippines	2.81	2.75	2.26	2.22	3.09	3.07	69%	76%	66%	37%	74%	81%	9.73	9.52
Poland	3.57	3.91	2.60	2.80	2.92	3.06	65%	56%	49%	38%	43%	48%	10.86	10.88
Portugal	3.99	4.25	2.88	3.05	2.64	2.65	61%	56%	93%	74%	30%	35%	9.11	7.94
Republic of Chile	3.98	4.14	2.64	2.68	2.40	2.37	56%	49%	70%	32%	58%	66%	10.84	9.82
Russia	3.45	3.88	2.53	2.68	2.87	2.79	62%	46%	65%	46%	41%	44%	11.61	11.56
Slovak Republic	3.22	4.06	2.41	2.58	3.02	3.19	58%	61%	55%	53%	38%	42%	12.42	12.22
Slovenia	3.57	3.84	2.84	2.99	3.03	3.13	65%	57%	67%	49%	37%	37%	11.74	10.95
Spain	4.02	4.25	3.18	3.34	2.98	3.05	56%	56%	62%	38%	30%	34%	11.33	10.67
Sweden	3.69	3.85	3.45	3.64	3.43	3.74	49%	51%	78%	72%	36%	36%	11.83	12.38
Switzerland	3.70	3.74	3.08	3.25	2.90	3.04	57%	45%	96%	88%	28%	33%	11.54	11.08
Taiwan	3.37	3.40	2.37	2.43	3.35	3.44	64%	63%	87%	58%	48%	57%	10.96	9.88
United States	3.65	3.85	2.96	3.18	3.22	3.58	48%	48%	72%	57%	22%	36%	13.55	13.45
West Germany	3.50	3.73	3.26	3.55	3.08	3.35	59%	60%	61%	42%	29%	32%	11.33	10.95

Note: MENROLE (men's role), GENDOL (gendered division of labor), and MOMWORK (mother's employment) are measures of the gender role attitudes.

with the largest difference being 20 percent in France. It seems that larger differences can be found in more liberal countries. Higher percent of being parents for females must be due to the prevalence of female-headed single parent households across countries.

Gender Differences in Happiness: T-Tests

Table 13 presents the comparison between males and females of global happiness by country. Based on the literature review concerning gender differences in mental health, I posit that males show higher scores in global happiness than females in all countries. However, the independent sample t-tests between males and females on global happiness give us somewhat mixed results. There is no statistically significant gender difference in a majority of countries. Ten out of the 33 countries indicate gender differences in favor of males, and two countries show significant differences to the opposite direction ($p < .05$). Three more countries show significantly higher means for males with a one-tailed test ($p<.05$). The countries with a significant male advantage on happiness are Brazil, Denmark, Latvia, Mexico, the Netherlands, the Philippines, Portugal, the Republic of Chile, Russia, the Slovak Republic (for a one tailed test), Slovenia (for a one tailed test), Spain, and Switzerland (for a one tailed test). The two countries with a statistically significant difference in favor of females are Japan and Sweden.

The characteristics of the countries showing the expected results are mixed. A majority of them are somewhat more traditional in terms of gender equality measures. According to Figure 3, Brazil, the Philippines, the Republic of Chile, Russia, and Slovenia are the countries with low GEM and low FLP, Latvia, Mexico, Portugal, and the Slovak Republic are low GEM and high FLP, the Netherlands and Spain are high GEM and low FLP countries, and Denmark and Switzerland are high GEM and high FLP. In other words, the countries with relatively greater gender inequality either on GEM or FLP measure present the female disadvantage on global happiness, although there are two exceptions (Denmark and Switzerland). Furthermore, two

Table 13: Comparison between Male and Female in Global Happiness by Country, the Whole Sample

Country	N		Mean		Standard Deviation		Mean Difference	t value	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE			
Australia	607	697	5.41	5.37	0.91	0.94	0.04	0.752	
Austria	774	1,255	5.55	5.54	0.93	0.94	0.01	0.300	
Brazil	978	1,009	5.52	5.33	0.81	0.95	0.18	4.601	***
Cyprus	487	495	5.28	5.29	1.07	1.10	-0.01	-0.109	
Czech Republic	461	795	5.01	5.04	0.99	1.00	-0.03	-0.519	
Denmark	599	732	5.46	5.27	0.89	1.02	0.19	3.596	***
East Germany	216	204	4.99	5.05	0.88	0.96	-0.07	-0.755	
Finland	584	729	5.24	5.27	1.00	0.93	-0.04	-0.684	
Flanders	626	677	5.19	5.22	0.93	0.88	-0.03	-0.572	
France	617	1,216	5.31	5.24	0.95	0.95	0.07	1.493	
Great Britain	838	1,074	5.41	5.44	1.04	0.99	-0.03	-0.707	
Hungary	421	598	5.03	4.96	1.09	1.16	0.07	0.987	
Israel Jews, Arabs	528	659	5.32	5.32	1.11	1.10	0.00	0.028	
Japan	524	602	5.48	5.63	1.00	0.96	-0.15	-2.633	**
Latvia	414	567	4.95	4.78	1.00	0.93	0.18	2.863	**
Mexico	598	881	5.69	5.50	1.02	1.08	0.19	3.325	**
Netherlands	599	641	5.35	5.22	0.83	0.82	0.13	2.677	**
New Zealand	419	568	5.43	5.52	0.94	0.98	-0.09	-1.397	
Northern Ireland	383	574	5.62	5.52	0.89	0.93	0.10	1.578	
Norway	667	761	5.33	5.26	0.89	0.96	0.07	1.338	
Philippines	598	599	5.48	5.33	1.27	1.23	0.15	2.136	*
Poland	515	699	4.99	4.95	1.05	1.00	0.05	0.785	
Portugal	437	647	5.30	5.06	1.02	1.10	0.24	3.668	***
Republic of Chile	660	843	5.68	5.43	0.95	1.07	0.25	4.747	***
Russia	668	1,059	4.99	4.73	1.13	1.18	0.26	4.578	***
Slovak Republic	540	582	4.95	4.82	1.03	1.07	0.12	1.935	†
Slovenia	494	593	5.24	5.13	0.91	0.97	0.11	1.911	†
Spain	1,188	1,272	5.32	5.16	0.84	0.94	0.16	4.500	***
Sweden	486	571	5.16	5.30	0.99	0.94	-0.15	-2.466	*
Switzerland	493	512	5.57	5.47	0.75	0.82	0.10	1.959	†
Taiwan	970	1,005	5.18	5.20	1.07	1.14	-0.02	-0.352	
United States	488	672	5.47	5.56	0.97	0.99	-0.09	-1.540	
West Germany	433	475	5.19	5.15	0.85	0.86	0.04	0.736	

***p < .001; **p < .01; *p < .05; †p < .05 for one tail tests

anomalies, Japan and Sweden, do not have common gender-related characteristics but some commonalities in their economic characteristics.

In sum, from a series of t-tests between males and females on global happiness, it seems that gender does not impact the level of global happiness in many countries. Among those with expected results, a majority of them are low GEM and/or FLP countries. A few of them, however, are high on both GEM and FLP measures, indicating that female disadvantages on psychological well-being are not always improved in more egalitarian countries.

Multi-Level Modeling

HLM of the 33 Countries on Happiness by Gender

In this section, I present the results from a series of HLM analyses as the individual- and country-level variables are added into the model. The results for females appear in Table 14, and those for males appear in Table 15.[1] Tables 14 and 15 show the intercepts and the HLM fixed effect coefficients for the following four models: null model (Model 1), individual model (Model 2), additive model (Model 3), and cross-level model (Model 4). The null model is intercept-only model that does not include any independent variables at either individual- or country-level. The individual model includes predictors only at the individual-level, while the country-level predictors (direct effects of country variables) are added in the additive model. The cross-level model contains both individual- and country-level variables and cross-level interactions between the individual- and country-level variables. Unlike OLS regression, HLM allows coefficients of the individual-level variables to vary across the second level unit, and therefore the fixed effects (γ_{q0}) are equivalent to the average regression coefficients for a given independent variable across countries. Furthermore, all individual- and country-level variables are grand mean centered so that the intercept (γ_{00}) of each model (i.e., Models 2, 3, and 4) can be interpreted as the predicted

[1] In tables, coefficients and standard errors are presented only for significant effects. Those for non-significant effects are not presented for easy views. Those for main effects are presented when their cross-level effects are significant, regardless of the significance level of the main effects.

Table 14: HLMs for Individual- and Country-Level Determinants of Global Happiness, the Whole Sample, Female (N=24,685)

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)
Individual-level variables (γ_{q0})			
Intercept, γ_{00}	5.245 ***	5.291 ***	5.281 ***
	(0.039)	(0.033)	(0.026)
MENROLE, γ_{10}		-0.089 ***	-0.090 ***
		(0.013)	(0.014)
GENDOL, γ_{20}		-0.077 ***	-0.080 ***
		(0.012)	(0.013)
MOMWORK, γ_{30}		0.087 ***	0.090 ***
		(0.015)	(0.015)
Not-married, γ_{40}		-0.360 ***	-0.362 ***
		(0.053)	(0.055)
Never-married, γ_{50}		-0.148 ***	-0.157 ***
		(0.032)	(0.035)
Over-time work, γ_{60}		-0.090 **	-0.086 *
		(0.029)	(0.034)
Full-time work, γ_{70}		-0.059 **	-0.056 *
		(0.019)	(0.027)
No work, γ_{80}			
Number of Children, γ_{90}		-0.016 *	
		(0.007)	
Controls			
Age, γ_{100}		-0.004 **	-0.004 **
		(0.001)	(0.001)
Household Income, γ_{100}		0.007 ***	0.006 ***
		(0.001)	(0.001)
Education, γ_{120}		0.005 **	0.005 **
		(0.001)	(0.002)
Country-level variables (γ_{0s})			
MMENROLE, γ_{01}			
MGENDOL, γ_{02}			
MMOMWORK, γ_{03}			-0.328 **
			(0.090)
GEM, γ_{04}			-0.785 *
			(0.310)
FLP, γ_{05}			-0.003 *
			(0.001)
SCLIST, γ_{06}			
SOCDEM, γ_{07}			0.364 **
			(0.086)
LIBERAL, γ_{08}			0.317 ***
			(0.048)
DVLPING, γ_{09}			0.272 **
			(0.074)
Controls			
GDP, γ_{010}			0.019 **
			(0.006)
EDU, γ_{011}			
LIFEXP, γ_{012}			0.024 *
			(0.010)
HOMICIDE, γ_{013}			
PRICE, γ_{014}			

***p < .001; **p < .01; *p < .05

Note: Numbers in parentheses are standard errors. Coefficients and standard errors only for significant effects and main effects of significant cross-level effects are presented.

Table 14 (continued):

	Cross-level Effects Model (Model 4)						
		Cross-level effect (γ_{qs}) for:					
	Main effects (γ_{q0})	MMENROLE γ_{q1}	MGENDOL γ_{q2}	MMOMWORK γ_{q3}	GEM γ_{q4}	FLP γ_{q5}	SCLIST γ_{q6}
Individual-level variables (γ_{q0})							
Intercept, γ_{00}	5.370 ***						
	(0.033)						
MENROLE, γ_{10}	-0.089 ***						
	(0.014)						
GENDOL, γ_{20}	-0.079 ***						
	(0.014)						
MOMWORK, γ_{30}	0.092 ***						
	(0.015)						
Not-married, γ_{40}	-0.360 ***		-0.966 **		3.488 *		
	(0.051)		(0.324)		(1.193)		
Never-married, γ_{50}	-0.121 **						
	(0.039)						
Over-time work, γ_{60}							
Full-time work, γ_{70}							
No work, γ_{80}	0.036						
	(0.036)						
Number of Children, γ_{90}							
Controls							
Age, γ_{100}	-0.003 *						
	(0.001)						
Household Income, γ_{100}	0.010 ***			-0.012 *			
	(0.001)			(0.005)			
Education, γ_{120}	0.006 **						
	(0.002)						
Country-level variables (γ_{0s})							
MMENROLE, γ_{01}							
MGENDOL, γ_{02}							
MMOMWORK, γ_{03}	-0.514 **						
	(0.153)						
GEM, γ_{04}							
FLP, γ_{05}							
SCLIST, γ_{06}							
SOCDEM, γ_{07}	0.306 *						
	(0.144)						
LIBERAL, γ_{08}	0.233 **						
	(0.079)						
DVLPING, γ_{09}							
Controls							
GDP, γ_{010}							
EDU, γ_{011}							
LIFEXP, γ_{012}							
HOMICIDE, γ_{013}							
PRICE, γ_{014}							

Table 14 (continued):

	Cross-level Effects Model (Model 4)							
	Cross-level effect (γqs) for:							
	SOCDEM γ_{q7}	LIBERAL γ_{q8}	DVLPING γ_{q9}	GDP γ_{q10}	EDU γ_{q11}	LIFEXP γ_{q12}	HOMICIDE γ_{q13}	PRICE γ_{q14}
Individual-level variables (γ_{q0})								
Intercept, γ_{00}								
MENROLE, γ_{10}				0.012 *				
				(0.006)				
GENDOL, γ_{20}								
MOMWORK, γ_{30}								
Not-married, γ_{40}			0.678 *					
			(0.283)					
Never-married, γ_{50}								
Over-time work, γ_{60}								
Full-time work, γ_{70}								
No work, γ_{80}							-0.024 *	
							(0.011)	
Number of Children, γ_{90}								
Controls								
Age, γ_{100}								
Household Income, γ_{100}							-0.001 *	
							(0.00037)	
Education, γ_{120}								
Country-level variables (γ_{0s})								
MMENROLE, γ_{01}								
MGENDOL, γ_{02}								
MMOMWORK, γ_{03}								
GEM, γ_{04}								
FLP, γ_{05}								
SCLIST, γ_{06}								
SOCDEM, γ_{07}								
LIBERAL, γ_{08}								
DVLPING, γ_{09}								
Controls								
GDP, γ_{010}								
EDU, γ_{011}								
LIFEXP, γ_{012}								
HOMICIDE, γ_{013}								
PRICE, γ_{014}								

Table 15: HLMs for Individual- and Country-level Determinants of Global Happiness, the Whole Sample, Male (N=19,669)

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)
Individual-level variables (γ_{q0})			
Intercept, γ_{00}	5.306 ***	5.376 ***	5.367 ***
	(0.037)	(0.033)	(0.026)
MENROLE, γ_{10}		0.058 ***	0.057 ***
		(0.013)	(0.014)
GENDOL, γ_{20}		-0.070 ***	-0.073 ***
		(0.013)	(0.014)
MOMWORK, γ_{30}		0.075 ***	0.077 ***
		(0.008)	(0.011)
Not-married, γ_{40}		-0.606 ***	-0.605 ***
		(0.041)	(0.043)
Never-married, γ_{50}		-0.343 ***	-0.341 ***
		(0.026)	(0.030)
Over-time work, γ_{60}		-0.098 *	
		(0.043)	
Full-time work, γ_{70}		-0.076 *	
		(0.033)	
No work, γ_{80}		-0.111 **	-0.112 *
		(0.039)	(0.049)
Number of Children, γ_{90}			
Controls			
Age, γ_{100}		-0.003 **	-0.003 *
		(0.001)	(0.001)
Household Income, γ_{100}		0.006 ***	0.005 ***
		(0.001)	(0.001)
Education, γ_{120}		0.004 **	0.004 **
		(0.001)	(0.001)
Country-level variables (γ_{0s})			
MMENROLE, γ_{01}			
MGENDOL, γ_{02}			
MMOMWORK, γ_{03}			
GEM, γ_{04}			-0.993 **
			(0.327)
FLP, γ_{05}			
SCLIST, γ_{06}			
SOCDEM, γ_{07}			
LIBERAL, γ_{08}			0.210 **
			(0.050)
DVLPING, γ_{09}			0.537 ***
			(0.075)
Controls			
GDP, γ_{010}			0.015 *
			(0.006)
EDU, γ_{011}			
LIFEXP, γ_{012}			
HOMICIDE, γ_{013}			
PRICE, γ_{014}			

***p < .001; **p < .01; *p < .05

Note: Numbers in parentheses are standard errors. Coefficients and standard errors only for significant effects and main effects of significant cross-level effects are presented.

Table 15 (continued):

	Cross-level Effects Model (Model 4)						
		Cross-level effect (γ_{qs}) for:					
	Main effects (γ_{q0})	MMENROLE γ_{q1}	MGENDOL γ_{q2}	MMOMWORK γ_{q3}	GEM γ_{q4}	FLP γ_{q5}	SCLIST γ_{q6}
Individual-level variables (γ_{q0})							
Intercept, γ_{00}	5.453 ***						
	(0.033)						
MENROLE, γ_{10}	0.057 **						
	(0.016)						
GENDOL, γ_{20}	-0.075 ***						
	(0.014)						
MOMWORK, γ_{30}	0.081 ***						
	(0.012)						
Not-married, γ_{40}	-0.605 ***		-0.671 *		2.604 *		
	(0.044)		(0.285)		(1.050)		
Never-married, γ_{50}	-0.339 ***						
	(0.033)						
Over-time work, γ_{60}							
Full-time work, γ_{70}							
No work, γ_{80}	-0.105						
	(0.060)						
Number of Children, γ_{90}							
Controls							
Age, γ_{100}	-0.002 *						
	(0.001)						
Household Income, γ_{100}	0.009 ***			-0.013 *			
	(0.001)			(0.005)			
Education, γ_{120}							
Country-level variables (γ_{0s})							
MMENROLE, γ_{01}							
MGENDOL, γ_{02}							
MMOMWORK, γ_{03}	-0.339 *						
	(0.145)						
GEM, γ_{04}	-1.419 *						
	(0.558)						
FLP, γ_{05}							
SCLIST, γ_{06}							
SOCDEM, γ_{07}							
LIBERAL, γ_{08}							
DVLPING, γ_{09}							
Controls							
GDP, γ_{010}							
EDU, γ_{011}							
LIFEXP, γ_{012}							
HOMICIDE, γ_{013}							
PRICE, γ_{014}							

Table 15 (continued):

	Cross-level Effects Model (Model 4)							
	Cross-level effect (γqs) for:							
	SOCDEM γ_{q7}	LIBERAL γ_{q8}	DVLPING γ_{q9}	GDP γ_{q10}	EDU γ_{q11}	LIFEXP γ_{q12}	HOMICIDE γ_{q13}	PRICE γ_{q14}
Individual-level variables (γ_{q0})								
Intercept, γ_{00}								
MENROLE, γ_{10}								
GENDOL, γ_{20}								
MOMWORK, γ_{30}								
Not-married, γ_{40}								
Never-married, γ_{50}								
Over-time work, γ_{60}								
Full-time work, γ_{70}								
No work, γ_{80}				0.051 *				
				(0.023)				
Number of Children, γ_{90}								
Controls								
Age, γ_{100}		0.006 *						
		(0.003)						
Household Income, γ_{100}								
Education, γ_{120}								
Country-level variables (γ_{0s})								
MMENROLE, γ_{01}								
MGENDOL, γ_{02}								
MMOMWORK, γ_{03}								
GEM, γ_{04}								
FLP, γ_{05}								
SCLIST, γ_{06}								
SOCDEM, γ_{07}								
LIBERAL, γ_{08}								
DVLPING, γ_{09}								
Controls								
GDP, γ_{010}								
EDU, γ_{011}								
LIFEXP, γ_{012}								
HOMICIDE, γ_{013}								
PRICE, γ_{014}								

global happiness score of a respondent with the average characteristics in a country with the average country-level characteristics.

Model 1 from Tables 14 and 15 shows the average global happiness scores across the 33 countries are 5.245 and 5.306 for females and males, respectively. As expected, the average score is higher for males, meaning that women on average are less happy than men. This difference is statistically significant, according to the results from t-tests, primarily due to a large sample size (N for the male sample is 19,669 and N for the female sample is 24,685).

Model 2 includes the individual-level variables only, and the fixed effect coefficients at the individual-level (i.e., γ_{q0}) indicate the average effects of the individual-level variables on the level of happiness across countries. The three measures of gender role attitude are statistically significant, but the effects are different between males and females. The attitude toward the gendered division of labor (GENDOL) has a negative effect for both males and females, meaning people with more egalitarian attitudes towards the division of labor are less happy than their counterparts. Moreover, the supportive attitude towards mother's employment (MOMWORK) is positively associated with being happy. These effects are consistent between males and females. However, the effects of MENROLE (attitude towards men's caring role) on happiness are positive for males but negative for females. This means, men who believe that men should do more housework and childcare are more likely to be happy than those who disagree with the men's caring role, while women who agree with it are less happy. This may be because the actual caring roles at home are still primarily taken by women, and those who believe men should take more family responsibility may be disappointed more often and become discontent. On the other hand, men's more egalitarian attitudes regarding caring roles may be appreciated, although it does not necessarily mean they actually do more housework and childcare, so that they may be happier than men with more traditional attitudes.

Being not married (i.e., divorced, separated, and widowed) and never married are negatively associated with happiness consistently for males and females, as compared to being married. The detrimental effects of non-married and never-married status are stronger for males than females, almost twice as large for men. The effects of the non-married for males and females are -.606 and -.360 respectively, and the effects of the never-married for males and females are -.343 and -.148, respectively. Furthermore, if we compare being not married to being never married, the former has more negative impact on happiness. These results are consistent with the previous studies arguing the positive effect of marriage on mental health. Meanwhile, the results are also consistent with the literature that marriage benefits men's well-being more than women.

Employment status seems to affect men and women differently as well. As compared to part-time work, over-time work and full-time work have negative impacts on the happiness score for both females and males, which means that shorter work hours (i.e., part-time work) increases happiness for both genders. Meanwhile, the effects of not working are different by gender. Although the effect of not working on happiness is not statistically significant for women, it is negative for men. For males, the negative effect of not working (-.111) is more than over-time work (-.098) or full-time work (-.076). That is, not working appears to have an even more negative impact on men's happiness than over-time work. The gender differences in the effects of different employment status may be attributable to socially expected gender roles, which assume men to be breadwinners. The socially expected roles for women may be reflected in gender difference in the effects of the number of children on happiness. Although there is no statistically significant impact on men (γ_{90} = -.005, p<.562), the number of children has a negative impact on women's happiness (γ_{90} = -.016, p<.036). It means, having more children decreases women's happiness. This result is also consistent with the literature about the negative impact of parenthood on psychological well-being (e.g., McLanahan and Adams 1989). On the

other hand, there is no gender difference in the effects of control variables on happiness; being younger, wealthier, and more educated are associated with being happier for both males and females.

Model 3 introduces the country-level variables. In addition to the fixed effect coefficients at the individual-level (i.e., γ_{q0}), this model includes the direct effects of country-level variables (i.e., γ_{0s}). Adding the direct effects of country variables does not change the significance of the individual-level variables and the gender differences, except for the effect of the number of children becoming non-significant for females. There are several statistically significant country-level effects on the individual happiness, and the coefficients of these variables show some gender differences as well. First of all, it seems that the direct effects of more country-level variables have impacts on women's happiness than men's. Secondly, both males and females in lower GEM countries are happier than those in higher GEM countries. This means that people in the more gender-egalitarian countries are less happy. In addition, although the country-level gender ideology variables do not affect men's happiness, women in countries with unsupportive atmospheres towards mother's employment are happier. The higher female labor force participation is also negatively associated with women's happiness. These results are somewhat puzzling, because more negative effects of being in gender-egalitarian countries are found for women than men, even though being in gender-egalitarian countries is expected to be beneficial to women. On the other hand, for both males and females, people in liberal and developing countries are happier as compared to those in the familialist countries, and women in social democratic countries are also happier than those in the familialist countries. It means that being in familialist countries has negative impacts on happiness as compared to being in liberal, social democratic, and developing countries. The familialist countries are supposed to have the political and economic systems to support male-breadwinner model (Esping-Andersen 1990) so

that they are more traditional. These findings indicate that the effects of country-level gender equality and egalitarian gender norm on happiness, especially for females, are mixed. The higher GEM, higher female labor force participation, and more egalitarian gender ideology at the country-level are negatively associated with individual happiness, although being in countries with more traditional political and economic systems lowers the level of happiness. Lastly, the coefficients for the country-level control variables show a few gender differences; for both genders, people from higher GDP countries are happier than those from lower GDP nations, while being in countries with higher levels of health increases women's happiness but not men's.

Model 4 adds the cross-level interactions (i.e., cross-level effects) to the individual- and country-level variables (i.e., main effects). The main effects at the individual-level are fixed effect coefficients (i.e., γ_{q0}), indicating the average effects of the individual-level variables on the level of happiness across countries. Adding the interaction terms allows the effects of the individual-level variables vary across countries, with these effects being conditional on the level of the country-level variables for each country. Adding cross-level interactions change the significance of the effects of employment status for both males and females, and now employment status on average is not associated with the level of happiness. This indicates that the effect of employment status is not significant when all country-level variables take the value of zero (=grand mean). The negative coefficients for non-married and never-married status are still statistically significant and stronger for males. The significance and the direction of the effects remain the same for gender role attitude measures as well. The positive effect of education also becomes non-significant for males. Adding the interaction terms also changed many country-level variables to be non-significant, although both positive and negative impacts of being in more egalitarian countries still exist to some extent.

The main effect of non-married status on happiness is negative (-.360 for female and -.605 for male): being not married lowers individual happiness as compared to being married on average. Meanwhile, the cross-level effect of GEM is positive and significant for both males (2.604) and females (3.488). This indicates that the negative effects of the non-marriage are mitigated in higher GEM countries, and these effects are stronger for females. In other words, the negative impacts of being non-married are stronger in the more gender-traditional countries. On the other hand, the cross-level effect of the mean gender ideology (the attitude toward gendered division of labor, MGENDOL) is negative and significant for both genders (-.966 for female and -.671 for male): the negative effects of being not married on happiness increase in countries with more egalitarian atmosphere toward the gendered division of labor. In other words, the negative impacts of being non-married are stronger in countries with more egalitarian view towards division of labor. The not-married status also has a positive cross-level interaction effect with developing countries for females (.678). This means that the negative impacts of being not married are stronger for women in familialist countries than those in developing countries. As well as mixed findings in the direct effects of the country-level variables on individual happiness, the findings here in the cross-level effects are also puzzling, because the effects of the country-level gender equality (GEM) and mean gender ideology toward gendered division of labor (MGENDOL) are in the opposite direction. In addition, the effects of non-marriage may be different between females and males, and the mixed effects of gender equality and gender norms are commonly found for both genders. Other cross-level effects are also found; between MENROLE (men's caring roles) and GDP for females (.012), between no work and GDP for males (.051), between no work and homicide rate for female (-.024), between household income and MMOMWORK (mean value for the support for mother's employment) (-.012 for female and -.013 for male), between household income and homicide rate for female (-

.001), and between age and being in a liberal country for male (.006). Since these coefficients are small, there are possibilities of Type I errors. These results denote that the negative effects of supporting men's caring roles on women's happiness and the negative effects of having no work on men's happiness are stronger in economically less developed countries, and the positive effects of having no work on women's happiness are mitigated in less safe countries.

Tables 16 and 17 report the random effect coefficients for the intercept (u_{0j}) and the individual-level variables (u_{1j} through u_{12j}), and the individual-level variance (r_{ij}) for the null model and each advanced model for females and males, respectively. The random effect coefficient for the intercept indicates how much variance in the happiness at the country-level (i.e., between-country differences) is explained by the individual- and country-level variables. The individual-level variance indicates how much variance in happiness at the individual-level (i.e., within-country differences) is explained by the individual- and country-level variables. The random effect coefficients for the individual-level variables indicate how much variance on the slope of each individual-level variable is explained by adding the controls. As previously stated, all individual- and country-level variables are grand mean centered so that we can assess the percentage of improvement on variance components between the null model and the additive models. It is important to note that these are changes in variance of the intercepts and slopes but not the variation of the dependent variable; therefore it is not exactly the same as the R^2 measure. The improvement from Model 1 to Model 2 for the female sample on the country-level and the individual-level variance are 36.4 percent (from .0515 to .0328) and 8.8 percent (from 1.008 to .9193) respectively, meaning that adding the individual-level variables to the model explains 36.4 percent of the between-country variance and 8.8 percent of the within-country variance. The improvement from Model 1 to Model 3 for the female sample is 66.6 percent (from .0515 to .0172) for the country-level and 8.8 percent (1.008 to .9193) for the individual-level. It seems

Table 16: Variances and Random Effect Coefficients (u_{qj}) across Models on Global Happiness, the Whole Sample, Female

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)	Cross-level Model (Model 4)
Intercept, u_{0j} (Country-level variance)	0.05150 ***	0.03276 ***	0.01721 ***	0.01519 ***
Individual-level variables				
MENROLE, u_{1j}		0.00328 **	0.00329 **	0.00316 *
GENDOL, u_{2j}		0.00221 **	0.00259 **	0.00303 *
MOMWORK, u_{3j}		0.00468 ***	0.00482 ***	0.00384 **
Not-married, u_{4j}		0.07983 ***	0.08206 ***	0.06865 ***
Never-married, u_{5j}		0.02189 ***	0.02165 ***	0.02944 ***
Over-time work, u_{6j}		0.00634	0.00651	0.00817
Full-time work, u_{7j}		0.00099	0.00043	0.00420
No work, u_{8j}		0.01581	0.01464	0.00515
Number of Children, u_{9j}		0.00076	0.00098	0.00042
Age, u_{10}j		0.00003 ***	0.00003 ***	0.00002 **
Household income, u_{11j}		0.00003 ***	0.00003 ***	0.00002 ***
Education, u_{12j}		0.00003	0.00003	0.00005 **
Level 1, r_{ij} (Individual-level variance)	1.00834	0.91930	0.91925	0.91801

that adding the country-level variables explained more country-level variance, while the individual-level variance did not change. The cross-level model shows the most improvement among three models, and the change from the null model in country-level variance is 70.5 percent (from .0515 to .0152) while the proportional deduction in the individual-level variance changed just a little (9.0 percent, from 1.008 to .9180). The pattern of changes in the variance components is quite similar for the male sample. The proportional reduction of variance at the country-level from the null model is 29.8 percent for Model 2 (from .0446 to .0313), 62.6 percent for Model 3 (from .0446 to .0167), and 71.9 percent for Model 4 (from 0446 to .0125). The proportional reduction of variance at the individual-level from the null model is 2.0 percent for Model 1 (from .9471 to .9280), 9.0 percent for Model 2 (from .9471 to .8615), and 9.1

Table 17: Variances and Random Effect Coefficients (u_{qj}) across Models on Global Happiness, the Whole Sample, Male

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)	Cross-level Model (Model 4)
Intercept, u_{0j} (Country-level variance)	0.04458 ***	0.03128 ***	0.01667 ***	0.01254 ***
Individual-level variables				
MENROLE, u_{1j}		0.00298 **	0.00297 **	0.00496 **
GENDOL, u_{2j}		0.00284 *	0.00256 *	0.00235
MOMWORK, u_{3j}		0.00094	0.00088	0.00106
Not-married, u_{4j}		0.03255 ***	0.03357 ***	0.03483 **
Never-married, u_{5j}		0.01069	0.01171	0.01255
Over-time work, u_{6j}		0.01976	0.02017	0.03496
Full-time work, u_{7j}		0.07077	0.00552	0.00984
No work, u_{8j}		0.11585	0.01185	0.01785
Number of Children, u_{9j}		0.00031	0.00042	0.00263 *
Age, u_{10}j		0.00002 *	0.00002 *	0.00000
Household income, u_{11j}		0.00002 ***	0.00002 ***	0.00001 ***
Education, u_{12j}		0.00002	0.00002	0.00004 *
Level 1, r_{ij} (Individual-level variance)	0.94706	0.92802	0.86152	0.86088

percent for Model 4 (from .9471 to .8608).

Summary

This section examined the factors associated with the individual psychological well-being measured by happiness across the 33 countries using the HLM. In order to see if gender differences exist, I ran the HLM analysis for males and females separately. The findings suggest there are clear gender differences in not only the level of happiness but also the factors affecting their happiness. Women showed lower happiness than men on average. The findings supported that being married has positive effects on mental health as compared to other marital statuses, especially for men. Meanwhile, gender differences were also found in the effects of employment and parenthood. Although an advantage for part-time work as compared to full-time work and

over-time work was found for both males and females, not working had detrimental effects on males even more than over-time work, while it was not related to women's happiness. On the other hand, the number of children had negative impacts for women but not for men. The supportive attitude toward men's caring role caused a higher level of happiness for males but decreased women's happiness.

Despite my hypotheses that the country-level gender equality and egalitarian gender norms may improve women's psychological well-being, the measures of gender equality and gender ideology at the country-level showed some mixed results in the cross-level interaction. Although the negative effect of being not married was stronger in more gender unequal countries, it became weaker in countries with the more traditional view towards the division of labor. This inconsistency in the effects of country-level gender equality and norms on happiness was also found in the direct effects of country-level variables. The change in variance components showed most country-level and individual-level variances were explained in the cross-level model. In the next chapter, I will focus on married and employed respondents and utilize multiple dimensions of psychological well-being to examine whether the relationships found in HLM analyses in this chapter are also applicable to other measures of psychological well-being.

CHAPTER 5: FINDINGS FROM MARRIED AND EMPLOYED SAMPLE ANALYSES

The previous chapter presented comparative analyses of global happiness on the whole sample and examined cross-level interactions in addition to the effects of the individual- and country-level predictors, treating nations as a context. After grasping the trends in country characteristics and gender differences in the whole sample, this chapter focuses on married and employed respondents. It holds two purposes. First of all, it allows me to utilize more dimensions of psychological well-being, specifically those related to family and work responsibility. Furthermore, since the effects of parenthood, employment, and their combination with gender may be culturally dependent, focusing on this sample may highlight the contextual differences to a greater extent. Married and employed individuals may be similar to others regardless of the context, or they may be distinctively different from people as a whole. To examine this, I compare two samples by using the happiness measure, based on a single item which I used in the previous chapter.

Since married men are much more likely to be employed than married women, female respondents are highly likely to have employed husbands. However, this is not the case for male respondents. According to the findings in the previous chapter, women's employment rates in general are lower than men's, and therefore, many male respondents in this sample may have non-employed wives. I thus assume that the respondents from this sample include the following men and women; female respondents are employed either full time or part time and more likely to be a part of a working couple; male respondents are employed full time in most cases and have either employed or non-employed wives.

In addition to the analyses presented in the previous chapter, this chapter also describes the distributions in individual psychological well-being and its predictors among married and employed people in the 33 countries to fully understand the sample. I also illustrate gender

differences for this sample by conducting a series of t-tests for each dimension of psychological well-being, before I go on to HLM analysis.

Descriptive Statistics

Comparison of Happiness, Life Satisfaction, and Family- and Work-Related Well-Being by Country

I first start with comparing the 33 countries by looking at mean scores of the four measures of psychological well-being. Table 18 presents the means, standard deviations, and percentages of the individual-level variables in the 33 countries. The countries are ordered alphabetically. The standard deviations for the four dimensions of psychological well-being are shown in parentheses. The sample size of the married and employed individuals ranges from 132 (East Germany) to 932 (Taiwan), and the average sample size is 461. As anticipated, the sample size became much smaller than the whole sample in some countries because only people who are married and employed are included in the analysis. Therefore, even countries which had relatively large sample sizes in the previous chapter have small samples of the married and employed respondents, such as Austria (N reduced from 2047 to 563) or Brazil (N reduced from 2000 to 336). Extracting the married and employed from the whole sample cut sample size by 50 to 75 percent in most countries.

As was described in Chapter 3, three more dimensions of psychological well-being are available for the married and employed sample; Life Satisfaction, Family-Related Well-being, and Work-Related Well-being. Family-Related Well-being and Work-Related Well-being use stress measures, and higher scores indicate no stress. In order to compare the results from the whole sample analyses, I use the Global Happiness measure (based on a single question "If you were to consider your life in general, how happy or unhappy would you say you are, on the whole?") for the married and employed sample as well. We should note, however, the statement

Table 18: Means, Standard Deviations, and Percentages of the Individual-Level Variables by Country, for the Married and Employed Sample

Country	N	HAPPY		LIFESAT		FAMWB		WORKWB		MENROLE	GENDOL	MOMWORK
Australia	453	5.44	(0.82)	5.41	(0.76)	3.44	(0.56)	2.56	(0.71)	3.65	3.31	3.26
Austria	563	5.75	(0.82)	5.79	(0.72)	3.85	(0.38)	2.94	(0.74)	3.54	3.39	2.99
Brazil	336	5.65	(0.58)	5.45	(0.51)	3.16	(0.91)	2.34	(0.87)	4.13	2.62	2.38
Cyprus	476	5.43	(0.95)	5.49	(0.82)	3.41	(0.60)	2.63	(0.58)	3.13	3.14	3.52
Czech Republic	213	5.17	(0.96)	5.16	(0.81)	3.47	(0.69)	2.48	(0.70)	3.65	2.68	3.23
Denmark	676	5.46	(0.88)	5.62	(0.75)	3.82	(0.39)	2.72	(0.77)	3.71	3.70	3.80
East Germany	132	5.24	(0.80)	5.36	(0.74)	3.77	(0.38)	2.52	(0.69)	3.57	4.05	3.93
Finland	524	5.43	(0.86)	5.39	(0.75)	3.68	(0.44)	2.69	(0.67)	3.78	3.29	3.60
Flanders	480	5.27	(0.73)	5.38	(0.64)	3.66	(0.54)	2.54	(0.74)	3.50	3.22	3.14
France	608	5.44	(0.94)	5.40	(0.83)	3.54	(0.56)	2.58	(0.78)	3.93	3.52	3.50
Great Britain	673	5.60	(0.86)	5.54	(0.75)	3.56	(0.54)	2.50	(0.71)	3.56	3.42	3.32
Hungary	242	5.42	(1.04)	5.41	(0.87)	3.63	(0.61)	2.49	(0.86)	3.43	2.72	2.97
Israel Jews, Arabs	508	5.48	(1.01)	5.55	(0.80)	3.35	(0.80)	2.45	(0.77)	3.48	3.45	3.22
Japan	483	5.61	(0.89)	5.42	(0.82)	3.83	(0.44)	3.00	(0.87)	3.53	2.82	3.69
Latvia	331	5.07	(0.91)	5.08	(0.85)	3.63	(0.64)	2.61	(0.77)	3.50	2.85	2.86
Mexico	472	5.70	(1.02)	5.87	(0.75)	3.03	(0.94)	2.48	(0.75)	3.90	2.73	2.57
Netherlands	399	5.48	(0.75)	5.46	(0.62)	3.69	(0.49)	2.74	(0.69)	3.32	3.50	3.17
New Zealand	409	5.52	(0.95)	5.48	(0.88)	3.56	(0.56)	2.61	(0.69)	3.51	3.40	3.12
Northern Ireland	282	5.73	(0.79)	5.71	(0.73)	3.59	(0.58)	2.66	(0.72)	3.65	3.33	3.39
Norway	757	5.39	(0.85)	5.47	(0.74)	3.74	(0.42)	2.64	(0.71)	3.72	3.64	3.42
Philippines	495	5.52	(1.24)	5.54	(1.01)	3.21	(0.79)	2.63	(0.66)	2.76	2.24	3.14
Poland	380	5.20	(0.85)	5.27	(0.72)	3.23	(0.78)	2.26	(0.73)	3.71	2.82	3.13
Portugal	501	5.42	(1.03)	5.46	(0.83)	3.43	(0.77)	2.33	(0.72)	4.14	2.95	2.54
Republic of Chile	387	5.75	(0.85)	5.70	(0.68)	2.75	(0.79)	2.17	(0.71)	4.07	2.75	2.39
Russia	551	5.19	(1.01)	5.18	(0.90)	3.58	(0.69)	2.46	(0.76)	3.64	2.66	2.81
Slovak Republic	423	5.10	(0.92)	5.12	(0.86)	3.29	(0.69)	2.34	(0.72)	3.77	2.56	3.23
Slovenia	358	5.33	(0.84)	5.41	(0.75)	3.67	(0.58)	2.54	(0.82)	3.65	3.07	3.13
Spain	647	5.41	(0.81)	5.40	(0.65)	3.46	(0.77)	2.66	(0.77)	4.14	3.41	3.11
Sweden	409	5.38	(0.89)	5.48	(0.78)	3.64	(0.54)	2.56	(0.72)	3.79	3.56	3.56
Switzerland	463	5.67	(0.70)	5.76	(0.59)	3.87	(0.32)	2.98	(0.62)	3.66	3.08	2.88
Taiwan	932	5.27	(1.04)	5.28	(0.85)	3.78	(0.48)	2.89	(0.80)	3.37	2.39	3.42
United States	359	5.66	(0.86)	5.63	(0.82)	3.48	(0.63)	2.51	(0.73)	3.68	3.16	3.44
West Germany	281	5.28	(0.73)	5.42	(0.67)	3.71	(0.47)	2.56	(0.69)	3.57	3.57	3.29

Note: HAPPY (happiness), LIFESAT (life satisfaction), FAMWB (family-related well-being), and WORKWB (work-related well-being) are measurements of psychological well-being. MENROLE (men's roles), GENDOL (gendered division of labor), and MOMWORK (mother's employment) are measurements of gender role attitudes. FULLWORK in Table 17 includes people who work both full time and over time (longer than 40 hours per week). Standard deviations are presented in parentheses.

Table 18 (continued):

Country	% FULLWORK	% Female	# of Children	Median Family Income	Age	Education
Australia	74%	46%	1.19	23,221	43.4	12.6
Austria	80%	55%	0.99	34,884	42.4	11.4
Brazil	90%	34%	1.50	3,275	39.1	7.8
Cyprus	98%	46%	1.27	24,887	43.5	12.0
Czech Republic	97%	51%	0.89	7,586	43.5	12.6
Denmark	91%	53%	0.83	77,512	50.3	13.5
East Germany	95%	46%	0.74	30,083	44.6	13.0
Finland	94%	53%	0.85	48,554	42.2	12.9
Flanders	79%	44%	1.01	27,591	43.5	13.2
France	84%	64%	1.26	31,713	40.6	14.1
Great Britain	76%	52%	0.90	54,049	42.8	12.5
Hungary	95%	43%	0.83	7,644	42.8	12.3
Israel Jews, Arabs	78%	54%	1.67	23,316	42.4	13.9
Japan	80%	42%	0.96	53,430	48.8	12.9
Latvia	94%	48%	1.05	5,354	40.8	13.3
Mexico	87%	44%	1.82	3,827	40.5	10.1
Netherlands	72%	39%	1.12	51,422	43.9	13.8
New Zealand	76%	48%	1.08	30,753	47.0	13.0
Northern Ireland	72%	48%	1.19	44,238	43.1	11.5
Norway	84%	50%	0.97	66,800	49.5	13.4
Philippines	80%	34%	2.31	1,348	41.0	9.4
Poland	93%	50%	1.32	5,924	41.4	11.8
Portugal	95%	50%	0.65	15,475	48.8	8.3
Republic of Chile	91%	32%	1.55	4,481	42.3	11.6
Russia	94%	48%	0.97	1,934	42.2	12.7
Slovak Republic	94%	54%	1.12	5,652	40.6	13.3
Slovenia	95%	45%	1.00	16,992	43.9	12.3
Spain	89%	37%	0.86	20,636	42.9	12.1
Sweden	87%	55%	0.94	42,509	49.4	12.0
Switzerland	79%	42%	0.83	58,844	50.6	11.2
Taiwan	93%	40%	1.33	21,492	46.4	10.7
United States	86%	51%	0.78	67,500	42.4	13.8
West Germany	83%	38%	0.92	33,425	45.2	11.7

used for the Global Happiness measure overlaps the Life Satisfaction measure (see Figure 2 in Chapter 3). Therefore, the distributions and the factors affecting two measures may be similar.

Global Happiness ranges from 1 to 7, Life Satisfaction ranges from 1 to 7, Family-Related Well-being ranges from 1 to 4, and Work-Related Well-being ranges from 1 to 4. The countries with the 10 lowest and 10 highest scores for each measure are listed in Tables 19 and 20, respectively. As anticipated, the listed countries for Happiness and Life Satisfaction measures are overlapping, especially the lowest scored countries. Moreover, the listed countries for the lowest and the highest scores on Happiness overlap with those of the whole sample, although the

Table 19: Ten Countries with the Lowest HAPPY, LIFESAT, FAMWB, and WORKWB Scores

Country	HAPPY
Latvia	5.07
Slovak Republic	5.10
Czech Republic	5.17
Russia	5.19
Poland	5.20
East Germany	5.24
Flanders	5.27
Taiwan	5.27
West Germany	5.28
Slovenia	5.33

Country	LIFESAT
Latvia	5.08
Slovak Republic	5.12
Czech Republic	5.16
Russia	5.18
Poland	5.27
Taiwan	5.28
East Germany	5.36
Flanders	5.38
Finland	5.39
France	5.40
Spain	5.40

Country	FAMWB
Republic of Chile	2.75
Mexico	3.03
Brazil	3.16
Philippines	3.21
Poland	3.23
Slovak Republic	3.29
Israel Jews, Arabs	3.35
Cyprus	3.41
Portugal	3.43
Australia	3.44

Country	WORKWB
Republic of Chile	2.17
Poland	2.26
Portugal	2.33
Brazil	2.34
Slovak Republic	2.34
Israel Jews, Arabs	2.45
Russia	2.46
Czech Republic	2.48
Mexico	2.48
Hungary	2.49

Table 20: Ten Countries with the Highest HAPPY, LIFESAT, FAMWB, and WORKWB Scores

Country	HAPPY
Austria	5.75
Republic of Chile	5.75
Northern Ireland	5.73
Mexico	5.70
Switzerland	5.67
United States	5.66
Brazil	5.65
Japan	5.61
Great Britain	5.60
New Zealand	5.52
Philippines	5.52

Country	LIFESAT
Mexico	5.87
Austria	5.79
Switzerland	5.76
Northern Ireland	5.71
Republic of Chile	5.70
United States	5.63
Denmark	5.62
Israel Jews, Arabs	5.55
Philippines	5.54
Great Britain	5.54

Country	FAMWB
Switzerland	3.87
Austria	3.85
Japan	3.83
Denmark	3.82
Taiwan	3.78
East Germany	3.77
Norway	3.74
West Germany	3.71
Netherlands	3.69
Finland	3.68

Country	WORKWB
Japan	3.00
Switzerland	2.98
Austria	2.94
Taiwan	2.89
Netherlands	2.74
Denmark	2.72
Finland	2.69
Northern Ireland	2.66
Spain	2.66
Norway	2.64

rank orders and the actual scores are slightly different. For both Happiness and Life Satisfaction, most countries with the lowest scores are former socialist countries, and there is no pattern found in the 10 highest scored countries. Meanwhile, Happiness scores seem somewhat higher for the married and employed sample than the whole sample, for both the highest and lowest countries. The average score of happiness for the married and employed sample among the 33 countries is 5.44, as compared to 5.27 for the whole sample. Although the effects of employment on happiness are not straightforward and depends on the employment status and gender, the benefit of marriage was obvious in the whole sample analyses. Therefore, the higher average of happiness scores for the married and employed sample here is not surprising.

On the other hand, the listed countries for Family-Related and Work-Related Well-being are somewhat different from Happiness and Life Satisfaction, and they seem relatively similar with each other. We can also find some countries almost always listed either among the lowest or highest throughout all four measures. For example, the Slovak Republic and Poland are among the lowest on all four, and Switzerland and Austria are among the highest for all. Meanwhile, the Republic of Chile and Mexico are the highest on Happiness and Life Satisfaction but the lowest on stress measures, and the reverse pattern is found for Taiwan. It seems that there are some qualitative differences between the first two measures and the two stress measures, which we could expect to find later by examining how the factors in question will be associated with psychological well-being measured by these different dimensions.

Comparison by Country-Level Characteristics

Next, I compare country-level characteristics among the 33 countries to understand the sample and also the differences from the whole sample. First, I compare aggregated gender role attitudes. Table 18 shows country means of three gender ideology measures, and Tables 21-23 present 10 countries with the highest and lowest scores on each measure. Although there is no

striking difference between the two samples, it seems that the scores are slightly higher for the married and employed sample on the attitudes toward gendered division of labor (GENDOL) and mother's employment (MOMWORK) in most countries. The average scores for gendered division of labor (GENDOL) for the two samples are 3.12 for the married and employed sample and 3.02 for the whole sample, while the average scores for mother's employment (MOMWORK) are 3.19 for the married and employed and 3.13 for the whole sample. Meanwhile, mean scores for the attitude toward increasing men's caring roles (MENROLE) are slightly higher for the whole sample, 3.64 for the married and employed and 3.69 for the whole sample.

Although one of the three measures indicated otherwise, the married and employed sample seems to be slightly more egalitarian than the entire sample, in terms of the attitudes toward division of labor and mother's employment. This may be attributable to the female respondents in this sample, which includes only employed individuals. In other words, females included in this sample are married and hold at least part-time job at the same time, and especially those who work full-time are expected to have more egalitarian gender ideology.

On the other hand, Tables 21-23 show that the listed countries and the rankings are the most similar for men's caring roles (MENROLE) between the married and employed sample and the whole sample, while we see different countries for gendered division of labor (GENDOL) and mother's employment (MOMWORK). However, a clearer pattern can be found in the married and employed sample. Throughout all three measures, northern European countries and France are almost always ranked the highest. Other results are mixed as we observed in the previous chapter; Taiwan and Japan are ranked the lowest on men's caring roles (MENROLE) and gendered division of labor (GENDOL) but among the highest on mother's employment (MOMWORK); Mexico and the Republic of Chile are among the lowest on GENDOL and

Table 21: Ten Countries with the Lowest (Left) and Highest (Right) MENROLE Scores

LOW

Country	MENROLE
Philippines	2.76
Cyprus	3.13
Netherlands	3.32
Taiwan	3.37
Hungary	3.43
Israel Jews, Arabs	3.48
Latvia	3.50
Flanders	3.50
New Zealand	3.51
Japan	3.53

HIGH

Country	MENROLE
Spain	4.14
Portugal	4.14
Brazil	4.13
Republic of Chile	4.07
France	3.93
Mexico	3.90
Sweden	3.79
Finland	3.78
Slovak Republic	3.77
Norway	3.72

Table 22: Ten Countries with the Lowest (Left) and Highest (Right) GENDOL Scores

LOW

Country	GENDOL
Philippines	2.24
Taiwan	2.39
Slovak Republic	2.56
Brazil	2.62
Russia	2.66
Czech Republic	2.68
Hungary	2.72
Mexico	2.73
Republic of Chile	2.75
Poland	2.82
Japan	2.82

HIGH

Country	GENDOL
East Germany	4.05
Denmark	3.70
Norway	3.64
West Germany	3.57
Sweden	3.56
France	3.52
Netherlands	3.50
Israel Jews, Arabs	3.45
Great Britain	3.42
Spain	3.41

Table 23: Ten Countries with the Lowest (Left) and Highest (Right) MOMWORK Scores

LOW

Country	MOMWORK
Brazil	2.38
Republic of Chile	2.39
Portugal	2.54
Mexico	2.57
Russia	2.81
Latvia	2.86
Switzerland	2.88
Hungary	2.97
Austria	2.99
Spain	3.11

HIGH

Country	MOMWORK
East Germany	3.93
Denmark	3.80
Japan	3.69
Finland	3.60
Sweden	3.56
Cyprus	3.52
France	3.50
United States	3.44
Norway	3.42
Taiwan	3.42

MOMWORK but the highest on MENROLE. Interestingly, we do not see that the countries with the high GEM (Gender Empowerment Measure) and high FLP (female labor force participation) (see Figure 3 in Chapter 4), such as the United States or Switzerland, ranked higher on the aggregated gender role attitudes. Instead, northern European countries and France are among countries with the highest degree of gender equality, the highest female labor force participation rate, and the most egalitarian gender ideology. These results show us that country-level gender ideology is not necessarily consistent with such things as degree of female labor force participation or gender wage gap. Furthermore, as we have seen in the previous chapter, many countries score high on men's caring roles and low on the gendered division of labor and mother's employment. People tend to agree with increasing men's caring roles but still are conservative to change traditional division of labor and mother's employment, the pattern of which seems common between the whole sample and the married and employed sample.

Statistics for country-level characteristics in the 33 countries are presented in Table 18. Since the numbers are based upon the married and employed sample, percent full-time employment (i.e., work more than 30 hours) is shown instead of percent employed. Many countries have a high proportion of full-time employment, ranging from 72 (Northern Ireland) to 98 percent (Cyprus). Especially, former socialist countries show apparently higher full-time employment rates, as compared to central European countries. Other figures indicate some differences from the country-level characteristics of the whole sample. Because the sample of this chapter includes only married and employed individuals, socioeconomic backgrounds of respondents in this sample are a little higher than those in the whole sample. Years of education seem higher for the married and employed sample, as compared to the whole sample. While the countries with over 12 years of education on average were only 45 percent of countries in the whole sample, the corresponding proportion is a two third in the married and employed sample.

The median family income is also substantially higher for the married and employed sample. Including only married and employed individuals also decreases the number of female respondents in each sample, especially in countries with lower married women's labor force participation. Women are less likely to be married and employed at same time than men in some countries, decreasing the percent female in these countries. While the sample was almost evenly split by gender in the previous chapter, it is less than 40 percent female in some countries here. As a result, the total number of women is 7,112 in this sample, while that for men is 8,087. The average number of children is around 1 in most countries, and the highest is 2.31 for the Philippines and the lowest is 0.65 for Portugal.

Gender Differences in Country-Level Characteristics

In this section, we examine gender differences in both predictor and response variables. Table 24 presents means of the individual-level variables by country and gender among the 33 countries. The same figures for the whole sample are presented in Table 3 in Chapter 4. Similar to the whole sample, women in most countries tend to score higher than men on the gender role attitude measures with few exceptions. However, the differences between men and women on gender ideology are not as much as expected, although gender gaps in the married and employed sample are somewhat greater than those in the whole sample. Overall, women in the married and employed sample are the most egalitarian, followed by women in the whole sample. Both males and females in the married and employed sample are also more egalitarian than their counterparts in the whole sample.

Meanwhile, clear gender differences are found in the share of housework and percent full-time worker. As expected, female respondents report much higher proportions of doing housework than males across countries. The largest gender gap is found in Japan, where the average percent of housework for women is 90.3 percent and it is 11 percent for men. Even in

Table 24: Means of the Individual-Level Variables by Country and Gender, for the Married and Employed Sample

Country	N		MENROLE		GENDOL		MOMWORK		% Housework	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Australia	242	210	3.54	3.77	3.18	3.45	3.02	3.53	34.3	67.0
Austria	256	307	3.41	3.65	3.11	3.61	2.79	3.16	24.9	77.3
Brazil	221	115	4.05	4.29	2.50	2.83	2.38	2.39	23.6	76.7
Cyprus	257	219	2.67	3.66	2.93	3.37	3.41	3.66	17.2	79.6
Czech Republic	104	109	3.22	4.06	2.56	2.79	3.21	3.25	30.9	73.2
Denmark	315	361	3.64	3.78	3.61	3.77	3.64	3.95	36.9	69.0
East Germany	71	61	3.51	3.66	3.85	4.28	3.75	4.15	28.5	69.5
Finland	247	277	3.67	3.88	3.20	3.37	3.47	3.72	34.7	68.2
Flanders	269	211	3.33	3.71	3.02	3.47	3.06	3.24	26.4	74.1
France	221	387	3.82	3.99	3.32	3.63	3.26	3.64	29.3	78.4
Great Britain	325	348	3.46	3.65	3.32	3.52	3.15	3.49	32.6	72.1
Hungary	139	103	3.40	3.47	2.65	2.82	2.94	3.02	27.2	71.2
Israel Jews, Arabs	235	271	3.37	3.58	3.26	3.62	3.10	3.33	28.9	73.4
Japan	280	203	3.34	3.78	2.81	2.83	3.59	3.82	11.0	90.3
Latvia	173	158	3.31	3.70	2.73	2.99	2.90	2.82	37.3	64.1
Mexico	265	207	3.82	4.00	2.70	2.76	2.58	2.56	33.5	68.7
Netherlands	242	157	3.27	3.40	3.40	3.65	3.07	3.33	25.1	74.0
New Zealand	214	194	3.45	3.59	3.33	3.49	2.98	3.28	32.0	71.4
Northern Ireland	148	134	3.48	3.83	3.17	3.51	3.35	3.44	25.9	78.3
Norway	378	379	3.63	3.81	3.57	3.71	3.27	3.57	29.5	75.9
Philippines	329	166	2.76	2.75	2.25	2.24	3.14	3.15	40.0	65.2
Poland	189	191	3.50	3.91	2.70	2.93	3.04	3.23	37.2	65.1
Portugal	250	251	4.01	4.27	2.75	3.15	2.48	2.61	23.8	82.1
Republic of Chile	265	122	4.01	4.19	2.72	2.80	2.38	2.43	20.9	75.9
Russia	286	265	3.47	3.81	2.57	2.76	2.83	2.80	33.7	66.5
Slovak Republic	196	227	3.29	4.17	2.43	2.68	3.16	3.29	33.1	68.6
Slovenia	197	161	3.54	3.78	3.03	3.11	3.07	3.19	26.4	71.6
Spain	407	240	4.04	4.31	3.25	3.69	3.00	3.31	24.2	74.1
Sweden	185	224	3.74	3.83	3.45	3.64	3.39	3.70	33.1	66.7
Switzerland	270	193	3.67	3.64	2.99	3.21	2.80	3.01	25.4	77.6
Taiwan	562	370	3.33	3.42	2.34	2.47	3.33	3.55	24.7	74.9
United States	175	184	3.47	3.88	2.92	3.39	3.18	3.68	35.3	67.4
West Germany	174	107	3.52	3.65	3.41	3.83	3.05	3.69	22.5	71.3

Table 24 (continued):

Country	FULL-TIME WORK		# of Children		Education		Income		Age	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Australia	86.8%	59.0%	1.20	1.19	12.5	12.8	32,065	20,106	45.4	41.2
Austria	98.0%	64.2%	1.00	0.99	11.3	11.5	38,082	39,476	43.2	41.7
Brazil	94.6%	82.6%	1.57	1.38	7.3	8.8	4,769	5,368	40.8	36.0
Cyprus	99.6%	96.3%	1.18	1.38	11.7	12.4	24,960	26,731	45.9	40.6
Czech Republic	98.1%	95.4%	0.93	0.85	12.8	12.3	8,464	8,579	44.3	42.7
Denmark	96.5%	87.0%	0.84	0.83	13.8	13.2	73,431	75,188	52.5	48.5
East Germany	97.2%	93.4%	0.80	0.67	13.2	12.9	32,665	36,038	45.6	43.4
Finland	97.6%	90.6%	0.93	0.78	13.2	12.8	67,585	70,363	42.6	41.8
Flanders	94.1%	59.2%	0.91	1.13	13.0	13.4	25,256	33,984	45.0	41.6
France	99.5%	75.7%	1.14	1.33	14.0	14.1	47,802	39,471	44.0	38.6
Great Britain	94.5%	59.2%	0.97	0.84	12.5	12.5	56,689	55,016	43.9	41.8
Hungary	94.2%	96.1%	0.91	0.73	12.2	12.3	8,528	9,028	43.3	42.2
Israel Jews, Arabs	91.9%	65.3%	1.59	1.74	13.7	14.0	22,983	24,475	44.2	40.9
Japan	95.0%	59.1%	0.94	0.99	13.3	12.3	64,236	62,019	49.4	48.0
Latvia	97.7%	89.2%	1.10	0.99	13.1	13.5	5,887	5,924	41.2	40.3
Mexico	93.6%	78.3%	1.89	1.72	10.0	10.2	7,394	7,440	42.1	38.6
Netherlands	95.9%	35.0%	1.15	1.08	14.0	13.4	53,059	59,610	44.8	42.5
New Zealand	89.7%	61.3%	1.12	1.02	13.1	13.0	32,062	32,173	47.8	46.1
Northern Ireland	94.6%	47.8%	1.16	1.23	11.3	11.8	44,297	48,138	44.4	41.6
Norway	98.9%	69.4%	0.92	1.01	13.6	13.2	72,608	71,878	51.6	47.4
Philippines	83.0%	75.3%	2.23	2.46	9.1	10.0	2,727	3,356	41.8	39.3
Poland	95.8%	90.6%	1.40	1.25	11.4	12.2	6,645	7,057	41.6	41.2
Portugal	97.2%	92.8%	0.53	0.76	8.1	8.5	16,177	17,456	52.3	45.3
Republic of Chile	96.6%	80.3%	1.63	1.37	11.7	11.5	6,703	6,420	43.1	40.7
Russia	97.6%	90.9%	0.95	0.98	12.3	13.3	2,084	2,543	43.8	40.4
Slovak Republic	99.0%	89.0%	1.10	1.13	13.5	13.0	6,316	6,482	41.0	40.3
Slovenia	93.9%	96.9%	1.07	0.91	12.3	12.3	19,894	17,600	44.6	43.0
Spain	97.5%	74.2%	0.90	0.79	11.7	12.7	26,193	26,068	44.5	40.4
Sweden	94.1%	81.7%	0.95	0.93	11.5	12.4	44,450	48,802	50.3	48.7
Switzerland	95.6%	55.4%	0.76	0.92	11.2	11.1	67,359	63,140	53.4	46.8
Taiwan	93.8%	92.2%	1.31	1.37	10.6	10.7	26,249	29,109	49.1	42.5
United States	95.4%	77.2%	0.88	0.68	13.8	13.8	196,035	237,711	43.1	41.8
West Germany	97.7%	57.9%	1.06	0.70	11.7	11.7	38,765	40,033	46.0	43.7

the country with the smallest gap (the Philippines), women do 65.2 percent of housework while men do 40 percent. Overall, it seems that women do 70 to 75 percent of housework and men do about 25 to 30 percent on average. It is important to note that female respondents included in this sample are employed but could be working part-time. In some countries a majority of female workers may work in part-time jobs, based on the employment conditions of the country. Even considering differences in work hours, however, it is obvious that women are doing domestic work more than twice as much as men do.

In contrast, men have much higher proportions of full-time employment than women. In most countries, the percent full-time worker for males is over 90 percent, with the lowest at 83 percent (the Philippines), while the percent full-time for females varies from 35 (the Netherland) to 97 percent (Slovenia). Most former socialist countries and Taiwan show higher full-time employment rates for women, and northern European countries also hold relatively high female full-time employment rates. Meanwhile, central European countries show lower full-time employment rates for women. Interestingly, the results from the previous and current chapters indicate substantial differences between female labor force participation and full-time employment (see Figure 3 in Chapter 4). For example, former socialist countries have relatively fewer employed women among the 33 countries, but most of them work full-time. This is a distinctive difference from social democratic countries (higher female labor force participation and full-time employment) or conservative countries (lower female labor force participation and higher part-time employment).

Another interesting finding is that full-time employment rates for women do not necessarily mirror percent housework hours done by men. In other words, even in countries with high female full-time employment rates, percentage of housework done by men is not higher than other countries. In these countries, this unequal division of household labor may negatively

affect full-time employed women in their psychological well-being and may lead to gender differences in psychological well-being. In the next section, I report the results of a series of t-tests for all four measures of psychological well-being and examine gender differences.

Gender Differences in Happiness, Life Satisfaction, and Family- and Work-Related Well-Being: T-Tests

Tables 25 to 28 show the results of t-tests for the Global Happiness, Life Satisfaction, Family-Related Well-being, and Work-Related Well-being, respectively. Again, since the Global Happiness and Life Satisfaction measures share the same statement, we could expect the results between two measures resemble to each other.

However, even a quick glance gives us an impression that the results of t-tests are quite different from each other. Most gender differences (including one-tail tests assuming female disadvantage) are found in Family-Related Well-Being for more than half of the countries. Based on the literature stating that women tend to feel more responsible for the matters related to their caring roles at home, it is not surprising to find more female vulnerability in this measure. On the other hand, although I did not find many significant gender differences, the results for the tests on work-related well-being are interesting. While there is no negative t-value (i.e., lower psychological well-being for males than females) found in other three measures, half of the significant differences for work well-being are in the negative direction. This may also be a reflection of the traditional division of labor, which expects men to take more responsibility for working outside home. Two of the three statements used for this measure are asking not only the level of work stress but also the level of stress from not fulfilling family responsibilities because of work (see Figure 2 in Chapter 3, p.50). Therefore, this is also measuring the stress from juggling work and family, although the responsibility is weighed more on work. In other words, if one does not consider any family responsibilities, the level of stress may not be high even

Table 25: Comparison between Male and Female in Global Happiness by Country, the Married and Employed Sample

Country	N		Mean		Standard Deviation		Mean	t value	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	Difference		
Australia	240	208	5.42	5.47	0.82	0.83	-0.05	-0.64	
Austria	253	307	5.70	5.79	0.83	0.82	-0.09	-1.26	
Brazil	220	114	5.65	5.65	0.58	0.58	0.00	-0.05	
Cyprus	250	210	5.46	5.39	0.96	0.95	0.07	0.78	
Czech Republic	101	107	5.24	5.10	1.00	0.91	0.13	1.02	
Denmark	307	354	5.58	5.35	0.81	0.93	0.24	3.46	**
East Germany	71	59	5.25	5.22	0.73	0.87	0.03	0.24	
Finland	246	276	5.49	5.38	0.86	0.86	0.11	1.47	
Flanders	261	206	5.26	5.29	0.75	0.71	-0.03	-0.43	
France	216	378	5.47	5.43	0.96	0.93	0.05	0.58	
Great Britain	325	347	5.64	5.56	0.83	0.90	0.08	1.17	
Hungary	138	102	5.43	5.40	0.98	1.11	0.03	0.19	
Israel Jews, Arabs	234	265	5.45	5.51	0.98	1.04	-0.06	-0.71	
Japan	278	203	5.61	5.61	0.93	0.82	0.00	-0.04	
Latvia	170	155	5.21	4.92	0.96	0.83	0.29	2.89	**
Mexico	261	204	5.80	5.56	0.94	1.10	0.24	2.51	*
Netherlands	241	156	5.49	5.46	0.75	0.75	0.03	0.42	
New Zealand	210	190	5.50	5.56	0.92	0.98	-0.06	-0.66	
Northern Ireland	146	133	5.80	5.66	0.77	0.82	0.14	1.47	
Norway	367	371	5.45	5.34	5.45	5.34	0.11	1.76	†
Philippines	328	166	5.58	5.42	1.26	1.19	0.16	1.36	
Poland	185	186	5.25	5.15	0.92	0.77	0.10	1.17	
Portugal	247	251	5.45	5.38	1.00	1.06	0.07	0.81	
Republic of Chile	265	122	5.86	5.51	0.79	0.94	0.35	3.80	***
Russia	275	258	5.25	5.14	1.03	1.00	0.11	1.27	
Slovak Republic	196	225	5.24	4.98	0.85	0.96	0.26	2.95	**
Slovenia	197	161	5.38	5.28	0.85	0.83	0.10	1.08	
Spain	405	239	5.47	5.31	0.77	0.86	0.16	2.47	*
Sweden	183	222	5.34	5.41	0.92	0.88	-0.08	-0.85	
Switzerland	270	192	5.68	5.66	0.70	0.69	0.02	0.33	
Taiwan	559	370	5.28	5.27	1.03	1.06	0.01	0.07	
United States	175	182	5.67	5.65	0.80	0.96	0.02	0.22	
West Germany	167	105	5.30	5.24	0.73	0.74	0.06	0.67	

***p < .001; **p < .01; *p < .05; †p < .05 for one tail tests

Table 26: Comparison between Male and Female in Life Satisfaction by Country, the Married and Employed Sample

Country	N		Mean		Standard Deviation		Mean	t value	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	Difference		
Australia	242	208	5.42	5.40	0.79	0.74	0.02	0.23	
Austria	255	307	5.76	5.82	0.71	0.72	-0.06	-1.06	
Brazil	220	114	5.45	5.44	0.50	0.53	0.03	0.05	
Cyprus	253	217	5.53	5.45	0.82	0.82	0.08	1.04	
Czech Republic	102	109	5.25	5.07	0.81	0.81	0.19	1.67	†
Denmark	308	353	5.74	5.51	0.69	0.78	0.24	4.10	***
East Germany	71	61	5.41	5.31	0.69	0.80	0.09	0.73	
Finland	247	277	5.46	5.32	0.74	0.76	0.13	2.05	*
Flanders	264	208	5.41	5.35	0.63	0.64	0.05	0.88	
France	218	381	5.46	5.36	0.84	0.83	0.10	1.40	
Great Britain	325	347	5.55	5.53	0.72	0.78	0.02	0.35	
Hungary	139	103	5.41	5.42	0.92	0.81	-0.01	-0.12	
Israel Jews, Arabs	235	270	5.55	5.54	0.75	0.83	0.01	0.12	
Japan	280	203	5.43	5.40	0.86	0.77	0.04	0.47	
Latvia	171	158	5.22	4.94	0.87	0.80	0.28	3.08	**
Mexico	264	206	5.93	5.80	0.70	0.80	0.14	1.98	*
Netherlands	241	157	5.48	5.44	0.64	0.59	0.03	0.52	
New Zealand	210	191	5.50	5.47	0.79	0.96	0.03	0.33	
Northern Ireland	146	133	5.78	5.63	0.73	0.73	0.15	1.70	†
Norway	370	374	5.54	5.39	0.72	0.75	0.14	2.68	**
Philippines	329	165	5.60	5.43	1.04	0.93	0.17	1.75	†
Poland	189	190	5.32	5.21	0.76	0.67	0.11	1.48	
Portugal	247	251	5.51	5.41	0.81	0.85	0.10	1.39	
Republic of Chile	265	121	5.75	5.59	0.67	0.68	0.16	2.21	*
Russia	280	261	5.26	5.08	0.87	0.93	0.18	2.28	*
Slovak Republic	196	227	5.27	5.00	0.81	0.88	0.27	3.30	**
Slovenia	197	161	5.46	5.35	0.72	0.77	0.11	1.35	
Spain	407	240	5.45	5.32	0.65	0.66	0.14	2.57	*
Sweden	184	223	5.42	5.53	0.76	0.79	-0.11	-1.36	
Switzerland	270	192	5.77	5.74	0.61	0.55	0.03	0.50	
Taiwan	560	370	5.30	5.24	0.82	0.89	0.06	1.08	
United States	175	182	5.64	5.62	0.80	0.84	0.02	0.22	
West Germany	170	105	5.44	5.38	0.69	0.63	0.06	0.72	

***p < .001; **p < .01; *p < .05; †p < .05 for one tail tests

Table 27: Comparison between Male and Female in Family-Related Well-Being by Country, the Married and Employed Sample

Country	N		Mean		Standard Deviation		Mean	t value	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	Difference		
Australia	241	207	3.50	3.38	0.49	0.63	0.12	2.21	*
Austria	221	279	3.88	3.82	0.33	0.41	0.07	1.93	†
Brazil	207	111	3.30	2.88	0.86	0.95	0.42	4.00	***
Cyprus	257	219	3.51	3.29	0.58	0.62	0.22	3.97	***
Czech Republic	102	107	3.60	3.36	0.61	0.75	0.24	2.56	*
Denmark	215	268	3.81	3.82	0.44	0.36	-0.01	-0.32	
East Germany	66	58	3.79	3.74	0.35	0.42	0.05	0.67	
Finland	241	272	3.72	3.65	0.42	0.46	0.07	1.71	†
Flanders	254	199	3.75	3.55	0.47	0.61	0.20	3.86	***
France	214	364	3.59	3.52	0.49	0.59	0.07	1.43	
Great Britain	309	324	3.61	3.52	0.50	0.57	0.09	2.18	*
Hungary	139	102	3.69	3.55	0.57	0.64	0.13	1.69	†
Israel Jews, Arabs	227	262	3.41	3.29	0.75	0.83	0.12	1.63	
Japan	266	199	3.87	3.77	0.40	0.48	0.10	2.37	*
Latvia	169	157	3.66	3.59	0.65	0.62	0.07	0.96	
Mexico	259	181	3.12	2.89	0.89	1.00	0.23	2.56	*
Netherlands	234	154	3.70	3.67	0.47	0.52	0.03	0.56	
New Zealand	207	181	3.59	3.53	0.48	0.63	0.06	1.05	
Northern Ireland	141	121	3.60	3.57	0.58	0.58	0.03	0.40	
Norway	276	260	3.74	3.75	0.42	0.43	-0.01	-0.40	
Philippines	324	158	3.26	3.11	0.74	0.87	0.15	1.96	†
Poland	183	170	3.28	3.17	0.77	0.80	0.11	1.26	
Portugal	149	170	3.60	3.29	0.62	0.85	0.32	3.76	***
Republic of Chile	231	117	2.87	2.51	0.77	0.79	0.36	4.05	***
Russia	252	241	3.73	3.43	0.53	0.79	0.29	4.85	***
Slovak Republic	196	226	3.40	3.20	0.63	0.73	0.19	2.91	**
Slovenia	180	156	3.73	3.60	0.51	0.65	0.13	2.07	*
Spain	369	232	3.64	3.17	0.58	0.92	0.47	7.64	***
Sweden	165	195	3.62	3.65	0.56	0.52	-0.02	-0.38	
Switzerland	182	111	3.90	3.83	0.28	0.39	0.07	1.85	†
Taiwan	464	342	3.82	3.71	0.43	0.53	0.11	3.18	**
United States	171	179	3.51	3.46	0.61	0.65	0.05	0.75	
West Germany	153	96	3.71	3.72	0.47	0.47	-0.01	-0.10	

***p < .001; **p < .01; *p < .05; †p < .05 for one tail tests

Table 28: Comparison between Male and Female in Work-Related Well-Being by Country, the Married and Employed Sample

Country	N		Mean		Standard Deviation		Mean	t value	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	Difference		
Australia	242	208	2.57	2.55	0.72	0.70	0.02	0.34	
Austria	247	287	2.94	2.93	0.73	0.75	0.01	0.10	
Brazil	213	112	2.37	2.26	0.88	0.85	0.11	1.08	
Cyprus	257	219	2.62	2.65	0.59	0.57	-0.03	-0.60	
Czech Republic	104	107	2.48	2.48	0.72	0.67	0.00	0.02	
Denmark	220	268	2.76	2.69	0.80	0.75	0.07	1.01	
East Germany	69	59	2.50	2.54	0.70	0.69	-0.05	-0.37	
Finland	245	275	2.70	2.68	0.69	0.65	0.01	0.24	
Flanders	258	201	2.55	2.52	0.76	0.72	0.03	0.36	
France	218	366	2.49	2.63	0.78	0.77	-0.14	-2.11	*
Great Britain	316	341	2.47	2.52	0.71	0.72	-0.05	-0.99	
Hungary	139	103	2.51	2.47	0.86	0.87	0.04	0.32	
Israel Jews, Arabs	231	260	2.53	2.39	0.74	0.78	0.14	2.03	*
Japan	267	200	3.01	3.00	0.86	0.88	0.01	0.13	
Latvia	169	157	2.62	2.60	0.80	0.74	0.02	0.24	
Mexico	258	185	2.51	2.45	0.72	0.79	0.06	0.83	
Netherlands	238	157	2.63	2.91	0.73	0.59	-0.28	-3.96	***
New Zealand	210	183	2.62	2.61	0.66	0.73	0.01	0.14	
Northern Ireland	143	123	2.65	2.68	0.69	0.75	-0.04	-0.42	
Norway	279	265	2.59	2.70	0.77	0.64	-0.11	-1.79	†
Philippines	325	161	2.60	2.70	0.62	0.74	-0.11	-1.65	
Poland	187	173	2.27	2.24	0.72	0.74	0.03	0.36	
Portugal	155	174	2.39	2.27	0.74	0.71	0.11	1.40	
Republic of Chile	262	121	2.22	2.07	0.72	0.68	0.16	2.02	*
Russia	273	262	2.48	2.44	0.76	0.75	0.05	0.74	
Slovak Republic	196	227	2.30	2.38	0.74	0.69	-0.07	-1.05	
Slovenia	185	157	2.56	2.50	0.81	0.83	0.06	0.69	
Spain	368	234	2.73	2.55	0.79	0.74	0.18	2.81	**
Sweden	168	199	2.59	2.53	0.75	0.70	0.05	0.71	
Switzerland	184	113	2.97	2.99	0.59	0.66	-0.02	-0.22	
Taiwan	464	342	2.97	2.79	0.78	0.81	0.17	3.06	**
United States	173	181	2.53	2.49	0.72	0.75	0.04	0.52	
West Germany	168	101	2.47	2.69	0.70	0.65	-0.22	-2.59	*

***p < .001; **p < .01; *p < .05; †p < .05 for one tail tests

when he/she has an extremely busy work life. Therefore, in some countries women show lower psychological well-being than men on this measure. Meanwhile, as expected, the results for happiness and life satisfaction are somewhat similar to each other, especially in terms of the countries with significant gender differences. In sum, the t-test results indicate that family-related well-being and work-related well-being measures are distinctively different with each other and from happiness and life satisfaction measures. Similar to the whole sample, no clear pattern was found in the country-level characteristics in the countries showing significant gender differences.

The comparison between the married and employed sample and the whole sample on happiness measures tells us that although countries with significant gender differences overlap between the two samples, there are some differences as well. The number of countries with significant gender differences is twice as many for the whole sample, which is somewhat surprising. Since the social roles for males and females are emphasized by marriage or arrival of a child, the gender differences in psychological well-being could be greater among married and employed people. However, the results showed that married and employed men and women are rather similar in terms of the average psychological well-being measured by happiness.

Yet, more distinctive gender differences in psychological well-being are found in this sample by using the measures related to family and work responsibilities. More female disadvantages in mental health are found in the stress from family responsibilities, and men show lower mental health than women in the stress from work responsibilities. In addition, if we look at all four measures, there are only a few countries with no gender difference in any measure. Therefore, the assumption that the current study is based on – there are substantial gender differences in mental health – is partly supported from the results here, although the direction of the differences is not necessarily in the expected direction. The results still showed that married

and employed women tended to indicate lower psychological well-being when a statistically significant gender difference is found, except for the work stress measure. Then, is there any gender difference in the factors associated with psychological well-being, depending on the measure? The next section will report the results from HLM analyses for the married and employed sample.

Multi-Level Modeling

In this section, I conduct the same analyses for the married and employed sample by using four different measures of psychological well-being. In other words, I run HLM using four dependent variables with four models – null model, individual model, additive model, and cross-level model. Similar to Chapter 4, coefficients and standard errors are presented only for significant effects in tables[1].

Since there are four measures of psychological well-being available for this sample, there are multiple ways to make comparisons. Therefore, I will present HLM results with the following steps. First, I present the results of HLM on Happiness for females and males separately and then compare these results to those on Happiness for the whole sample. Next, the results on the three additional measures of psychological well-being (life satisfaction, family-related well-being, and work-related well-being), separately analyzed for each gender and compared across genders, will be presented. Lastly, I compare the results of all four measures within the same gender and summarize the findings.

HLM of the 33 Countries on Happiness by Gender

Tables 29 and 30 show HLM results on Happiness for females and males, respectively. First, the intercepts of the null model for males and females indicate the average happiness score is

[1] Coefficients and standard errors for non-significant effects are not presented for easy views. Those for main effects are presented when their cross-level effects are significant, regardless of the significance level of the main effects.

Table 29: HLMs for Individual- and Country-Level Determinants of Global Happiness, the Married and Employed Sample, Female (N=7,112)

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)
Individual-level variables (γ_{q0})			
Intercept, γ_{00}	5.397 ***	5.442 ***	5.435 ***
	(0.035)	(0.034)	(0.031)
MENROLE, γ_{10}		-0.118 ***	-0.122 ***
		(0.015)	(0.017)
GENDOL, γ_{20}		-0.078 ***	-0.081 ***
		(0.018)	(0.020)
MOMWORK, γ_{30}		0.088 ***	0.092 ***
		(0.016)	(0.017)
Over-time work, γ_{40}		-0.107 **	-0.103 *
		(0.034)	(0.043)
Full-time work, γ_{50}		-0.085 **	-0.087 *
		(0.025)	(0.034)
Number of Children, γ_{60}			
Housework, γ_{70}		-0.006 ***	-0.006 ***
		(0.001)	(0.001)
Controls			
Age, γ_{80}		-0.009 ***	-0.009 ***
		(0.002)	(0.002)
Household Income, γ_{90}		0.004 ***	0.003 **
		(0.001)	(0.001)
Education, γ_{100}			
Country-level variables (γ_{0s})			
MMENROLE, γ_{01}			-0.263 *
			(0.114)
MGENDOL, γ_{02}			
MMOMWORK, γ_{03}			-0.629 ***
			(0.131)
GEM, γ_{04}			-1.772 **
			(0.441)
FLP, γ_{05}			
SCLIST, γ_{06}			
SOCDEM, γ_{07}			0.551 ***
			(0.122)
LIBERAL, γ_{08}			0.300 **
			(0.074)
DVLPING, γ_{09}			
Controls			
GDP, γ_{010}			0.026 **
			(0.009)
EDU, γ_{011}			-0.071 **
			(0.022)
LIFEXP, γ_{012}			
HOMICIDE, γ_{013}			
PRICE, γ_{014}			

***p < .001; **p < .01; *p < .05

Note: Numbers in parentheses are standard errors. Coefficients and standard errors only for significant effects and main effects of significant cross-level effects are presented.

Table 29 (continued):

	Cross-level Effects Model (Model 4)						
		Cross-level effect (γ_{qs}) for:					
	Main effects (γ_{q0})	MMENROLE γ_{q1}	MGENDOL γ_{q2}	MMOMWORK γ_{q3}	GEM γ_{q4}	FLP γ_{q5}	SCLIST γ_{q6}
Individual-level variables (γ_{q0})							
Intercept, γ_{00}	5.566 ***						
	(0.060)						
MENROLE, γ_{10}	-0.112 ***						
	(0.018)						
GENDOL, γ_{20}	-0.075 **						
	(0.024)						
MOMWORK, γ_{30}	0.085 **						
	(0.021)						
Over-time work, γ_{40}	-0.040						
	(0.051)						
Full-time work, γ_{50}							
Number of Children, γ_{60}	-0.014			0.223 *			
	(0.016)			(0.096)			
Housework, γ_{70}	-0.005 ***						
	(0.001)						
Controls							
Age, γ_{80}	-0.010 ***						
	(0.002)						
Household Income, γ_{90}	0.009 ***						
	(0.002)						
Education, γ_{100}							
Country-level variables (γ_{0s})							
MMENROLE, γ_{01}							
MGENDOL, γ_{02}							
MMOMWORK, γ_{03}	-0.686 **						
	(0.208)						
GEM, γ_{04}	-2.533 **						
	(0.812)						
FLP, γ_{05}							
SCLIST, γ_{06}							
SOCDEM, γ_{07}	0.559 **						
	(0.179)						
LIBERAL, γ_{08}	0.208 *						
	(0.098)						
DVLPING, γ_{09}							
Controls							
GDP, γ_{010}							
EDU, γ_{011}							
LIFEXP, γ_{012}							
HOMICIDE, γ_{013}							
PRICE, γ_{014}							

Table 29 (continued):

	Cross-level Effects Model (Model 4)							
	Cross-level effect (γqs) for:							
	SOCDEM γ_{q7}	LIBERAL γ_{q8}	DVLPING γ_{q9}	GDP γ_{q10}	EDU γ_{q11}	LIFEXP γ_{q12}	HOMICIDE γ_{q13}	PRICE γ_{q14}
Individual-level variables (γ_{q0})								
Intercept, γ_{00}								
MENROLE, γ_{10}								
GENDOL, γ_{20}	-0.330 * (0.136)	-0.169 * (0.080)						
MOMWORK, γ_{30}								
Over-time work, γ_{40}		-0.334 * (0.155)						
Full-time work, γ_{50}								
Number of Children, γ_{60}								
Housework, γ_{70}								
Controls								
Age, γ_{80}								
Household Income, γ_{90}								
Education, γ_{100}								
Country-level variables (γ_{0s})								
MMENROLE, γ_{01}								
MGENDOL, γ_{02}								
MMOMWORK, γ_{03}								
GEM, γ_{04}								
FLP, γ_{05}								
SCLIST, γ_{06}								
SOCDEM, γ_{07}								
LIBERAL, γ_{08}								
DVLPING, γ_{09}								
Controls								
GDP, γ_{010}								
EDU, γ_{011}								
LIFEXP, γ_{012}								
HOMICIDE, γ_{013}								
PRICE, γ_{014}								

Table 30: HLMs for Individual- and Country-Level Determinants of Global Happiness, the Married and Employed Sample, Male (N=8,087)

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)
Individual-level variables (γ_{q0})			
Intercept, γ_{00}	5.476 ***	5.494 ***	5.506 ***
	(0.031)	(0.028)	(0.019)
MENROLE, γ_{10}		0.060 **	0.055 **
		(0.016)	(0.018)
GENDOL, γ_{20}		-0.053 **	-0.057 **
		(0.016)	(0.019)
MOMWORK, γ_{30}		0.052 ***	0.056 **
		(0.013)	(0.015)
Over-time work, γ_{40}		-0.177 **	-0.180 *
		(0.060)	(0.067)
Full-time work, γ_{50}		-0.119 *	
		(0.055)	
Number of Children, γ_{60}			
Housework, γ_{70}		-0.002 **	-0.002 *
		(0.001)	(0.001)
Controls			
Age, γ_{80}		-0.006 ***	-0.006 ***
		(0.001)	(0.001)
Household Income, γ_{90}		0.003 ***	0.003 ***
		0.000433	(0.001)
Education, γ_{100}			
Country-level variables (γ_{0s})			
MMENROLE, γ_{01}			
MGENDOL, γ_{02}			
MMOMWORK, γ_{03}			
GEM, γ_{04}			-1.002 *
			(0.384)
FLP, γ_{05}			
SCLIST, γ_{06}			
SOCDEM, γ_{07}			
LIBERAL, γ_{08}			0.149 *
			(0.055)
DVLPING, γ_{09}			0.318 *
			(0.101)
Controls			
GDP, γ_{010}			
EDU, γ_{011}			-0.028 *
			(0.020)
LIFEXP, γ_{012}			
HOMICIDE, γ_{013}			
PRICE, γ_{014}			

***p < .001; **p < .01; *p < .05

Note: Numbers in parentheses are standard errors. Coefficients and standard errors only for significant effects and main effects of significant cross-level effects are presented.

Table 30 (continued):

	Cross-level Effects Model (Model 4)						
		Cross-level effect (γ_{qs}) for:					
	Main effects (γ_{q0})	MMENROLE γ_{q1}	MGENDOL γ_{q2}	MMOMWORK γ_{q3}	GEM γ_{q4}	FLP γ_{q5}	SCLIST γ_{q6}
Individual-level variables (γ_{q0})							
Intercept, γ_{00}	5.618 ***						
	(0.043)						
MENROLE, γ_{10}	0.055 *						
	(0.022)						
GENDOL, γ_{20}	-0.057 **						
	(0.019)						
MOMWORK, γ_{30}	0.051 **						
	(0.016)						
Over-time work, γ_{40}	-0.229 *						
	(0.080)						
Full-time work, γ_{50}	-0.164 *						
	(0.078)						
Number of Children, γ_{60}							
Housework, γ_{70}	-0.002 *						
	(0.001)						
Controls							
Age, γ_{80}	-0.008 ***						
	(0.001)						
Household Income, γ_{90}	0.008 ***			-0.013 *			
	(0.001)			(0.005)			
Education, γ_{100}							
Country-level variables (γ_{0s})							
MMENROLE, γ_{01}							
MGENDOL, γ_{02}							
MMOMWORK, γ_{03}	-0.461 **						
	(0.148)						
GEM, γ_{04}	-2.027 **						
	(0.570)						
FLP, γ_{05}							
SCLIST, γ_{06}							
SOCDEM, γ_{07}							
LIBERAL, γ_{08}	0.181 **						
	(0.066)						
DVLPING, γ_{09}							
Controls							
GDP, γ_{010}							
EDU, γ_{011}							
LIFEXP, γ_{012}							
HOMICIDE, γ_{013}							
PRICE, γ_{014}							

Table 30 (continued):

	Cross-level Effects Model (Model 4)							
	Cross-level effect (γqs) for:							
	SOCDEM γ_{q7}	LIBERAL γ_{q8}	DVLPING γ_{q9}	GDP γ_{q10}	EDU γ_{q11}	LIFEXP γ_{q12}	HOMICIDE γ_{q13}	PRICE γ_{q14}
Individual-level variables (γ_{q0})								
Intercept, γ_{00}								
MENROLE, γ_{10}								
GENDOL, γ_{20}								
MOMWORK, γ_{30}								
Over-time work, γ_{40}								
Full-time work, γ_{50}								
Number of Children, γ_{60}								
Housework, γ_{70}								
Controls								
Age, γ_{80}								
Household Income, γ_{90}								
Education, γ_{100}								
Country-level variables (γ_{0s})								
MMENROLE, γ_{01}								
MGENDOL, γ_{02}								
MMOMWORK, γ_{03}								
GEM, γ_{04}								
FLP, γ_{05}								
SCLIST, γ_{06}								
SOCDEM, γ_{07}								
LIBERAL, γ_{08}								
DVLPING, γ_{09}								
Controls								
GDP, γ_{010}								
EDU, γ_{011}								
LIFEXP, γ_{012}								
HOMICIDE, γ_{013}								
PRICE, γ_{014}								

higher for males (5.476) than for females (5.397) for the 33 countries combined. Male advantage on happiness was also found in the whole sample analysis, but comparing the average happiness scores among the 33 countries, both married and employed men and women earned higher scores on happiness than males and females in the whole sample. The results from the whole sample analyses supported the benefit of marriage and employment on both genders, although not being employed did not affect women's happiness, and the results here confirmed that married and employed people are happier than the sample as a whole on average.

For the individual model, gender difference is found in the effect of MENROLE – the attitude towards men's caring roles. The supportive attitude toward men's caring role is negatively associated with women's happiness but positively associated men's happiness. The other two measures of gender role attitude show the same pattern for males and females. The effect of gendered division of labor (GENROLE) is negatively associated with happiness while mother's employment (MOMWORK) is positively associated. In other words, the attitudes supporting the traditional division of labor and mother's employment increase happiness for both men and women. These results are also consistent with the whole sample analysis. As I speculated in the previous chapter, the gender difference in the effect of the attitude toward men's caring role may occur because women supporting men's caring roles are often disappointed with the reality but men who agree with their own caring roles may be socially desirable. The effects of other individual-level variables are almost identical between men and women. Working over-time and working full-time lower men's and women's happiness as compared to when they work part-time. It is interesting that the advantage of part-time work on happiness is consistent between males and females, despite the differences in the expected social roles between them. As expected, working over-time shows stronger negative impact on happiness than working full-time, approximately 1.25 times for females and 1.5 times for males.

Meanwhile, parenthood is not associated with happiness for either men or women, although percent of housework hours has negative impacts on happiness for both. The negative effect of housework found in this analysis is consistent with the previous studies, arguing these roles are detrimental to one's mental health. Although the negative effect of housework is consistent between men and women, the magnitude of its negative impact seems three times larger for females (-.006) than males (-.002). Overall, the individual-level factors before adding the country-level determinants are similar for men and women in this sample, except for the effect of the supportive attitude towards men's sharing housework and childcare.

Adding the country-level factors does not change the significance and direction of the individual-level coefficients, except for the negative effect of full time work compared to part time for men becoming non-significant. The country-level variables, on the other hand, have somewhat different impacts on happiness for men and women. First of all, more country-level factors are associated with women's happiness than men's. Women in more traditional countries in terms of men's caring roles and mother's employment are happier, while the country-level gender role attitudes do not affect men's happiness. GEM has negative impact on both men's and women's happiness, meaning people in the countries with more gender equality are less happy. Overall, it seems that being in more traditional countries, especially for females, increases the level of happiness, probably because the expectation is low to begin with. In contrast, the categorical measure of country-level gender equality using Esping-Andersen's typology shows different effects. Being in social democratic countries (such as Sweden) increases women's happiness, while being in developing countries (including Brazil) increases men's happiness, as compared to being in familialist countries (such as Austria). In addition, both men and women in liberal countries (including the United States) are happier than those in familialist countries. In sum, the results here represent that the effects of the country-level

gender climate on happiness vary depending on the measure. Comparing these results to the analyses in the previous chapter, the relationships between the country-level gender climate and individual happiness are similar. In other words, no distinctive difference by marital status or employment status is found in the effects of the country-level gender climate on happiness.

Finally, the results of cross-level effects models show some gender differences in the effects of the individual-level and the cross-level variables, after introducing the cross-level interactions to each model. The effects of employment on women's happiness became non-significant, while the same effects on men's are still statistically significant. Meanwhile, there are several cross-level effects on women's happiness. Although the main effect of parenthood is not statistically significant (-.014), there is a positive cross-level effect between parenthood and the mean gender ideology (the attitude toward mother's employment) on women's happiness (.223). This means that the impact of parenthood on happiness may be positive in countries supporting mother's employment. Considering that females in this sample are married and employed, favorable atmosphere toward mother's employment help improve their psychological well-being. In addition, the cross-level effects between the attitude toward the division of labor and being in social democratic countries and liberal countries are found among women. The main effect of the attitude toward the division of labor indicates a negative association (-.075), meaning women with traditional attitude toward division of labor are happier than those with egalitarian attitude. Meanwhile, the cross-level effects of social democratic and liberal countries are negative (-.330 and -.169, respectively). This indicates that the negative effect of the egalitarian attitude toward the gendered division of labor on women's happiness is stronger in the social democratic and liberal countries than familialist countries. In other words, this relationship between the traditional attitude toward the division of labor and women's happiness is stronger in social democratic and liberal countries than that for women in the familialist countries. These results

are puzzling, since the social democratic and liberal countries are considered to be more egalitarian as compared to familialist countries, and I expected that women with more traditional attitudes would be happier in more traditional countries. However, the cross-level interactions show the opposite direction. This may indicate that the discontent of egalitarian women may be stronger in social demographic and liberal countries. In addition, the interaction effect between liberal countries and over-time work is negative and significant (-.334), although the main effect for over-time work is not statistically significant (-.040). This result indicates that working over-time as compared to part-time hurts women's happiness in liberal countries.

By contrast, almost no cross-level effects were found for males, and this implies that the effects of individual-level factors do not depend upon contextual factors. Compared to the whole sample, it seems fewer cross-level interaction effects are found here for both males and females, which means focusing only on the married and employed respondents revealed that there are some common causal mechanisms of the effects of individual factors on happiness for the married and employed individuals regardless of countries. The fewer cross-level effects for the married and employed sample, however, may be due to the smaller sample size than that of the whole sample. Lastly, controlling for the cross-level effects changed the direct effects of country-level variables to be almost the same between males and females.

The proportional reduction of variance components allows us to evaluate the validity of the models tested. Tables 31 and 32 present the random effect coefficients for the intercept and the individual-level variables, and the individual-level variance across models for females and males, respectively. The proportional reduction of the country-level variance from the null model for the female sample is 22.6 percent (the individual model), 47.7 percent (the additive model), and 51.6 percent (the cross-level model). On the other hand, the proportional reduction of the country-level variance from the null model for the male sample is 29.1 percent (the individual

Table 31: Variances and Random Effect Coefficients (u_{qj}) across Models on Global Happiness, the Married and Employed Sample, Female

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)	Cross-level Model (Model 4)
Intercept, u_{0j} (Country-level variance)	0.03625 ***	0.02804 ***	0.01896 ***	0.01754 **
Individual-level variables				
MENROLE, u_{1j}		0.00242	0.00240	0.00178
GENDOL, u_{2j}		0.00374 *	0.00439 *	0.00749 *
MOMWORK, u_{3j}		0.00279	0.00241	0.00443
Over-time work, u_{4j}		0.01187	0.00898	0.01420
Full-time work, u_{5j}		0.00471	0.00150	0.00352
Number of Children, u_{6j}		0.00089	0.00050	0.00159
Housework, u_{7j}		0.00001	0.00000	0.00001
Age, u_{8j}		0.00004 **	0.00004 **	0.00006 *
Household income, u_{9j}		0.00001	0.00001	0.00001
Education, u_{10j}		0.00016	0.00017	0.00024
Level 1, r_{ij} (Individual-level variance)	0.83628	0.77955	0.77965	0.77907

model), 84.8 percent (the additive model), and 81.5 percent (the cross-level model). Adding the direct effects of the country-level variables reduced the variance for the male sample most dramatically, while including the factors at all levels (i.e., individual-level, country-level, and cross-level) explained most variance away for the female sample. It seems that adding the individual-level variables to the model explain almost the same proportion of the between-country variance for both males and females, but adding the country-level variables and the cross-level interactions had different magnitudes. In addition, the reduction of the individual-level variance from the null model for the female sample is the same at 6.8 percent for all models, while the reduction is the same at 4.1 percent for the male sample as well. This means that adding the individual-level variables to the model explain 6.8 percent and 4.1 percent of the within-country variance for females and males, respectively, and adding the country-level effects

Table 32: Variances and Random Effect Coefficients (u_{qj}) across Models on Global Happiness, the Married and Employed Sample, Male

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)	Cross-level Model (Model 4)
Intercept, u_{0j} (Country-level variance)	0.02934 ***	0.02080 ***	0.00445 **	0.00543 *
Individual-level variables				
MENROLE, u_{1j}		0.00410	0.00370	0.00816 *
GENDOL, u_{2j}		0.00307	0.00328	0.00276
MOMWORK, u_{3j}		0.00167	0.00134	0.00071
Over-time work, u_{4j}		0.03271	0.03119	0.03852
Full-time work, u_{5j}		0.01452	0.01768	0.02412
Number of Children, u_{6j}		0.00066	0.00050	0.00135
Housework, u_{7j}		0.00001	0.00001	0.00001
Age, u_{8j}		0.00002	0.00001	0.00000
Household income, u_{9j}		0.00000	0.00000	0.00001 *
Education, u_{10j}		0.00013 *	0.00012 *	0.00008
Level 1, r_{ij} (Individual-level variance)	0.79432	0.76184	0.76187	0.76244

and the cross-level effects did not change this proportion.

HLM of the 33 Countries on Life Satisfaction by Gender

This section reports the results of HLM analysis on the life satisfaction as the dependent variable. Again, this measure includes the statement representing the global happiness measure as one of the three statements, and therefore the results could be similar between the two measures. Tables 33 and 34 present HLM results for females and males, respectively. The mean life satisfaction from the null model is 5.410 for females and 5.501 for males. Similarly to happiness, men enjoy higher life satisfaction, on the average, than women for the 33 countries combined.

The results from the individual model indicate some gender differences exist in the causal model of life satisfaction. The effects of the three gender role attitude measures are statistically

Table 33: HLMs for Individual- and Country-Level Determinants of Life Satisfaction, the Married and Employed Sample, Female (N=7,112)

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)
Individual-level variables (γ_{q0})			
Intercept, γ_{00}	5.410 ***	5.454 ***	5.453 ***
	(0.035)	(0.034)	(0.026)
MENROLE, γ_{10}		-0.113 ***	-0.115 ***
		(0.013)	(0.015)
GENDOL, γ_{20}		-0.065 ***	-0.069 ***
		(0.013)	(0.017)
MOMWORK, γ_{30}		0.096 ***	0.101 ***
		(0.015)	(0.016)
Over-time work, γ_{40}			
Full-time work, γ_{50}			
Number of Children, γ_{60}			
Housework, γ_{70}		-0.005 ***	-0.005 ***
		(0.001)	(0.001)
Controls			
Age, γ_{80}		-0.003 *	-0.003 *
		(0.002)	(0.002)
Household Income, γ_{90}		0.004 ***	0.004 ***
		(0.001)	(0.001)
Education, γ_{100}			
Country-level variables (γ_{0s})			
MMENROLE, γ_{01}			
MGENDOL, γ_{02}			0.371 **
			(0.121)
MMOMWORK, γ_{03}			-0.624 ***
			(0.122)
GEM, γ_{04}			-1.393 **
			(0.446)
FLP, γ_{05}			
SCLIST, γ_{06}			
SOCDEM, γ_{07}			0.296 *
			(0.115)
LIBERAL, γ_{08}			0.151 *
			(0.065)
DVLPING, γ_{09}			
Controls			
GDP, γ_{010}			0.025 **
			(0.008)
EDU, γ_{011}			-0.050 *
			(0.023)
LIFEXP, γ_{012}			
HOMICIDE, γ_{013}			
PRICE, γ_{014}			

***p < .001; **p < .01; *p < .05

Note: Numbers in parentheses are standard errors. Coefficients and standard errors only for significant effects and main effects of significant cross-level effects are presented.

Table 33 (continued):

	Cross-level Effects Model (Model 4)						
		Cross-level effect (γ_{qs}) for:					
	Main effects (γ_{q0})	MMENROLE γ_{q1}	MGENDOL γ_{q2}	MMOMWORK γ_{q3}	GEM γ_{q4}	FLP γ_{q5}	SCLIST γ_{q6}
Individual-level variables (γ_{q0})							
Intercept, γ_{00}	5.603 ***						
	(0.053)						
MENROLE, γ_{10}	-0.110 ***						
	(0.016)						
GENDOL, γ_{20}	-0.071 **						
	(0.020)						
MOMWORK, γ_{30}	0.097 ***						
	(0.019)						
Over-time work, γ_{40}	-0.004						
	(0.048)						
Full-time work, γ_{50}	-0.044						
	(0.036)						
Number of Children, γ_{60}							
Housework, γ_{70}	-0.004 ***						
	(0.001)						
Controls							
Age, γ_{80}	-0.004 *						
	(0.002)						
Household Income, γ_{90}	0.010 ***				-0.053 *		
	(0.002)				(0.019)		
Education, γ_{100}							
Country-level variables (γ_{0s})							
MMENROLE, γ_{01}							
MGENDOL, γ_{02}							
MMOMWORK, γ_{03}	-0.833 ***						
	(0.190)						
GEM, γ_{04}	-2.502 **						
	(0.740)						
FLP, γ_{05}							
SCLIST, γ_{06}							
SOCDEM, γ_{07}							
LIBERAL, γ_{08}	0.133 **						
	(0.093)						
DVLPING, γ_{09}							
Controls							
GDP, γ_{010}							
EDU, γ_{011}							
LIFEXP, γ_{012}							
HOMICIDE, γ_{013}							
PRICE, γ_{014}							

Table 33 (continued):

	Cross-level Effects Model (Model 4)							
	Cross-level effect (γqs) for:							
	SOCDEM γ_{q7}	LIBERAL γ_{q8}	DVLPING γ_{q9}	GDP γ_{q10}	EDU γ_{q11}	LIFEXP γ_{q12}	HOMICIDE γ_{q13}	PRICE γ_{q14}
Individual-level variables (γ_{q0})								
Intercept, γ_{00}								
MENROLE, γ_{10}								
GENDOL, γ_{20}								
MOMWORK, γ_{30}								
Over-time work, γ_{40}		-0.338 * (0.150)						
Full-time work, γ_{50}						-0.060 * (0.025)		
Number of Children, γ_{60}								
Housework, γ_{70}								
Controls								
Age, γ_{80}								
Household Income, γ_{90}		-0.005 * (0.002)						(-0.0002) * (0.000073)
Education, γ_{100}								
Country-level variables (γ_{0s})								
MMENROLE, γ_{01}								
MGENDOL, γ_{02}								
MMOMWORK, γ_{03}								
GEM, γ_{04}								
FLP, γ_{05}								
SCLIST, γ_{06}								
SOCDEM, γ_{07}								
LIBERAL, γ_{08}								
DVLPING, γ_{09}								
Controls								
GDP, γ_{010}								
EDU, γ_{011}								
LIFEXP, γ_{012}								
HOMICIDE, γ_{013}								
PRICE, γ_{014}								

Table 34: HLMs for Individual- and Country-Level Determinants of Life Satisfaction, the Married and Employed Sample, Male (N=8,087)

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)
Individual-level variables (γ_{q0})			
Intercept, γ_{00}	5.501 ***	5.542 ***	5.562 ***
	(0.029)	(0.029)	(0.021)
MENROLE, γ_{10}		0.049 **	0.047 **
		(0.012)	(0.014)
GENDOL, γ_{20}		-0.069 ***	-0.076 ***
		(0.013)	(0.015)
MOMWORK, γ_{30}		0.051 ***	0.055 ***
		(0.011)	(0.013)
Over-time work, γ_{40}		-0.121 *	-0.122 *
		(0.048)	(0.057)
Full-time work, γ_{50}			
Number of Children, γ_{60}			
Housework, γ_{70}		-0.002 **	-0.002 **
		(0.001)	(0.001)
Controls			
Age, γ_{80}		-0.003 *	-0.003 *
		(0.001)	(0.001)
Household Income, γ_{90}		0.004 ***	0.005 ***
		(0.001)	(0.001)
Education, γ_{100}			
Country-level variables (γ_{0s})			
MMENROLE, γ_{01}			
MGENDOL, γ_{02}			
MMOMWORK, γ_{03}			-0.278 *
			(0.107)
GEM, γ_{04}			
FLP, γ_{05}			0.005 **
			(0.001)
SCLIST, γ_{06}			
SOCDEM, γ_{07}			
LIBERAL, γ_{08}			
DVLPING, γ_{09}			0.464 ***
			(0.098)
Controls			
GDP, γ_{010}			
EDU, γ_{011}			
LIFEXP, γ_{012}			
HOMICIDE, γ_{013}			
PRICE, γ_{014}			

***p < .001; **p < .01; *p < .05

Note: Numbers in parentheses are standard errors. Coefficients and standard errors only for significant effects and main effects of significant cross-level effects are presented.

Table 34 (continued):

	Cross-level Effects Model (Model 4)							
		Cross-level effect (γ_{qs}) for:						
	Main effects (γ_{q0})	MMENROLE γ_{q1}	MGENDOL γ_{q2}	MMOMWORK γ_{q3}	GEM γ_{q4}	FLP γ_{q5}	SCLIST γ_{q6}
Individual-level variables (γ_{q0})							
Intercept, γ_{00}	5.669 ***						
	(0.039)						
MENROLE, γ_{10}	0.042 *						
	(0.017)						
GENDOL, γ_{20}	-0.076 ***						
	(0.015)						
MOMWORK, γ_{30}	0.051 **						
	(0.014)						
Over-time work, γ_{40}	-0.156 *						
	(0.063)						
Full-time work, γ_{50}							
Number of Children, γ_{60}							
Housework, γ_{70}	-0.002 *						
	(0.001)						
Controls							
Age, γ_{80}	-0.004 **						
	(0.001)						
Household Income, γ_{90}	0.009 ***			-0.012 **	-0.058 **		
	(0.001)			(0.004)	(0.018)		
Education, γ_{100}							
Country-level variables (γ_{0s})							
MMENROLE, γ_{01}							
MGENDOL, γ_{02}	0.371 *						
	(0.145)						
MMOMWORK, γ_{03}	-0.486 **						
	(0.138)						
GEM, γ_{04}	-2.036 **						
	(0.535)						
FLP, γ_{05}	0.004 *						
	(0.002)						
SCLIST, γ_{06}							
SOCDEM, γ_{07}							
LIBERAL, γ_{08}							
DVLPING, γ_{09}							
Controls							
GDP, γ_{010}							
EDU, γ_{011}							
LIFEXP, γ_{012}							
HOMICIDE, γ_{013}							
PRICE, γ_{014}							

Table 34 (continued):

	Cross-level Effects Model (Model 4)							
	Cross-level effect (γqs) for:							
	SOCDEM γ_{q7}	LIBERAL γ_{q8}	DVLPING γ_{q9}	GDP γ_{q10}	EDU γ_{q11}	LIFEXP γ_{q12}	HOMICIDE γ_{q13}	PRICE γ_{q14}
Individual-level variables (γ_{q0})								
Intercept, γ_{00}								
MENROLE, γ_{10}								
GENDOL, γ_{20}								
MOMWORK, γ_{30}								
Over-time work, γ_{40}								
Full-time work, γ_{50}								
Number of Children, γ_{60}								
Housework, γ_{70}								
Controls								
Age, γ_{80}								
Household Income, γ_{90}	0.010 **		-0.018 *					
	(0.003)		(0.006)					
Education, γ_{100}								
Country-level variables (γ_{0s})								
MMENROLE, γ_{01}								
MGENDOL, γ_{02}								
MMOMWORK, γ_{03}								
GEM, γ_{04}								
FLP, γ_{05}								
SCLIST, γ_{06}								
SOCDEM, γ_{07}								
LIBERAL, γ_{08}								
DVLPING, γ_{09}								
Controls								
GDP, γ_{010}								
EDU, γ_{011}								
LIFEXP, γ_{012}								
HOMICIDE, γ_{013}								
PRICE, γ_{014}								

significant, although the directions vary. The supportive attitude toward traditional division of labor and mother's employment promote the sense of satisfaction for both men and women, and the attitude toward men's sharing housework and childcare affects men and women differently. For men, the supportive attitude toward men's caring roles is positively associated with life satisfaction, while it is negatively associated with women's. This is the same pattern as we have seen for global happiness, for both whole and married and employed samples. Moreover, the effects of employment status seem different between men and women. While the effect of full-time work is not statistically significant on life satisfaction for males and females, the effect of over-time work is negatively associated men's life satisfaction but has no significant association with women's. Meanwhile, percent housework still has negative impact on life satisfaction regardless of gender, and the parenthood does not have any significant impact. As expected, the individual-level effects seem to be very similar on life satisfaction and happiness for both genders. Two control variables, age and household income, also have statistically significant effects on life satisfaction with no gender difference. Age has a negative impact on life satisfaction, while household income has a positive impact. This means that younger people or people with more household income are more satisfied on the average.

The significance and direction of the individual-level variables do not change even after adding the direct effects of the country-level variables. As we have seen in HLM results on global happiness, the direct effects of the country-level variables have greater influences on females. The mean gender ideology regarding the division of labor and mother's employment is associated with women's life satisfaction. Women in the countries that support more egalitarian division of labor and not supporting mother's employment are more satisfied. Interestingly, the sign of the effect on life satisfaction is opposite between two gender ideology measures, implying the relationship between the country-level gender ideology and individual life

satisfaction is complicated. Meanwhile, the GEM is negatively associated with women's life satisfaction. This indicates that women in countries with higher gender equality are less satisfied than those in countries with lower gender equality. Being in social democratic and liberal countries exerts a positive effect on women's satisfaction as compared to being in familialist countries. Although I expected women in more egalitarian countries are more satisfied than those in more traditional countries, especially when they are married and employed, the result turned out to be mixed. On the other hand, fewer country-level factors affect men's life satisfaction. Higher female labor force participation rate is associated with higher life satisfaction for males, while more supportive atmosphere in a country regarding mother's employment decreases men's life satisfaction. Being in developing countries increases men's life satisfaction as compared to being in familialist countries.

Adding the cross-level effects does not change the effects of individual-level determinants, while it slightly changes the country-level effects, and now the country-level effects are associated with life satisfaction similarly between males and females. Most cross-level interactions are found in relation to household income for both genders. The main effect for household income is positive (.010 for females and .009 for males), meaning people are more satisfied when they have higher household incomes. The cross-level effect with GEM, for both males and females, is negative (-.053 for females and -.058 for males), indicating that the positive effect of household income on life satisfaction is the strongest in countries with the lowest gender equality and also the effect becomes negative in countries with higher gender equality (GEM .20 higher than the grand mean for females and .17 for males). The positive effect of household income on life satisfaction also weakens or disappears in countries supporting mother's employment for males (-.012), in liberal countries for females (-.005), in developing countries for males (-.018), and in countries with higher living cost for females (-

.0002), but strengthens in social democratic countries for males (.010). Given a large number of cross-level effects to be tested here, these significant cross-level interactions, however, may be due to Type I errors, especially for those with small t-values. The results also show that the employment status has some significant interaction effects for females. The main effect of over-time work is negative (-.004, ns), and the cross-level effect of liberal countries is also negative (-.338). Therefore, the impact of over-time work on women's life satisfaction becomes negative in liberal countries. The full-time work (-.044, ns) also has a significant cross-level interaction effect with life expectancy, and the effect is negative (-.060), indicating that the effect of full-time work becomes negative in countries with longer life expectancy.

Tables 35 and 36 report variance components of random effect coefficients and individual-level variances for females and males, respectively. Changes in variance components are as follows; from the null model, the between-country variance is reduced by 17.4 percent for the individual model, 72.9 percent for the additive model, and 56.5 percent for the cross-level model for females. For males, the between-country variance is reduced by 14.3 percent for the individual model, 73.4 percent for the additive model, and 75.7 percent for the cross-level. Including the individual-level factors reduced similar percentage of variance for males and females, but the changes are different in the additive model and the cross-level model. For males, adding the cross-level effects slightly improves the model as compared to the additive model, although it does not for females. Therefore, having the individual- and country-level determinants show the most improvement from the null model for females, while the model with the factors at all levels seems to show the most improvement for males. On the other hand, the within-country variance is reduced by 7.6 percent for the individual model and the additive model, and by 7.9 percent for the cross-level model in the female sample. It is reduced by 5.4 percent for the individual model, 5.6 percent for the additive model, and 5.7 percent for the

Table 35: Variances and Random Effect Coefficients (u_{qj}) across Models on Life Satisfaction, the Married and Employed Sample, Female

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)	Cross-level Model (Model 4)
Intercept, u_{0j} (Country-level variance)	0.03877 ***	0.03204 ***	0.01051 **	0.01686 **
Individual-level variables				
MENROLE, u_{1j}		0.00198	0.00179	0.00181
GENDOL, u_{2j}		0.00182	0.00252	0.00539
MOMWORK, u_{3j}		0.00318	0.00316	0.00495 *
Over-time work, u_{4j}		0.01459	0.01150	0.02356
Full-time work, u_{5j}		0.00545	0.00496	0.00309
Number of Children, u_{6j}		0.00104	0.00123	0.00205
Housework, u_{7j}		0.00001	0.00001	0.00001
Age, u_{8j}		0.00004 *	0.00004 *	0.00006 *
Household income, u_{9j}		0.00001 **	0.00001 **	0.00000
Education, u_{10j}		0.00010	0.00012	0.00019
Level 1, r_{ij} (Individual-level variance)	0.61435	0.56736	0.56751	0.56575

cross-level model in the male sample. From the proportional reduction of the within-country variance, the individual-level variance is not reduced by country-level variables and/or cross-level interactions for either males or females.

HLM of the 33 Countries on Family-Related Well-Being by Gender

As previously observed from the descriptive statistics and t-tests, the stress measures seem to be distinct from happiness and life satisfaction measures, although all of them were constructed to measure psychological well-being. All measures of psychological well-being, as stated in Chapter 3, are scored such that higher score indicates better psychological well-being, and therefore higher score on Family-Related Well-being means less stress. Tables 37 and 38 present the results of HLM on family-related well-being for females and males, respectively. The average score of family-related well-being for females is 3.455, and it is 3.590 for males.

Table 36: Variances and Random Effect Coefficients (u_{qj}) across Models on Life Satisfaction, the Married and Employed Sample, Male

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)	Cross-level Model (Model 4)
Intercept, u_{0j} (Country-level variance)	0.02672 ***	0.02291 ***	0.00712 ***	0.00648 **
Individual-level variables				
MENROLE, u_{1j}		0.00175	0.00209	0.00354
GENDOL, u_{2j}		0.00182	0.00204	0.00093
MOMWORK, u_{3j}		0.00160	0.00135	0.00146
Over-time work, u_{4j}		0.02086	0.02151	0.00804
Full-time work, u_{5j}		0.02864	0.03498	0.02455
Number of Children, u_{6j}		0.00063	0.00067	0.00218
Housework, u_{7j}		0.00000	0.00000	0.00001
Age, u_{8j}		0.00003 **	0.00003 **	0.00001
Household income, u_{9j}		0.00000 **	0.00001 ***	0.00000
Education, u_{10j}		0.00012 **	0.00012 **	0.00018 **
Level 1, r_{ij} (Individual-level variance)	0.58213	0.55075	0.54973	0.54909

Women indicate lower psychological well-being on this measure than men, probably because women bear more family responsibility than men on the average.

The results from the individual models indicate that gender role attitudes seem to have different impacts on family-related well-being, as compared to the other psychological well-being measures we have seen. While the negative effect of supportive attitude toward men's caring roles on women does not change, the other two measures (attitudes toward the gendered division of labor and mother's employment) are now positively associated with psychological well-being related to family responsibility, for both men and women. In other words, for married and employed people, having more egalitarian gender role attitude promotes their psychological well-being regarding family life. It is important to note again, that for female respondents their partners are more likely to be employed and therefore they are a working couple, but for male

Table 37: HLMs for Individual- and Country-Level Determinants of Family-Related Well-Being, the Married and Employed Sample, Female (N=7,112)

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)
Individual-level variables (γ_{q0})			
Intercept, γ_{00}	3.455 ***	3.520 ***	3.501 ***
	(0.052)	(0.031)	(0.029)
MENROLE, γ_{10}		-0.062 ***	-0.062 ***
		(0.010)	(0.012)
GENDOL, γ_{20}		0.041 **	0.040 *
		(0.014)	(0.015)
MOMWORK, γ_{30}		0.087 ***	0.086 ***
		(0.012)	(0.013)
Over-time work, γ_{40}		-0.176 ***	-0.173 ***
		(0.038)	(0.040)
Full-time work, γ_{50}		-0.108 **	-0.105 **
		(0.027)	(0.031)
Number of Children, γ_{60}		-0.042 ***	-0.041 ***
		(0.010)	(0.010)
Housework, γ_{70}		-0.002 **	-0.002 **
		(0.001)	(0.001)
Controls			
Age, γ_{80}		0.002 *	0.002 *
		(0.001)	(0.001)
Household Income, γ_{90}		0.003 **	0.002 **
		(0.001)	(0.001)
Education, γ_{100}			
Country-level variables (γ_{0s})			
MMENROLE, γ_{01}			
MGENDOL, γ_{02}			
MMOMWORK, γ_{03}			
GEM, γ_{04}			
FLP, γ_{05}			0.004 *
			(0.002)
SCLIST, γ_{06}			
SOCDEM, γ_{07}			
LIBERAL, γ_{08}			-0.250 ***
			(0.057)
DVLPING, γ_{09}			-0.400 *
			(0.149)
Controls			
GDP, γ_{010}			
EDU, γ_{011}			-0.054 *
			(0.025)
LIFEXP, γ_{012}			
HOMICIDE, γ_{013}			
PRICE, γ_{014}			

***p < .001; **p < .01; *p < .05

Note: Numbers in parentheses are standard errors. Coefficients and standard errors only for significant effects and main effects of significant cross-level effects are presented.

Table 37 (continued):

	Cross-level Effects Model (Model 4)							
		Cross-level effect (γ_{qs}) for:						
	Main effects (γ_{q0})		MMENROLE γ_{q1}	MGENDOL γ_{q2}	MMOMWORK γ_{q3}	GEM γ_{q4}	FLP γ_{q5}	SCLIST γ_{q6}
Individual-level variables (γ_{q0})								
Intercept, γ_{00}	3.582	***						
	(0.041)							
MENROLE, γ_{10}	-0.063	***						
	(0.013)							
GENDOL, γ_{20}	0.032							
	(0.016)							
MOMWORK, γ_{30}	0.089	***						
	(0.014)							
Over-time work, γ_{40}	-0.187	***						
	(0.038)							
Full-time work, γ_{50}	-0.105	**						
	(0.034)							
Number of Children, γ_{60}	-0.049	***						
	(0.011)							
Housework, γ_{70}	-0.002	*						
	(0.001)							
Controls								
Age, γ_{80}								
Household Income, γ_{90}	0.005	**						
	(0.001)							
Education, γ_{100}								
Country-level variables (γ_{0s})								
MMENROLE, γ_{01}								
MGENDOL, γ_{02}								
MMOMWORK, γ_{03}								
GEM, γ_{04}								
FLP, γ_{05}	0.005	*						
	(0.002)							
SCLIST, γ_{06}								
SOCDEM, γ_{07}								
LIBERAL, γ_{08}								
DVLPING, γ_{09}								
Controls								
GDP, γ_{010}								
EDU, γ_{011}								
LIFEXP, γ_{012}								
HOMICIDE, γ_{013}								
PRICE, γ_{014}								

Table 37 (continued):

	Cross-level Effects Model (Model 4)							
	Cross-level effect (γqs) for:							
	SOCDEM γ_{q7}	LIBERAL γ_{q8}	DVLPING γ_{q9}	GDP γ_{q10}	EDU γ_{q11}	LIFEXP γ_{q12}	HOMICIDE γ_{q13}	PRICE γ_{q14}
Individual-level variables (γ_{q0})								
Intercept, γ_{00}								
MENROLE, γ_{10}								
GENDOL, γ_{20}								-0.004 * (0.002)
MOMWORK, γ_{30}		-0.098 * (0.044)						
Over-time work, γ_{40}	0.533 * (0.211)							
Full-time work, γ_{50}								
Number of Children, γ_{60}				0.010 * (0.004)				-0.003 * (0.001)
Housework, γ_{70}								
Controls								
Age, γ_{80}								
Household Income, γ_{90}			0.014 * (0.006)					
Education, γ_{100}								
Country-level variables (γ_{0s})								
MMENROLE, γ_{01}								
MGENDOL, γ_{02}								
MMOMWORK, γ_{03}								
GEM, γ_{04}								
FLP, γ_{05}								
SCLIST, γ_{06}								
SOCDEM, γ_{07}								
LIBERAL, γ_{08}								
DVLPING, γ_{09}								
Controls								
GDP, γ_{010}								
EDU, γ_{011}								
LIFEXP, γ_{012}								
HOMICIDE, γ_{013}								
PRICE, γ_{014}								

Table 38: HLMs for Individual- and Country-Level Determinants of Family-Related Well-Being, the Married and Employed Sample, Male (N=8,087)

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)
Individual-level variables (γ_{q0})			
Intercept, γ_{00}	3.590 ***	3.625 ***	3.615 ***
	(0.039)	(0.029)	(0.019)
MENROLE, γ_{10}			
GENDOL, γ_{20}		0.032 **	0.034 *
		(0.011)	(0.013)
MOMWORK, γ_{30}		0.034 **	0.033 **
		(0.009)	(0.011)
Over-time work, γ_{40}			
Full-time work, γ_{50}			
Number of Children, γ_{60}		-0.021 *	-0.021 *
		(0.008)	(0.008)
Housework, γ_{70}		-0.003 ***	-0.003 ***
		0.000477	(0.001)
Controls			
Age, γ_{80}		0.003 **	0.003 **
		(0.001)	(0.001)
Household Income, γ_{90}		0.001 *	
		0.000448	
Education, γ_{100}			
Country-level variables (γ_{0s})			
MMENROLE, γ_{01}			-0.211 *
			(0.091)
MGENDOL, γ_{02}			-0.214 *
			(0.100)
MMOMWORK, γ_{03}			
GEM, γ_{04}			
FLP, γ_{05}			
SCLIST, γ_{06}			
SOCDEM, γ_{07}			
LIBERAL, γ_{08}			-0.178 **
			(0.047)
DVLPING, γ_{09}			-0.335 **
			(0.094)
Controls			
GDP, γ_{010}			
EDU, γ_{011}			
LIFEXP, γ_{012}			
HOMICIDE, γ_{013}			0.019 **
			(0.006)
PRICE, γ_{014}			0.004 *
			(0.002)

***p < .001; **p < .01; *p < .05

Note: Numbers in parentheses are standard errors. Coefficients and standard errors only for significant effects and main effects of significant cross-level effects are presented.

Table 38 (continued):

	Cross-level Effects Model (Model 4)						
		Cross-level effect (γ_{qs}) for:					
	Main effects (γ_{q0})	MMENROLE γ_{q1}	MGENDOL γ_{q2}	MMOMWORK γ_{q3}	GEM γ_{q4}	FLP γ_{q5}	SCLIST γ_{q6}
Individual-level variables (γ_{q0})							
Intercept, γ_{00}	3.655 ***						
	(0.029)						
MENROLE, γ_{10}							
GENDOL, γ_{20}							
MOMWORK, γ_{30}	0.028 *						
	(0.012)						
Over-time work, γ_{40}							
Full-time work, γ_{50}							
Number of Children, γ_{60}	-0.023 *						
	(0.009)						
Housework, γ_{70}	-0.003 **						
	(0.001)						
Controls							
Age, γ_{80}	0.003 *						
	(0.001)						
Household Income, γ_{90}							
Education, γ_{100}							
Country-level variables (γ_{0s})							
MMENROLE, γ_{01}	-0.233 *						
	(0.098)						
MGENDOL, γ_{02}							
MMOMWORK, γ_{03}							
GEM, γ_{04}							
FLP, γ_{05}							
SCLIST, γ_{06}							
SOCDEM, γ_{07}							
LIBERAL, γ_{08}	-0.154 **						
	(0.051)						
DVLPING, γ_{09}							
Controls							
GDP, γ_{010}							
EDU, γ_{011}							
LIFEXP, γ_{012}							
HOMICIDE, γ_{013}							
PRICE, γ_{014}	0.005 *						
	(0.002)						

Table 38 (continued):

	Cross-level Effects Model (Model 4)							
	Cross-level effect (γqs) for:							
	SOCDEM γ_{q7}	LIBERAL γ_{q8}	DVLPING γ_{q9}	GDP γ_{q10}	EDU γ_{q11}	LIFEXP γ_{q12}	HOMICIDE γ_{q13}	PRICE γ_{q14}
Individual-level variables (γ_{q0})								
Intercept, γ_{00}								
MENROLE, γ_{10}								
GENDOL, γ_{20}								
MOMWORK, γ_{30}								
Over-time work, γ_{40}								
Full-time work, γ_{50}								
Number of Children, γ_{60}							0.008 *	
							(0.003)	
Housework, γ_{70}								
Controls								
Age, γ_{80}								
Household Income, γ_{90}								
Education, γ_{100}								
Country-level variables (γ_{0s})								
MMENROLE, γ_{01}								
MGENDOL, γ_{02}								
MMOMWORK, γ_{03}								
GEM, γ_{04}								
FLP, γ_{05}								
SCLIST, γ_{06}								
SOCDEM, γ_{07}								
LIBERAL, γ_{08}								
DVLPING, γ_{09}								
Controls								
GDP, γ_{010}								
EDU, γ_{011}								
LIFEXP, γ_{012}								
HOMICIDE, γ_{013}								
PRICE, γ_{014}								

respondents it is not necessarily the case. This result is not surprising for females, because their behaviors (including their partners') are consistent with their attitudes, although the causal relationship is not clear. The negative effect of supporting men's caring roles for females may be for the same reason as the first two measures of psychological well-being. In addition, because whether or not their husbands actively participate in housework and childcare is more crucial to employed wives' family-related psychological well-being, this reasoning may be more applicable to females in this sample.

The negative effects of parenthood and housework are found for both males and females on their well-being measured by family stress, which is also different from the findings using happiness and life satisfaction measures. Meanwhile, the type of employment has different impacts for men and women; it affects women's psychological well-being but does not affect men's. For women, over-time work and full-time work are negatively associated with their psychological well-being regarding family as compared to part-time work, and the negative impact of over-time work (-.176) is stronger than full-time work (-.108). This is interesting, because the type of employment had more effects on men's happiness and life satisfaction, but it affects women more than men in family responsibility. The two control variables of age and household income show significant impacts for both men and women, but interestingly, the direction of age is opposite this time. Age had negative impacts on psychological well-being in general, indicating that younger people are happier and more satisfied. However, it is positively associated with family-related well-being, indicating older people are less stressed when they are married and employed. This might be due to their children's age, not their own. Since it is harder for parents to take care of younger children, especially for working parents, children's age may be important to determine parents' psychological well-being related to the family responsibility. From the result that the number of children is an influential variable for both

males and females on this measure, children's age may also be an important determinant on stress caused by family responsibility.

Adding the direct effects of country-level variables does not change the significance and direction of the individual-level variables, except for the effect of household income becoming non-significant for males. The country-level variables, on the other hand, show some gender differences in the expected direction. First of all, higher labor force participation in a society is positively associated with the well-being related to family responsibility for women. Higher female labor force participation may create a better work environment for women, and considering women in this sample are employed, it may improve married women's family-related psychological well-being. Meanwhile, two gender ideology measures at the country-level (mean gender ideology regarding men's caring role and the gendered division of labor) show negative impacts on men's well-being related to family responsibility. Being in countries supporting the traditional division of labor and disagreeing with increasing men's caring roles promote men's psychological well-being related to family responsibility. The traditional atmosphere in a country probably could exempt men from taking family responsibility, and it may improve their psychological well-being. Meanwhile, being in liberal and/or developing countries declines family-related psychological well-being for both men and women, as compared to being in familialist countries.

Adding the cross-level effects somewhat changes the significance and the direction of the individual-level and country-level variables for both males and females. The effects of the attitude toward the division of labor are no longer significant for either males or females, and the age does not have significant impact on women's family-related well-being. Many direct effects of the country-level variables become non-significant, but the positive effect of female labor force participation for women and the negative effect of supporting men's caring role for men

still remain significant. Some cross-level effects are found in women's family-related well-being. The negative effect of over-time work (-.187) turns positive in social democratic countries (.533) as compared to familialist countries, while the positive effect of supporting mother's employment (.089) becomes non-existent in liberal countries (-.098). The positive effect of household income (.005) increases in developing countries (.014). The negative effect of parenthood (-.049) decreases in higher GDP countries (.010). Again, some of these significant cross-level interactions could be due to Type I errors, given a large number of interactions. Meanwhile, no significant cross-level effect on family-related well-being was found for males. Given that family-related psychological well-being is expected to be more salient for females than males, this non-finding among males is easily interpreted.

Tables 39 and 40 report changes in variance components across models on family-related well-being for females and males, respectively. The between-country variance is reduced by 69.4 percent in the individual model, 79.1 percent in the additive model, and 91.4 percent in the cross-level model for females. For males, it is reduced by 49.3 percent in the individual model, 83.3 percent in the additive model, and 91.8 percent in the cross-level model. Apparently, for the psychological well-being related to family responsibility, the cross-level effect model is the best and explains variance the most for both males and females. The within-country variance, on the other hand, is reduced by about 7.8 percent and 5.3 percent throughout all models for females and males, respectively. It seems, in terms of percent variance reduced, the models are best fit with this measure of psychological well-being.

HLM of the 33 Countries on Work-Related Well-Being by Gender

The last measure of psychological well-being for the married and employed sample is (the lack of) stress caused by work responsibility. This measure utilized the statements to assess the stress when they juggle work-family responsibilities but focused more on work. It also used the

Table 39: Variances and Random Effect Coefficients (u_{qj}) across Models on Family-Related Well-Being, the Married and Employed Sample, Female

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)	Cross-level Model (Model 4)
Intercept, u_{0j} (Country-level variance)	0.09041 ***	0.02767 ***	0.01886 ***	0.00777 **
Individual-level variables				
MENROLE, u_{1j}		0.00057	0.00052	0.00094
GENDOL, u_{2j}		0.00247	0.00240	0.00220
MOMWORK, u_{3j}		0.00186	0.00153	0.00174
Over-time work, u_{4j}		0.02062 **	0.02258 **	0.00701
Full-time work, u_{5j}		0.00931	0.01017	0.00888
Number of Children, u_{6j}		0.00086	0.00073	0.00056
Housework, u_{7j}		0.00000	0.00000	0.00001
Age, u_{8j}		0.00001	0.00001	0.00001
Household income, u_{9j}		0.00001 ***	0.00001 ***	0.00000 *
Education, u_{10j}		0.00002	0.00002	0.00009
Level 1, r_{ij} (Individual-level variance)	0.42276	0.38974	0.39037	0.39036

statement unrelated to the double burden and simply asking to assess work stress (see Figure 2 in Chapter 3). As we saw in the t-test results, this is the measure we found more male disadvantages, in contrast to other measures, and therefore how the various predictors affect it may be different. Similar to the family-related well-being measure, a higher score indicates a better mental state.

First of all, the average score of the 33 countries on work-related well-being is 2.719 for females and 2.722 for males. Although the average for men is still higher than women, the difference here is extremely small and virtually meaningless. How the individual-level factors affect this measure, on the other hand, is quite different between men and women. Tables 41 and 42 report the results of the individual model on work-related well-being for females and males, respectively. For women, supporting men's caring roles is still negatively associated with

Table 40: Variances and Random Effect Coefficients (u_{qj}) across Models on Family-Related Well-Being, the Married and Employed Sample, Male

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)	Cross-level Model (Model 4)
Intercept, u_{0j} (Country-level variance)	0.05093 ***	0.02580 ***	0.00852 *	0.00418
Individual-level variables				
MENROLE, u_{1j}		0.00065	0.00083	0.00166
GENDOL, u_{2j}		0.00149	0.00171	0.00096
MOMWORK, u_{3j}		0.00077	0.00091	0.00152
Over-time work, u_{4j}		0.03768 **	0.03574 **	0.05023 *
Full-time work, u_{5j}		0.03071 *	0.03389 *	0.05549 **
Number of Children, u_{6j}		0.00064 *	0.00059 *	0.00033
Housework, u_{7j}		0.00000	0.00000	0.00001 *
Age, u_{8j}		0.00000	0.00001	0.00001
Household income, u_{9j}		0.00000	0.00000	0.00001
Education, u_{10j}		0.00003	0.00003	0.00009 *
Level 1, r_{ij} (Individual-level variance)	0.32649	0.30905	0.30913	0.30914

psychological well-being, while the positive effect of the supporting attitude toward mother's employment is common for both men and women.

Meanwhile, the negative effect of full-time work is found only in women's work-related psychological well-being, although the negative effect of over-time work is common for both genders. Moreover, the negative effect of the number of children is found only for men's psychological well-being related to work. This result is interesting, because when we looked at other measures for psychological well-being, the number of children affected women more than men. More interestingly, percent housework shows positive impacts on men's and women's work-related well-being, indicating that their psychological well-being related to work is higher when they do more housework. This result is not intuitive, but considering the measure is related to work stress and juggling work-family responsibility, it could be interpreted that the

Table 41: HLMs for Individual- and Country-Level Determinants of Work-Related Well-Being, the Married and Employed Sample, Female (N=7,112)

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)
Individual-level variables (γ_{q0})			
Intercept, γ_{00}	2.574 ***	2.567 ***	2.560 ***
	(0.037)	(0.023)	(0.020)
MENROLE, γ_{10}		-0.089 ***	-0.089 ***
		(0.015)	(0.015)
GENDOL, γ_{20}			
MOMWORK, γ_{30}		0.090 ***	0.089 ***
		(0.013)	(0.013)
Over-time work, γ_{40}		-0.479 ***	-0.466 ***
		(0.042)	(0.043)
Full-time work, γ_{50}		-0.260 ***	-0.250 ***
		(0.031)	(0.032)
Number of Children, γ_{60}			
Housework, γ_{70}		0.002 *	0.002 *
		(0.001)	(0.001)
Controls			
Age, γ_{80}			
Household Income, γ_{90}			
Education, γ_{100}		-0.016 **	-0.017 **
		(0.004)	(0.004)
Country-level variables (γ_{0s})			
MMENROLE, γ_{01}			-0.229 *
			(0.091)
MGENDOL, γ_{02}			-0.265 *
			(0.105)
MMOMWORK, γ_{03}			
GEM, γ_{04}			
FLP, γ_{05}			
SCLIST, γ_{06}			
SOCDEM, γ_{07}			
LIBERAL, γ_{08}			-0.223 ***
			(0.048)
DVLPING, γ_{09}			
Controls			
GDP, γ_{010}			
EDU, γ_{011}			
LIFEXP, γ_{012}			
HOMICIDE, γ_{013}			
PRICE, γ_{014}			

***p < .001; **p < .01; *p < .05

Note: Numbers in parentheses are standard errors. Coefficients and standard errors only for significant effects and main effects of significant cross-level effects are presented.

Table 41 (continued):

	Cross-level Effects Model (Model 4)						
		Cross-level effect (γ_{qs}) for:					
	Main effects (γ_{q0})	MMENROLE γ_{q1}	MGENDOL $\gamma q2$	MMOMWORK γ_{q3}	GEM γ_{q4}	FLP γ_{q5}	SCLIST γ_{q6}
Individual-level variables (γ_{q0})							
Intercept, γ_{00}	2.542 ***						
	(0.043)						
MENROLE, γ_{10}	-0.087 ***					0.004 *	
	(0.018)					(0.002)	
GENDOL, γ_{20}	-0.001		0.251 *				
	(0.016)		(0.107)				
MOMWORK, γ_{30}	0.082 ***						
	(0.015)						
Over-time work, γ_{40}	-0.479 ***						
	(0.047)						
Full-time work, γ_{50}	-0.251 ***						
	(0.037)						
Number of Children, γ_{60}							
Housework, γ_{70}	0.002 *						
	(0.001)						
Controls							
Age, γ_{80}							
Household Income, γ_{90}							
Education, γ_{100}	-0.018 **						
	(0.004)						
Country-level variables (γ_{0s})							
MMENROLE, γ_{01}	-0.321 *						
	(0.122)						
MGENDOL, γ_{02}							
MMOMWORK, γ_{03}							
GEM, γ_{04}							
FLP, γ_{05}							
SCLIST, γ_{06}							
SOCDEM, γ_{07}							
LIBERAL, γ_{08}	-0.148 *						
	(0.065)						
DVLPING, γ_{09}							
Controls							
GDP, γ_{010}							
EDU, γ_{011}							
LIFEXP, γ_{012}							
HOMICIDE, γ_{013}							
PRICE, γ_{014}							

Table 41 (continued):

	Cross-level Effects Model (Model 4)							
	Cross-level effect (γqs) for:							
	SOCDEM γ_{q7}	LIBERAL γ_{q8}	DVLPING γ_{q9}	GDP γ_{q10}	EDU γ_{q11}	LIFEXP γ_{q12}	HOMICIDE γ_{q13}	PRICE γ_{q14}
Individual-level variables (γ_{q0})								
Intercept, γ_{00}								
MENROLE, γ_{10}								
GENDOL, γ_{20}								
MOMWORK, γ_{30}								
Over-time work, γ_{40}								
Full-time work, γ_{50}								
Number of Children, γ_{60}								
Housework, γ_{70}								(0.0002) * (0.000090)
Controls								
Age, γ_{80}								
Household Income, γ_{90}								
Education, γ_{100}								
Country-level variables (γ_{0s})								
MMENROLE, γ_{01}								
MGENDOL, γ_{02}								
MMOMWORK, γ_{03}								
GEM, γ_{04}								
FLP, γ_{05}								
SCLIST, γ_{06}								
SOCDEM, γ_{07}								
LIBERAL, γ_{08}								
DVLPING, γ_{09}								
Controls								
GDP, γ_{010}								
EDU, γ_{011}								
LIFEXP, γ_{012}								
HOMICIDE, γ_{013}								
PRICE, γ_{014}								

Table 42: HLMs for Individual- and Country-Level Determinants of Work-Related Well-Being, the Married and Employed Sample, Male (N=8,087)

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)
Individual-level variables (γ_{q0})			
Intercept, γ_{00}	2.583 ***	2.590 ***	2.586 ***
	(0.033)	(0.034)	(0.033)
MENROLE, γ_{10}			
GENDOL, γ_{20}			
MOMWORK, γ_{30}		0.040 **	0.038 *
		(0.014)	(0.014)
Over-time work, γ_{40}		-0.390 ***	-0.379 ***
		(0.066)	(0.069)
Full-time work, γ_{50}			
Number of Children, γ_{60}		-0.021 *	-0.022 *
		(0.010)	(0.010)
Housework, γ_{70}		0.003 ***	0.003 ***
		(0.001)	(0.001)
Controls			
Age, γ_{80}		0.006 ***	0.006 **
		(0.001)	(0.001)
Household Income, γ_{90}		-0.001 **	-0.002 **
		0.000468	(0.001)
Education, γ_{100}		-0.008 ***	-0.008 **
		(0.003)	(0.003)
Country-level variables (γ_{0s})			
MMENROLE, γ_{01}			
MGENDOL, γ_{02}			
MMOMWORK, γ_{03}			
GEM, γ_{04}			
FLP, γ_{05}			
SCLIST, γ_{06}			
SOCDEM, γ_{07}			
LIBERAL, γ_{08}			
DVLPING, γ_{09}			
Controls			
GDP, γ_{010}			
EDU, γ_{011}			
LIFEXP, γ_{012}			
HOMICIDE, γ_{013}			
PRICE, γ_{014}			

Note: Numbers in parentheses are standard errors. Coefficients and standard errors only for significant effects and main effects of significant cross-level effects are presented.

Table 42 (continued):

	Cross-level Effects Model (Model 4)						
		Cross-level effect (γ_{qs}) for:					
	Main effects (γ_{q0})	MMENROLE γ_{q1}	MGENDOL γ_{q2}	MMOMWORK γ_{q3}	GEM γ_{q4}	FLP γ_{q5}	SCLIST γ_{q6}
Individual-level variables (γ_{q0})							
Intercept, γ_{00}	2.542 ***						
	(0.044)						
MENROLE, γ_{10}	-0.028						
	(0.014)						
GENDOL, γ_{20}	0.007						
	(0.017)						
MOMWORK, γ_{30}	0.044 **					0.003 *	
	(0.015)					(0.001)	
Over-time work, γ_{40}	-0.337 **						
	(0.103)						
Full-time work, γ_{50}							
Number of Children, γ_{60}	-0.026 *						
	(0.011)						
Housework, γ_{70}	0.003 ***					(-0.0001) *	
	(0.001)					(0.000059)	
Controls							
Age, γ_{80}	0.006 **						
	(0.001)						
Household Income, γ_{90}	-0.003 *						
	(0.001)						
Education, γ_{100}	-0.009 *						
	(0.003)						
Country-level variables (γ_{0s})							
MMENROLE, γ_{01}	-0.405 *						
	(0.177)						
MGENDOL, γ_{02}							
MMOMWORK, γ_{03}							
GEM, γ_{04}							
FLP, γ_{05}							
SCLIST, γ_{06}							
SOCDEM, γ_{07}							
LIBERAL, γ_{08}							
DVLPING, γ_{09}							
Controls							
GDP, γ_{010}							
EDU, γ_{011}							
LIFEXP, γ_{012}							
HOMICIDE, γ_{013}							
PRICE, γ_{014}							

Table 42 (continued):

	Cross-level Effects Model (Model 4)							
	Cross-level effect (γqs) for:							
	SOCDEM γ_{q7}	LIBERAL γ_{q8}	DVLPING γ_{q9}	GDP γ_{q10}	EDU γ_{q11}	LIFEXP γ_{q12}	HOMICIDE γ_{q13}	PRICE γ_{q14}
Individual-level variables (γ_{q0})								
Intercept, γ_{00}								
MENROLE, γ_{10}	0.182 *					0.023 *		-0.004 *
	(0.084)					(0.010)		(0.002)
GENDOL, γ_{20}						-0.030 *		
						(0.013)		
MOMWORK, γ_{30}								
Over-time work, γ_{40}								
Full-time work, γ_{50}								
Number of Children, γ_{60}								
Housework, γ_{70}	0.008 *							
	(0.003)							
Controls								
Age, γ_{80}								
Household Income, γ_{90}								
Education, γ_{100}								
Country-level variables (γ_{0s})								
MMENROLE, γ_{01}								
MGENDOL, γ_{02}								
MMOMWORK, γ_{03}								
GEM, γ_{04}								
FLP, γ_{05}								
SCLIST, γ_{06}								
SOCDEM, γ_{07}								
LIBERAL, γ_{08}								
DVLPING, γ_{09}								
Controls								
GDP, γ_{010}								
EDU, γ_{011}								
LIFEXP, γ_{012}								
HOMICIDE, γ_{013}								
PRICE, γ_{014}								

recognition of doing housework may ease their work stress. Alternatively, those men and women less stressed out with their jobs may be more likely to spend time on household work.

Among the three control variables, household income is negatively associated with men's work-related psychological well-being, and education is also negatively associated with both men's and women's psychological well-being related to work stress. From the literature, the household income is supposed to have a positive impact on psychological well-being, but it has a negative effect among men. We note that it is positively associated with other measures of psychological well-being in the present research. I speculate the type of job or occupation the respondents work for could make a difference. In other words, an occupation which brings higher income or requires more educational qualification (e.g., professional or managerial job) could be much more stressful and require a high commitment, as compared to other types of jobs. Men are more likely to work for these jobs than women in general, especially in more traditional countries, and this might cause the difference. The effect of age, on the other hand, is still positive on men's psychological well-being regarding work.

The results of the additive model show that the effects of individual-level factors on work-related well-being do not change after adding the direct effects of the country-level variables either for males or females. Meanwhile, the direct effects of the country-level variables do not show much significant influence on psychological well-being related to work responsibility, and especially for males, no significant effect is found. For women, two of the gender ideology measures at the country-level have negative effects on their work-related psychological well-being. That is, more traditional countries in terms of men's caring roles and division of labor have women with better psychological well-being than countries supporting men's caring roles and more egalitarian division of labor. Moreover, being in liberal countries is negatively associated with women's work-related psychological well-being. In other words, women in

familialist countries indicate better psychological well-being related to work responsibility than those in liberal countries. All of these results show that women in more traditional countries are better in work-related well-being, and this might be because women in more traditional countries are not expected to take strong work responsibility as compared to those in more egalitarian countries.

Adding cross-level effects to the model does not change the significance and direction of the individual-level variables. It changed one country-level effect for males, and now being in countries with traditional attitudes toward men's caring roles improves men's work-related psychological well-being. For females, being in traditional countries still improves their work-related well-being, as we saw in the additive model. The results of the cross-level interactions show some gender differences. While there have been more cross-level effects found in the analysis for the female sample so far, the analysis on the work-related well-being found more significant effects on males. This may be understandable since work responsibility is more crucial for males than for females, particularly in more traditional countries where fewer women are in the labor force.

For men's psychological well-being related to work, the positive effect of having a supportive attitude toward mother's employment is stronger in countries with higher female labor force participation. In other words, men's work stress is improved when they have supportive attitude toward mother's employment (.047), and the effect is stronger in countries with higher female labor force participation (.003). In countries where many women work outside home, it might ease pressure on men as a breadwinner and improve their work-related psychological well-being, particularly when they support women's labor force participation. The negative effect of the number of children (-.029) is also mitigated in these countries (.002). The number of children worsens men's work stress probably because having more children costs

more, but this negative effect is somewhat weaker in countries with higher female labor force participation. Meanwhile, the positive effect of doing more housework on work-related psychological well-being (.004) decreases in these countries (-.0001). Although doing a higher proportion of housework decreases men's work stress, the positive effect is weaker in countries with higher female labor force participation, probably because men in these countries may be pressured to do more housework and/or their performance may not be much appreciated. However, these impacts are relatively small, and also could be due to Type I errors.

The effect of a supportive attitude towards men's caring role on men's psychological well-being related to work (-.030, ns) becomes positive in social democratic countries (.207) as compared to familialist countries. The negative effect of full-time work on men's psychological well-being (-.070), although not statistically significant, increases in liberal countries (-.739). The effect of supporting more egalitarian division of labor on women's work-related well-being (-.001, ns) becomes positive in countries supporting this same attitude at the aggregated level (.259).

Tables 43 and 44 report changes in variance components across models for females and males, respectively. Adding the direct effects of the country-level variables does not reduce much between-country variance in the male sample (only by 9.3 percent), although adding the cross-level effects reduces the between-country variance by 34.4 percent. Meanwhile, including individual-level variables reduces the within-country variance by 11.1 percent for the male sample. For the female sample, including the individual-level variables reduces the between-country variance by 68.1 percent and the within-country variance by 11.8 percent. The between-country variance is further reduced by 83.0 percent by including the direct effects of the country-level variables and by 87.5 percent by including the cross-level effects. Comparing the proportional reduction of variance, it seems that the models fit better to analyze the female

Table 43: Variances and Random Effect Coefficients (u_{qj}) across Models on Work-Related Well-Being, the Married and Employed Sample, Female

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)	Cross-level Model (Model 4)
Intercept, u_{0j} (Country-level variance)	0.04115 ***	0.01314 ***	0.00698 ***	0.00513 *
Individual-level variables				
MENROLE, u_{1j}		0.00260	0.00244	0.00427
GENDOL, u_{2j}		0.00393	0.00358	0.00177
MOMWORK, u_{3j}		0.00076	0.00092	0.00104
Over-time work, u_{4j}		0.02442 *	0.02586 *	0.02316
Full-time work, u_{5j}		0.00726	0.00881	0.00993
Number of Children, u_{6j}		0.00108	0.00078	0.00108
Housework, u_{7j}		0.00000	0.00000	0.00001
Age, u_{8j}		0.00002	0.00002	0.00001
Household income, u_{9j}		0.00000	0.00000	0.00001 *
Education, u_{10j}		0.00026 ***	0.00025 ***	0.00015
Level 1, r_{ij} (Individual-level variance)	0.53862	0.47508	0.47484	0.47619

sample while there may be more unobserved determinants for the male sample.

Comparison of the Four Measures of Psychological Well-Being: A Summary

In the previous sections, I presented the results of the HLM analyses for the married and employed individuals, focusing on gender differences in each measure of psychological well-being. In this section to summarize the findings, I compare these four measures of psychological well-being within the same gender and between the two. As noted earlier, the results on the happiness and life satisfaction measures are similar for both female and male samples with a few differences. For example, the employment status at the individual-level (i.e., over-time work and full-time work as compared to part-time work) affects women's happiness but not life satisfaction. It seems that there are more differences in the cross-level effects between the two measures, but at the individual- and country-levels, the difference is small, if any.

Table 44: Variances and Random Effect Coefficients (u_{qj}) across Models on Work-Related Well-Being, the Married and Employed Sample, Male

	Null Model (Model 1)	Individual Model (Model 2)	Additive Model (Model 3)	Cross-level Model (Model 4)
Intercept, u_{0j} (Country-level variance)	0.03392 ***	0.03291 ***	0.03078 ***	0.02225 ***
Individual-level variables				
MENROLE, u_{1j}		0.00313 *	0.00330 *	0.00151
GENDOL, u_{2j}		0.00399	0.00335	0.00363
MOMWORK, u_{3j}		0.00197	0.00200	0.00219
Over-time work, u_{4j}		0.05851 **	0.06314 **	0.16991 **
Full-time work, u_{5j}		0.06505 *	0.07518 *	0.17953 **
Number of Children, u_{6j}		0.00091	0.00085	0.00082
Housework, u_{7j}		0.00000	0.00000	0.00000
Age, u_{8j}		0.00003 *	0.00003 *	0.00003
Household income, u_{9j}		0.00000 *	0.00000 *	0.00001 *
Education, u_{10j}		0.00008 *	0.00009 *	0.00013
Level 1, r_{ij} (Individual-level variance)	0.55040	0.48943	0.48927	0.48965

Meanwhile, the analyses on family- and work-related well-being showed somewhat different results from happiness and life satisfaction measures, and their results were different from each other. For example, the number of children had an effect only on family-related well-being for females, while it was negatively associated with both family- and work-related well-being for males. Furthermore, the effect of type of employment showed clear gender differences as well. For males, over-time work had consistently negative effects on their psychological well-being (except for family-related well-being) but full-time work did not necessarily affect them. Meanwhile, for women, both over-time work and full-time work affect two stress-related measures, but neither one affects happiness nor life satisfaction. On the other hand, there was no gender difference found in the effect of housework. For both males and females, percent

housework had a negative effect on them except for the work-related psychological well-being. For this measure, the effect was positive.

The effect of supportive attitude toward mother's employment is positive on all four measures for both males and females, and the effect of supportive attitude toward men's caring roles is consistently negative on women's psychological well-being. Meanwhile, the effect of men's caring roles (MENROLE) is significant and positive for men's happiness and life satisfaction but is not significant on stress-related measures. Lastly, attitude toward the gendered division of labor had different effects depending on measure and gender. For example, it is negatively associated with men's happiness and life satisfaction but positively associated with men's family-related psychological well-being (non-significant on work-related well-being). Overall, although happiness and life satisfaction measures show relatively similar results in HLM, more differences are found in the four measures as a whole, for both males and females.

The direct effects of the country-level variables, on the other hand, seemed to be somewhat consistent throughout the four measures and also for both males and females. For example, the country-level gender ideology measures, when they are statistically significant, showed negative associations with psychological well-being. This means that people in more traditional countries in terms of aggregated gender norms indicated better psychological well-being than those in more egalitarian countries, and it does not support the hypothesis that women may have better mental health in more egalitarian countries. The direct effect of GEM also showed the same result; people in countries with less gender equality indicate better psychological well-being. In contrast, female labor force participation presented the opposite effect; for both males and females, higher female labor force participation rates were associated with higher scores on psychological well-being. The effect of welfare regime, on the other hand, is mixed. The familialist regime represents countries with more traditional systems and therefore I expected to

find that the other regimes such as liberal or social democratic countries are positively associated with women's psychological well-being. The results showed that, as compared to being in familialist countries, being in liberal and social democratic countries is positively associated with happiness and life satisfaction. Being in liberal countries, however, is negatively associated with family- and work-related well-being for both men and women, when the effect is statistically significant.

CHAPTER 6: DISCUSSIONS AND CONCLUSIONS

The traditional division of labor and unequal gender relations have been under criticism from feminist and family researchers in the United States, especially after the 1960's, when the labor force participation rates of women rapidly increased. More women entered the labor force and stayed with paid work -- even married women with children. While employment brought economic power and independence to women, it also created additional problems in women's lives, especially dealing with different roles at home and at work. Previous studies (e.g., Bolger et. al. 1990; Hochschild 1989) examined the consequences of the double burden and "cost of care" attached to female roles. These studies found negative effects on women's psychological well-being and linked these to women's "dual" roles. However, the increase in female labor force participation triggered changes in our attitudes toward gender relations -- the gender climate became much more egalitarian during past decades -- although we still observe occupational segregation by gender and unequal distribution of resources by gender in all aspects of a society.

Gendered socialization and the social roles of men and women also influenced gender differences in mental health. The social role explanation (Rosenfield 1980) assumes that these gender differences in mental health exist so long as the gender differences in social roles and socialization exist. Therefore, it theorizes that female disadvantages in mental health will disappear as gender role differences disappear. Based on this reasoning, the current study examines gender differences in psychological well-being as a function of gender relations within a number of different societies. It also examines how gender- and family-related factors affect men and women in different manners.

In addition to delving into gender differences, I place this research within a broader context by examining how country-level contexts affect individual outcomes. The use of multi-level

modeling and data from 33 countries enabled me to investigate the contextual influences and macro-micro interactions on individual psychological well-being and its gender differences. Conducting systematic analyses in the 33 countries rather than a case-by-case comparison, I argued that the gendered patterns in mental health would depend on the contexts, particularly the degree of gender stratification and macro-level gender ideologies. This study is among the first to test whether and how social structure affects individuals' psychological aspects of well-being and the gendered patterns in mental health. Although it is not without limitations, this study makes several important contributions to our understanding of gender relations at both individual- and societal-levels and the effects of context.

In this chapter, I summarize the major findings of the current study and discuss the theoretical implications of these findings. In the subsequent sections, I further discuss the limitations of the study, both theoretically and methodologically, referring to alternative perspectives tied to debates in broader feminist theory. I also suggest directions of future research during the discussions.

Summary of Major Findings

Male Advantages in Psychological Well-Being

Consistent with the social role explanation, my analyses revealed that women exhibited lower psychological well-being than men on the average. The results from both t-tests and HLM analyses confirmed that the overall level of psychological well-being was lower for females than males, as has been suggested by previous research. Female disadvantages in psychological well-being were found in most countries observed in the current study, regardless of the degree of gender equality or the aggregated gender ideology. These results supported Hypothesis 1: Women in each country present lower psychological well-being than men. However, the contextual influence on women's psychological well-being was not found to be significant and

thus Hypothesis 2 was not supported; no clear pattern in the relation between the country-level variables (i.e., the degree of gender equality, aggregated gender ideology, and political regime) and gender differences in psychological well-being was found. The gender differences were observed more clearly when comparing the results for various dimensions of psychological well-being.

Female vulnerabilities on mental health were found in three measures; happiness, life satisfaction, and family-related well-being. One exception was work-related well-being; one of the measures applied to the analyses for the married and employed sample. The results of t-tests indicated male disadvantages on work-related well-being, although the number of countries showing this pattern was small. HLM analyses found that men's better psychological well-being than women's almost disappeared on work-related well-being as well. Meanwhile, more female vulnerabilities were found in psychological well-being regarding family life. Unlike happiness and life satisfaction measures, these two dimensions of psychological well-being specifically assess the level of stress in terms of family and work responsibilities, and therefore they may reflect more gender-specific issues included in the measures. In other words, these two measures could capture clearer gender differences due to the social roles assigned for each gender, indicating that women feel more stress with family-related matters while men do with work-related matters. It also showed that men enjoyed better psychological well-being when more global measures such as happiness and life satisfaction are used.

The analyses also indicated that the gender differences in psychological well-being showed different patterns depending on the measure of psychological well-being used. Thus, we should be careful when we develop measures since some of the measures may be gender-specific. The gender differences were also found in the factors affecting psychological well-being, while some of them did not show the effects in the expected direction. The detailed results are discussed in

the following sections.

Gender Differences and Contextual Influences in Factors Affecting Psychological Well-Being

Benefits of Marriage

From the whole sample analyses on happiness, the effects of marital status on psychological well-being showed that being married had a positive effect when compared to the non-married and never-married, regardless of gender. In addition, the negative effect of being non-married (i.e., divorced, widowed, or separated) is stronger than that of being never-married. However, consistent with the literature, the negative effects of being non-married and never-married are stronger for males than for females (the size of coefficients are twice as large for males). In other words, men get more benefits from being married than women, although being married also has a positive impact on women. The comparison between the whole and the married and employed sample also confirmed the positive effect of marriage by looking at the average happiness score, which is slightly higher for the married and employed sample for both men and women.

Meanwhile, I did not find a contextual influence on the effect of marriage on men's happiness as predicted in Hypothesis 3. In other words, positive effects of marriage for men are consistent regardless of the degree of gender equality or aggregated gender ideology in a given society. It means that marriage contributes to men's happiness, even *where the greatest gender equality or egalitarianism has been achieved.*

One interesting finding is the interaction between being non-married and GEM (Gender Empowerment Measure), for both men and women. The negative effect of being non-married is mitigated in countries with higher GEM scores, which indicates greater gender equality in political and economic systems. In other words, the negative effect of being divorced, widowed, and separated on happiness is stronger in more traditional countries. I speculate this relationship

as that being non-married may be considered as less deviant in egalitarian societies than in traditional countries. In more traditional countries, marriage is normative so that the stigma attached to being non-married should be stronger (Cherlin 1991; Pearlin and Johnson 1977). The normative status of marriage, however, may become less pronounced or disappear as a society becomes more egalitarian in gender relations, where many aspects of marital roles may change. In these societies, divorce and premarital cohabitation are more common as well. The results here may imply that the value of marriage is more evident in traditional countries, while marriage is still positively associated with mental health for both men and women even in less traditional countries.

Different Effects of Employment Status

The analyses found not only very different trends in female labor force participation across countries, but also complex relationships between employment status and psychological well-being for both men and women. The descriptive statistics regarding country characteristics showed that the female employment pattern is more diverse while the male employment pattern is more homogeneous. Among employed males, approximately 90 to 95 percent are full-time workers and this is consistent across countries. Meanwhile, among employed females, full-time employment rates range from 35 percent (the Netherlands) to 97 percent (Slovenia). In addition, comparing Tables 12 and 24, female employment can be divided into roughly three groups: (1) higher in labor force participation and full-time employment, (2) lower in labor force participation and higher in full-time employment, (3) lower in labor force participation and lower in full-time employment (i.e., higher in part-time employment). Former socialist countries are largely classified as (2), social democratic countries as (1), and conservative countries as (3). Compared to consistently higher labor force participation (approximately 20 points higher than women's on average) and higher full-time employment rates among males, women's

employment shows more diversity across countries, and thus employment seems to have different meanings to women depending on the country. For example, in countries with higher female labor force participation and full-time employment rates, being employed and employed full-time may have similar meanings for both men and women, and it may be normative for women to keep full-time jobs while they are married and have children. On the other hand, in countries with lower female labor force participation rates or higher part-time employment rates, being employed or employed full-time is still non-normative for women, and employed women in these countries may feel isolated from mainstream society.

The results of HLM analyses confirmed that there were gender differences in the effects of the type of employment on psychological well-being. In the whole sample, not working had a more negative effect on men's happiness than even over-time work, while it did not have a statistically significant impact on women's. In the married and employed sample, male respondents tended to experience a negative impact of over-time work, but full-time work did not have much impact on them except for family-related well-being. Meanwhile, the effects of the type of employment for women depended on which measures were used. The results showed that both over-time work and full-time work, as compared to part-time work, were negatively associated with women's family- and work-related psychological well-being, while they did not have much impact on their happiness and life satisfaction. In other words, for males, having a full-time employment is normative, and it does not have either positive or negative effects on them. Working long hours (i.e., over-time work), however, physically and mentally deteriorates their quality of lives, and being unemployed in labor force (i.e., no work) deviates from the norm. For women, on the other hand, employment does not have significant effects on general mental health, but it becomes an influential predictor when it is related to juggling dual responsibilities between work and family. Their struggles to deal with conflicting roles are shown in that even

full-time work is negatively associated with their psychological well-being. Overall, the results indicate, although neither in an explicitly nor straightforward manner, that the way employment affects psychological well-being for men and women reflects gender differences in the socially expected roles for them. In other words, even after employment has become more common among women, work is still men's sphere, and women still tend to shoulder a greater burden balancing the two roles.

The contextual influences were found more often for the female sample. The negative effects of over-time work on happiness and life satisfaction increased in liberal countries, while the negative effect on family-related well-being was mitigated in social democratic countries, as compared to familialist countries. These results partially supported Hypothesis 4: Employment causes lower psychological well-being for women in less egalitarian countries but has positive impact on women in egalitarian countries. I speculate that the negative effect of employment on women's family-related well-being may be alleviated in social democratic countries, because these countries have established many services to support working mothers such as public, universal child care services. Meanwhile, the stronger negative effect of work in liberal countries than in familialist countries might be due to more social pressure on a work role for women. The same effect on work-related well-being was found for men as well, and thus the same reasoning may be applied to this interaction effect.

Negative Effects of Caring Roles: Parenthood and Housework

The caring roles, represented by the number of children and relative share of housework hours in the present research, were expected to have negative effects on psychological well-being regardless of gender. It was thus hypothesized to be the reason why women were more vulnerable in mental health. I also expected to see the contextual influences in the effects of husband's participation; the lack of husband's participation in housework is not negatively

associated with women's psychological well-being in more traditional countries but they are in egalitarian countries (Hypothesis 6). Furthermore, I hypothesized that parenthood would have a stronger negative impact on women's psychological well-being in more egalitarian countries (Hypothesis 5). HLM analyses showed interesting results.

The negative effects of housework were consistently found for men and women, and also their coefficients were, on the average, twice as large for females than for males. These findings supported the idea of "cost of care" (Kessler et al. 1985), where women have more disadvantages due to socially expected caring roles attached to them. Meanwhile, percent housework was positively related to work-related well-being for both males and females. This positive relationship is puzzling, and I can only speculate that taking more domestic responsibilities might help those who are trying to balance work-family responsibilities to ease their work stress, or those who are less stressed with work might do more housework.

On the other hand, the effects of number of children on psychological well-being were consistently negative when significant effects were found, regardless of gender. However, an interesting finding about this predictor was that parenthood did not impact happiness and life satisfaction, while it was negatively associated with family- and work-related well-being. In addition, the negative effect of parenthood on work-related well-being was found only for males, while the negative effect on family-related well-being was larger for females. The findings regarding the negative effects of parenthood are consistent with the literature in that parenthood has negative consequences due to changes in the value and cost of children, as opposed to a general perception of parenthood that having children contributes parents' better psychological well-being. It is also interesting to find that parenthood did not affect more global measures of psychological well-being but had negative impacts on stress-related measures. Gender differences in the negative effects on family- and work-related well-being may be attributed to

gender roles; women are affected by family responsibility more than men, while men may feel more responsible to be a breadwinner. These negative effects of parenthood can be mitigated in countries with more supportive atmosphere for working mothers (for female happiness) and higher female labor force participation (for male work-related well-being). For the sample of married and employed people, the decrease in women's happiness by parenthood is ameliorated in countries where mother's employment is normative. Higher rates of female employment may also improve men's work-related stress as compared to those in countries with lower rates, because women's employment may ease men's stress related to work responsibility. These results seem to represent that social pressures to fulfill gendered roles may be lightened not only for females but also for males in countries where the gender climate at the aggregated level is more egalitarian.

Individual Gender Role Attitudes

The results showed that people assessed three measures of gender role attitudes differently and they also had different impacts on psychological well-being. Both men and women indicated the most supportive attitude regarding increasing men's participation in housework and childcare, while they were the most conservative regarding the gendered division of labor. The attitude toward mother's employment was in-between. I interpret these results as that people (both men and women) tend to agree with increasing men's caring roles and women's work role but disagree with drastically changing the traditional division of labor itself. In other words, people support a neo-traditional division of labor where the husbands perform domestic responsibilities less than the wives, rather than egalitarian (equal responsibilities) or traditional (completely separate family and work responsibilities). This type of division of labor does not assume completely separate responsibilities between husband and wife but still presupposes the primary responsibility of taking care of home for women and breadwinning for men. The

proportion of housework hours also showed that couples in many countries most often had this type of arrangement. The countries where wives' average share of housework is relatively large are former socialist countries, Japan, and Portugal. Majorities in these countries held relatively traditional gender role attitudes as well.

HLM results revealed that there were gender differences in the effects of the three gender role attitude measures on psychological well-being. The most distinctive difference across all measures of psychological well-being is found in the supportive attitude toward men's caring roles: it had a negative effect on women's well-being but a positive effect on men's. These results partially supported Hypothesis 7: Women with egalitarian gender role attitudes have lower psychological well-being, especially those in non-egalitarian countries. Holding a supportive attitude toward men's caring role seems to have different impacts on men and women. Women with this attitude may expect men to play more caring roles and thus would be usually disappointed with the reality, since agreeing with increasing men's caring roles does not always affect actual behaviors of their husbands. On the other hand, the effects of the attitudes toward mother's employment and gendered division of labor showed few gender differences across all four measures of psychological well-being. The attitude toward mother's employment is always positively associated with psychological well-being, regardless of gender and sample. Mother's employment may be normative in many countries, and having a favorable attitude may be more typical and less deviant, especially for employed women. The mother's employment also does not necessarily cause a smaller degree of commitment to caring roles at home so that it may not affect men. The attitude toward the gendered division of labor, on the other hand, showed different effects depending on the measure used and gender. It is negatively associated with happiness and life satisfaction for both genders and both samples, while it became non-significant on family- and work-related well-being in the final models. As I discussed above,

people tend to be more conservative with the gendered division of labor, even when they agree with increasing men's caring roles and mother's employment. Similar to the reasoning for the positive relationship between the supportive attitude toward mother's employment and psychological well-being, more traditional attitudes toward the gendered division of labor may be more normative in many countries and therefore having an unfavorable attitude may conform with the societal climate which helps individuals' well-being in that society.

Female Heterogeneity and Effects of Context

The analyses also found more significant contextual influences (both direct and cross-level effects) on women's psychological well-being than men's, in both the whole and married and employed samples. The changes in variance components from HLM analyses also indicated that adding country-level predictors reduced more variance in the female sample, meaning that it improves the models in the female sample more than the male sample. This may imply women are more heterogeneous in the causal relationship across countries, and/or they are affected by structural (country-level) factors of the society to a greater extent than men are.

Hakim (1997) argued that women are more polarized in terms of gender role attitudes and work orientations even within a single country, and these attitudinal and behavioral differences among women affect their choice for employment and life style. The results in the current study also showed that women were heterogeneous in the causal relationship across countries as compared to men. In other words, individual determinants can explain most differences in the degree of psychological well-being among men and the differences across countries are not as critical as those for women. I speculate that contextual factors such as the degree of gender equality or the country-level gender ideology have stronger impacts on women, since women are the ones who receive either advantages or disadvantages from the societal arrangements to support/discourage gender equality and egalitarian atmosphere.

For example, the literature regarding the division of housework documented that wives compared their husbands' contributions to other husbands' rather than their own, and thus a much smaller contribution of their husbands than their own can be justified (e.g., Thompson 1991). In more egalitarian countries, this justification may be more difficult when the husband's contribution is small. Social pressure for husbands to participate more may be greater in these countries. As another example, in countries with greater gender equality, there are more mechanisms available to support working mothers to balance work and family, such as maternal leaves or child care services. These structural differences affect women's family and work lives more than men's, so that they contribute to the differences in women's psychological well-being across countries more than men. The use of HLM enabled the current study to examine the influence of these structural differences on the individual outcomes, which was overlooked by most studies in the past.

Theoretical Implications and Contributions of the Study

The results did not support one of the major hypotheses that a greater degree of gender equality and egalitarian gender norms at the aggregated level had positive effects on psychological well-being among women. Instead, the analyses showed mixed results indicating that women's better psychological well-being is related to either more traditional or egalitarian countries, depending on the measure. Although many cross-level interactions between these measures and individual factors were found to be non-significant, several country-level direct effects of gender equality and ideology measures were found to be either negatively or positively associated with higher psychological well-being for women. The GEM, for example, was found to be negatively associated with women's happiness and life satisfaction, while the female labor force participation rates were positively associated with women's family-related well-being.

Why do we expect that women's well-being is higher in more egalitarian countries? In more

traditional countries, women are expected to fulfill "female" roles more strictly, and based on social role explanations, female roles are related to lower psychological well-being (Gilligan 1982; Kessler et al. 1985). However, the results were mixed, and higher levels of women's well-being were not necessarily related to greater gender equality or more egalitarian social atmosphere. In other words, contrary to social role explanations, female roles may not necessarily be related to lower psychological well-being. The more egalitarian atmosphere in a society may not always be associated with the higher psychological well-being among women either. There are both methodological and theoretical reasons for this discrepancy. Methodologically, the indicators used in the present research to measure the level of gender equality and egalitarianism could have contained some problems or assessed different aspects of gender equality and ideology. In the following sections, I discuss possible explanations for the unexpected results from a theoretical aspect and implications drawn from the discussions for gender studies in general.

Social Role Explanations, Gender Equality, Egalitarian Ideas, and Feminist Perspectives

Many proponents of social role theory argue that gender disparities in mental health are due to the gendered socializations and different roles assigned to men and women. It also explains why women are prone to have mental health problems; female roles cost their energy and health, and women have been socialized to internalize negative feelings and reactions. Therefore, gender differences and women's vulnerability in mental health are supposed to disappear when gender differences in socialization and social roles disappear. This explanation is based on the feminist framework, which argues that there are gender inequalities in many aspects of society and individual relationships and women's rights need to be protected (White and Klein 2002).

The feminist framework, however, represents various perspectives with very different ideas and goals. The perspective with a major goal to achieve gender equality is called liberal

feminism, and the gender equality in this perspective is defined as equal opportunities for both men and women (White and Klein 2002). Given that equal job opportunities for men and women are of their goals, any gender segregation in the work force is against the perspective of liberal feminism. Much of the research on gender and family is based on the assumption of liberal feminism, which states that equal gender relations are desirable but the actual practice is far from that (e.g., Acock and Demo 1994). Although it is not explicitly claimed, the gender disparity in mental health is based on the assumption that gender roles and gendered socializations are the source of women's vulnerability in mental health and equalizing social roles and socialization processes between men and women will reduce gender inequality in mental health.

Meanwhile, in her research on part-time work among women in Europe, Hakim (1997) documented polarization of women's work career and orientations. According to her research in Europe, where female labor force participation dramatically increased in the post-war period similarly to the United States, the increase in part-time workers contributed to most of the increase, not in full-time workers. The statistics she presented showed that the percent of women who work full-time did not change much during past decades. She documented that part-time work concentrates in marginal, unskilled, low-pay, and low level positions without necessities of training or experience, and a majority of part-timers are married women. Women who work part-time, however, hold higher job satisfaction than full-timers. They also hold more traditional gender role attitudes and have qualitatively different work commitment and orientations as compared to women who work full-time. From the liberal feminist perspective, part-time work among women is considered to be a result of the lack of equal opportunities in employment, and women who work part-time are forced to take marginal jobs. However, Hakim's study revealed that those arguments from the liberal feminist perspective were not empirically supported, and

many women working part-time chose to do so. Her study also showed that women in Europe were polarized depending on their employment status, and female part-time workers are very close to full-time housewives in terms of gender role attitudes and preference in the gender division of labor. She concluded that the dramatic increase in female labor force participation in Europe during the post-war period was an "illusion," and many married women there work part-time by choice as opposed to the feminist argument. Since the increase in part-time workers contributed to the largest extent of increase in female labor force participation, women's gender role attitudes at the aggregated level did not change much, and the gender division of labor is still normative in many European countries. Hakim pointed that in the United States women tend to choose full-time work because of insurance requirements unlike in Europe. Given a free choice, she argued, many women would choose part-time work, which enables them to maintain non-market activities, which in many cases pertain to fulfilling family responsibility. For these women part-time work represents their preference, rather than gender inequality, as feminists argue.

Back to the feminist perspectives, there is an idea in contrast to liberal feminism; a cultural feminism. It revalues female nature and attributes, and thus the goal is to protect women's nature with special attentions. For cultural feminists, gender equality is neither important nor facilitating a better quality of life for women, but rather a threat to protect female culture and its value (White and Klein 2002). These two perspectives hold totally different assumptions and goals, and often involve debates over what is best for women. For example, based on the idea of equal opportunities, Firestone (1970) argued that domestic responsibilities should be taken by professionals to accomplish the equal status for women in work force as men. While non-maternal child care services for working mothers may be critical for women's independence from the view of liberal feminism, cultural feminism may be against it.

Hakim's claim on women's part-time work goes against that by liberal feminists, and this fact illustrates a polarization in women's lives and ideologies. It also shows that not all women support gender equality or egalitarian ideas and many women agree with the gendered division of labor instead. While there are women who seek for careers and positions equal to their male counterparts, there are women who see their family life as more important and are happy to be secondary earners to supplement household income. For women who seek to combine their family roles and secondary earner role, equal opportunities in the work place are less important than flexible and shorter work hours available to part-timers. Women who work full-time, in contrast, tend to seek equal opportunities both at work and home. These differences are what Hakim described "qualitatively different work orientations" between full-timers and part-timers, and part-time employment is related to women's higher job satisfaction, indicating many women value traditional female roles over financial independence or equal opportunities in work place.

The proportion of female part-time workers among all workers varies across countries depending on the employment systems within each country. The relationship between employment statuses and gender role attitudes among women found in Hakim's study may not necessarily be applicable to women in all countries. The important point here, however, is that women are not homogeneous in terms of a gender role preference or sense of value, and mixed findings in the relationship between women's psychological well-being and the degree of gender equality and egalitarianism here may be due to the polarized lives and ideologies among women, not only within each country but also between countries. Contrary to what past studies indicated, the increase in female labor force participation during the post-war period might have polarized women, rather than bringing changes in gender relations toward egalitarianism.

Limitations of the Study and Directions for Future Research

This study provided a broader picture of gender differences in mental health across the 33

countries and contextual influences of the societal level gender climates on individual psychological outcomes. The data utilized in this study are relatively recent and cover various countries including ones from non-Western cultures. The study showed that the conceptual framework drawn from the major feminist theory in the United States was commonly applicable even to those non-Western countries.

The study, however, contains both theoretical and methodological limitations. In this section, I address these limitations and discuss the issues in (1) measures that the current study employed and their applicability and (2) cross-national approaches. Based on these discussions, I also suggest directions that future research should take.

Issues in Measures

Measuring Psychological Well-Being: Gender Differences in Responses to Stressful Events

The present study utilized four measures of psychological well-being drawn from the 2002 ISSP data. Due to the differences in statements to measure psychological well-being, happiness was a single measure for the whole sample analyses, while all four measures (i.e., happiness, life satisfaction, family-related well-being, and work-related well-being) were used for the married and employed sample analyses.

Although these measures, especially a global measure of well-being, are well-established ones which has been employed in many other studies (e.g., Campbell et. al. 1976), stress-related measures have been documented to reflect women's stress better than men's (Aneshensel et al. 1991; Aneshensel 1992; Thoits 1987). In other words, the findings that women showed lower psychological well-being may have been due to the gender differences in responses to stressful events but not true gender differences in the level of psychological well-being. Previous studies concerning women's vulnerability in mental health also documented that males indicated higher rates in substance abuse or personality disorders when they face stress, as compared to females

(Aneshensel et al. 1991).

Unfortunately, the 2002 ISSP data do not include the questions that men may be more prone to respond than women. A lack of these measures makes comparisons by gender more difficult and the results do not necessarily indicate women's vulnerability in mental health. The ways to respond to stressful circumstances and express negative feelings vary between men and women, and the gender differences in responses are also produced by gendered socialization and gender roles, as a social role explanation suggests (Gilligan 1982; Rosenfield 1980). For a better understanding of gender differences in mental health, comparing results on different types of expressions in psychological well-being between men and women would be ideal.

Measuring Gender Equality and Gender Role Attitudes

The current study utilized several measures of gender equality, gender norms, and a categorical indicator based on the typology employed by Esping-Andersen (1990; 1999) and Blossfeld and Hakim (1997). Although all these variables are expected to measure the country-level gender equality and gender norms, results from both descriptive statistics and multi-level modeling showed that these measures produced different results from each other. For example, a number of countries scored differently on the three measures of gender norms, depending on which aspect of gender norms is measured. There are also many countries which scored high on GEM and low on female labor force participation, or vice versa. In HLM analyses, the variables measuring the same subject matter (e.g., gender equality) did not show the same effects on psychological well-being, or sometimes indicated significant impacts in the opposite direction. There are also discrepancies between the country-level gender equality and the aggregated gender role attitudes. In other words, countries with a greater degree of gender equality did not necessarily hold a more egalitarian gender ideology or vise versa. Therefore, as I discussed earlier, it is almost impossible to simply categorize countries "more traditional" or "more

egalitarian." It might also imply that these multiple measures in the present study evaluate people's gender role attitudes or the degree of gender equality more thoroughly. These results may indicate that they are measuring different aspects of gender equality and egalitarianism, and these differences seem to have created some discrepancies in the results.

As the descriptive statistics showed, increasing men's caring roles received more support across countries, from both males and females. Meanwhile, people indicated more conservative attitudes toward the gendered division of labor. The support to mother's employment is in-between. In other words, people may be more supportive of increasing men's caring role and women's work role but still agree with the division of labor determined by gender. Meanwhile, these differences in responses may be due to statements used for three dimensions of the gender role attitudes. Compared to the statements to measure the attitudes toward mother's employment and gendered division of labor, those for men's caring roles have not often been used in empirical studies and are not well-established. The correlations among the three measures in each country (not shown) show that in most countries the association between gendered division of labor and mother's employment is strong. The correlation between gendered division of labor or mother's employment and men's caring role, on the other hand, is very weak or even negative in more than 25 percent of the countries. Therefore, the validity of these statements to measure gender role attitudes is rather questionable, and these statements may not be accurately measuring people's attitudes toward increasing men's caring roles. Although the measures related to gender role attitudes have relatively well-established and have a longer history that researchers have developed, there are still possibilities of refining those measures and concepts. For example, most statements in these measures are measuring attitudes toward female roles or changing female roles, but very few ask about male roles. Accordingly, there have not been many studies examining who supports changing male roles or associations between egalitarian

attitudes toward male roles and individual characteristics. Future studies must continue developing these measures related to gender role attitude and concepts, for both males and females, and further investigate factors affecting them.

On the other hand, although the correlation between the Gender Empowerment Measure (GEM) and female labor force participation rate (FLP) is high, GEM and FLP may not assess exactly the same aspect of gender equality in a given country. The components of GEM are designed to measure if women in a country have the same level of opportunities with men in economic and political systems (e.g., the ratio of women's earnings to men's, percent women in higher level of positions in both private and public sectors). The female labor force participation rates indicate the percent women employed in a country at least a part time. In most countries, men's labor force participation rate is around 90 percent, and equal opportunities can be measured by comparing women's labor force participation rates to men's. However, the results showed that GEM was negatively associated with women's psychological well-being while FLP is positively associated, when the relationship was statistically significant. This may be because female labor force participation rates include both full-time and part-time workers, and according to Hakim (1997), the female population is qualitatively different between full-time workers and part-time workers. Therefore, combining full-time and part-time workers into one category may not produce a valid indicator of "gender equality." Meanwhile, excluding part-time workers from female labor force participation rates may not be reasonable either, since in some countries part-time work is a large part of female labor force participation, and ignoring it may distort our understanding of female labor force participation. Female employment is much more diverse than male employment, and further research is needed on the details of female part-time work in terms of work hours or work styles.

Applicability of Esping-Andersen's Typology

The regime variable, on the other hand, also showed qualitative differences from other variables intended to measure the level of gender equality at the society-level. The regime variable was constructed based on the typology employed by Esping-Andersen (1990; 1999) and Blossfeld and Hakim (1997). The reason for adding this variable to the analysis was that the level of gender equality cannot be captured in the numeric measurements such as GEM or FLP alone, because how each country has (or has not) dealt with gender inequality and the historical backgrounds related to their systems are also important to determine the level of gender equality in a society.

For example, former socialist regimes had distinctive mechanisms to accomplish gender equality. Since the changes were mainly led by the government on a mandatory basis, however, these countries achieved full employment for women but did not raise women's social position in each society. On the other hand, familialist regimes have historically built systems based on the male-breadwinner model. Many systems are therefore structured to maintain the gendered division of labor, and accordingly, it is difficult for married women with children to have full time jobs under this regime. Descriptive statistics showed that countries under both regimes are ranked relatively lower on the GEM score. Their historical backgrounds, however, are very different from each other, and the regime variable was intended to measure some of these qualitative differences.

The results on this variable were mixed, implying that simply regarding familialist regime as more gender-traditional than other regimes might be problematic. Originally, this typology was designed to classify Western capitalist nations, based on their political and economic systems (Esping-Andersen 1990). On the other hand, countries that the current study examined include not only those countries but also Southern European nations, former socialist nations, Asian

countries, and developing countries. Esping-Andersen (1999) discussed the applicability of his typology to a larger number of countries in his later work and expanded the scope to Southern European and Asian countries. Blossfeld and Hakim (1997), on the other hand, arrived to a similar typology based on the pattern of female labor force participation, including former socialist nations. The current study applied the work by Esping-Andersen (1999) and Blossfeld and Hakim (1997) and further added developing countries. The theoretical framework to classify primarily Western capitalist nations could be limited, and expanding this typology to countries outside of these geographical, political, and economic regions might not be appropriate, especially for those at the different degree of economic development. However, as I argued above, employing an indicator to classify countries to "families of nations" (Treas and Widmer 2000: 1413) based on holistic understanding of political and economic systems is necessary, in addition to the indicator of gender equality in the certain aspects of a given country such as GEM, in order to validate the theory concerning the contextual influence of macro-level gender equality on women's psychological well-being. While Esping-Andersen's typology contains some limitations to apply to all countries in the world, it is one of the few approaches distinguishing countries based on variations in the historical development of their political and economic systems, reflecting how each country has dealt with gender inequality.

Overall, the results from the current study illustrate that gender equality (or inequality) and egalitarianism could be defined in various ways, and its measure depends on the exact definition. Due to the fact that each measure assesses a different aspect of gender equality and egalitarianism, the analyses showed mixed results and this fact made the interpretations more difficult. Meanwhile, if one employs a single indicator, this would be problematic as well, because it measures only one aspect of the subject matter, gender role attitude, gender ideology, or gender relations. It is important to make careful decisions when we develop and select these

measures, based on the purpose and the conceptual framework of the study.

Issues in Cross-Cultural Analysis

The current study employed a cross-national approach to examine the contextual influences of gender equality and egalitarian atmosphere in each society on psychological well-being of men and women. Taking a cross-national approach enabled me to compare the gender differences in mental health by county and test the hypotheses that the macro-level gender relations condition the individual-level factors and then impact individual psychological consequences. However, the findings here might also misrepresent the true differences across countries by taking this approach.

For example, in cross-national studies, all variables need to be modified based on a single standard to be comparable, because each country has different systems and mechanisms in its politics, economy, and culture. One example is income, which needs to be standardized into one currency (e.g., U.S. dollars). While income is a relatively easier variable to adjust by using exchange rates, many other variables such as employment status or educational attainment are more difficult to be made comparable, due to the differences in those systems and definitions across countries. These issues are inevitable but critical when we take a cross-national approach, regardless of which countries to compare. In this section, I discuss what may be potential issues in cross-cultural studies and how these issues should be addressed.

Cultural Differences in Responses and Translation Issues

The current study utilized measures asking the level of happiness, satisfaction, and stress related to family and work. The procedures to construct these measures and the statements utilized were described in Chapter 3. The respondents answered to each statement using a scale. For example, "If you were to consider your life in general, how happy or unhappy would you say you are, on the whole?" is used for the happiness measure, and for this item, there are seven

response categories from “completely happy” to “completely unhappy.” Although all individuals in surveyed countries used the same format of questions, these questions still may cause biased responses based on cultural differences in expressing psychological states. For example, individuals from Western culture tend to express their emotions in general more positively than those from Asian culture. Therefore, even when the same format of questions is used, individuals in Western countries may tend to choose the answer at a happier side more often than those in Asian countries. In other words, the answers may be a reflection of these cultural differences in responses, not true differences in psychological states.

Looking back to the tables of descriptive statistics about the outcome variables and their rankings (e.g., Tables 19 and 20), Western countries in this study did not necessarily rank at the higher on these outcome variables and thus these cultural differences may not have been critical in this study. According to the ISSP, the questions for each year are developed by researchers concerning that these “can be expressed in an equivalent manner in all relevant languages” (International Social Survey Programme 2008). However, it is almost impossible to guarantee in any comparative studies that these cultural differences in responses will not cause biased responses, and therefore researchers must keep in mind that there are possibilities of these issues attributable to cultural differences.

In addition to the cultural differences in expressing emotional states, translation of statements in questionnaires may be another reason why the observed differences in analyses are not necessarily true differences even when the standardized measures are used. In many cross-national surveys, original questions are drafted in English at first and then translated to other languages, as the ISSP does (International Social Survey Programme 2008). In other words, it is possible that the questions may not be translated accurately or the nuances from original statements may be lost when they were translated to other languages. Translating questionnaires

is vital when researchers conduct survey across multiple countries, and it is very difficult to avoid these issues especially when researchers use secondary data. Therefore, researchers who conduct comparative studies should interpret the results with caution, regarding the issues that the observed differences may be attributable to the translation of survey questions. We should also be aware of the importance of developing and drafting questionnaires to fit into the contexts for cross-national comparison.

Differences in Definitions: Full-Time vs. Part-Time Work

Since each country has different economic, political, and social systems, the definition of a particular concept is often different across countries. For example, full-time or part-time work is defined differently in each country. According to the 2002 ISSP codebook, some countries (e.g., Austria, the Czech Republic, France, Slovenia, Japan) define full-time work as more than 35 hours per week, while over 30 hours per week is considered as full-time in other countries (e.g., Great Britain, Ireland, Norway). Accordingly, the definition for part-time work varies among countries with different definitions for full-time work. Obviously, the cut off point for full- and part-time work is different in each country depending on the employment system or many other factors related to employment. Therefore, in this study, I utilized a work hour variable instead of employment status and recoded into four categories (see Chapter 3 for the detail), in order to apply the same definition for all countries. Educational attainment is another example, when categories (e.g., compulsory education and secondary education) are used instead of years. The ISSP 2002 codebook lists all country specific distinctions of educational categories for data users, and it shows the differences in definitions to a greater extent in some countries.

We need to be aware of these cross-national differences in the systems and definitions, and we must modify and adjust these differences in process of data management as necessary. Cross-check between the same variables (e.g., years of education and educational attainment as

category) is also important. Organizations collecting cross-national data and data providers should be aware of these issues and that providing the information regarding these definitional differences in systems of each surveyed country is essential and enables data users to avoid misinterpreting results.

Conclusion

This study provided a broader picture of the relationship between gender and mental health, by adding a comparative perspective and examining gender differences in country contexts. The findings of this study confirmed some of the previous research regarding female vulnerabilities in psychological well-being. Specifically, lower psychological well-being among women was found when it was measured with the notion of family responsibility. In addition, the variables related to caring for family (a number of children and proportional housework hours) are more influential for women than for men, and women's longer work hours than part-time schedule negatively affected women's psychological well-being to a greater extent. In contrast, lower well-being was found for males when it was measured with the notion of work responsibility. The results also indicated that marriage benefitted men more than women on average across the 33 countries. In sum, the analyses showed that gender differences in mental health still existed, but it is not as simple as that men's psychological well-being is better than women's. It depends on which dimension of psychological well-being is examined. There were also differences between men and women in which predictors have more impacts and how they affect psychological well-being of individuals.

Similarly, the findings regarding the contextual effects on psychological well-being illustrated complex relationships of the country-level gender equality and gender norms with psychological well-being. As opposed to the liberal feminist perspective, the greater gender equality and egalitarian gender norms at the country-level did not necessarily have positive

impacts on women's psychological well-being. Instead, many positive effects of being in more traditional countries on women's mental health were found. Overall, this study showed that women are much more diverse than they have been documented in the previous research. These results urge us to reconsider how we understand women's worlds.

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