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Identity, Gender, and Subjective Well-Being

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Abstract Using the self-reported level of happiness as a measure of subjective well-being, this study examines the relationship between gender identity and subjective well-being with data from Taiwan. The findings suggest that an individual's perceptions about the ideals of women's gender roles in the labor market, the family, and politics are strongly related to his or her assigned social category, the prescriptions and characteristics associated with the social category, and the actions taken to match the ideals of gender identity. Consistent with Akerlof and Kranton's (2000) identity model, it is also found that an individual's gains or losses in gender identity lead to increases or decreases in the level of happiness.

Keywords: identity, gender, well-being, happiness

INTRODUCTION

There has been ever-growing interest in the effects of identity on economic outcomes in recent years. Incorporating the concept from psychological studies, identity—a person's sense of self—impacts the way a person perceives himself as well as how he is perceived by others. Therefore, identity has significant effects on a person's economic outcomes through his own actions and interactions with others in a society where various ideals of identities are characterized and prescribed by social norms and conditioning. Ever since the development of an economic model explaining the linkage between identity and the utility maximization of consumer theory by Akerlof and Kranton (2000), it has been argued that identity-related behaviors enhance the explanation power of an economic model in the analyses of gender differences, organizational performances, educational attainment, consumption patterns, and political economy. However, as few empirical

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studies explore the relationship between identity and well-being, this study contributes to this area of research. More specifically, this study investigates whether or not, when an individual has a more positive attitude towards women's participation in the labor market and in politics, his or her subjective well-being increases as a result of taking actions towards having a paid job in the labor market, doing more housework, voting for a female candidate, and showing more support to women's groups and the enhancement of women's status in order to match the ideals of his or her gender identity.

Women's gender identities in the family and in politics are important, because they are related to how women are satisfied with unpaid housework within households and paid work in the labor market. Traditionally, the ideal woman has been perceived to be one who bears most of the responsibilities in childrearing and housework. On the other hand, men are perceived as being the main breadwinners for households and have less housework responsibilities, while politics is considered to be in their sphere. Women's political participation often substantially influences public policies related to women's welfare on issues of opportunities for women in the labor market, wage differentials, child care, and gender discrimination. Therefore, the more women's participation there is in politics, the more public policies there may be that are implemented in order to improve women's welfare by eliminating their disadvantages in the labor market.

While gender wage discrimination in the labor market is still considerable in Taiwan (Chen and Kuan 2006), a husband's negative attitude toward a working wife tends to greatly discourage his wife from participating in the labor market (Chuang and Lee 2003). It has been argued that it is critical to educate men to give up their traditional attitudes toward gender roles in order to raise Taiwan's female labor force participation rate.

As has been observed in many other developed countries, women's labor force participation rate has been steadily growing in Taiwan since the early 1980s. According to data from Taiwan's Directorate-General of Budget, Accounting and Statistics as shown in Figure 1, the female labor participation rate has increased from 39.3% in 1982 to 48.68% in 2006, while it has declined from 76.47% in 1982 to 67.35% in 2006 for male individuals. In addition, the gender difference in wages has steadily dropped during the time period 1979–2006. As presented in Figure 2, the average monthly wage of females as a percentage of males has gone from 64% in 1982 to 79.24% in 2006.

The ideal gender identity may apparently be affected by a greater participation of women in the labor market and a decrease in women's

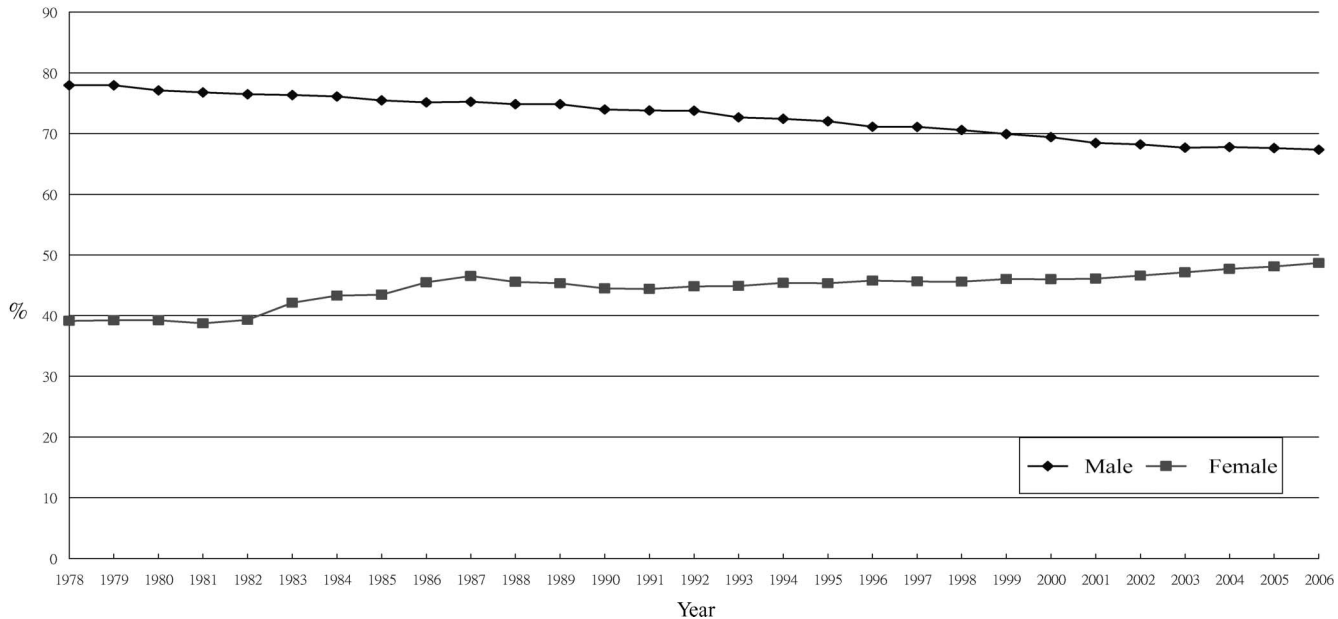

Figure 1: Labor Force Participation Rate for Male and Female Individuals in Taiwan 1978–2006

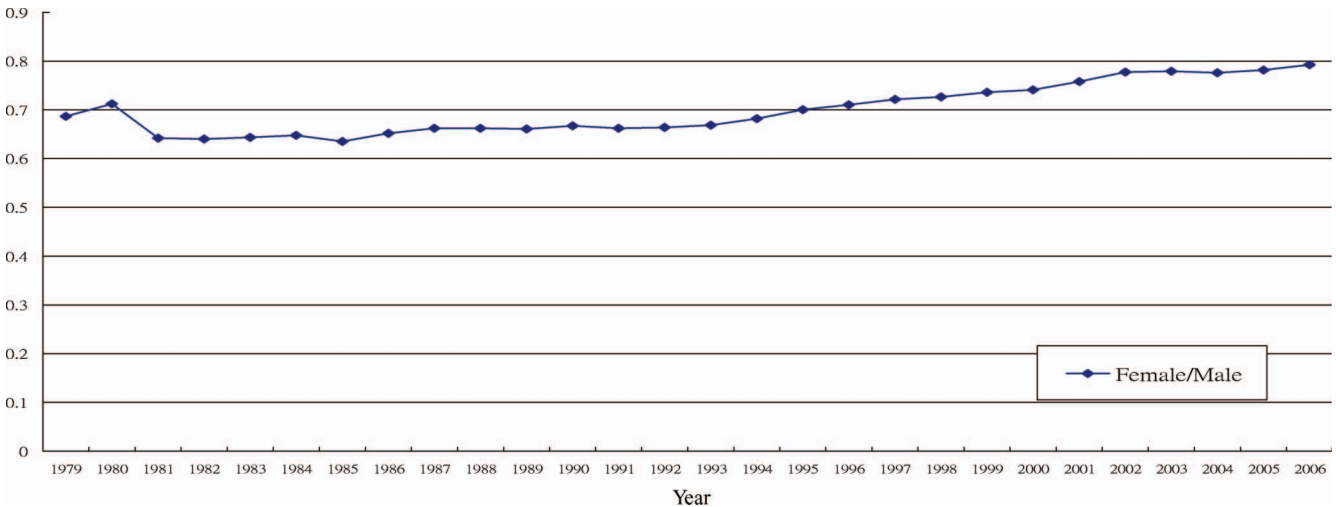

Figure 2: Average Monthly Wage of Females as a Percentage of Average Monthly Wage of Males in Taiwan 1979–2006

housework responsibilities. Accompanying the increase in educational attainment and female labor participation in Taiwan, there may be an adjustment of the women's ideal gender role. Thus, it is worthwhile examining the relationship between gender identity and subjective well-being.

Using the data of the 2002 Taiwan Social Change Survey (TSCS), this study directly examines the relationship between gender identity and subjective well-being over the issues regarding the roles played by women in the labor market, in politics, and in sharing housework responsibility. In addition to using the full sample of the data, the estimations are undertaken with sub-samples of married males and females, and unmarried males and females, respectively. Since labor market opportunities for women affect women's bargaining power and the division of labor within the family, there may be differences in the ideals of women's gender role for married and unmarried individuals. It is speculated that marriage may cause some adjustments of the perceptions of women's gender role due to interactions between married couples. By doing this, the potential influence of marriage on the link between gender identity and subjective well-being for married and unmarried individuals can be explored.

BACKGROUND AND PREVIOUS LITERATURE

Even though the concept of identity has been widely studied in the fields of psychology and sociology, it has not drawn serious attention from economic scholars until recent years. So far, there are three main strategies in economic studies on incorporating the concept of identity in explaining individual behaviors and their related economic outcomes (Davis 2006, 2007). The most noticeable strategy for economic researchers is the neoclassical approach developed by Akerlof and Kranton (2000) with a utility maximizing framework treating identity as an argument in the utility function. In constructing their identity model, Akerlof and Kranton employ two different theoretical treatments from psychology. First, a person's identity, or sense of self, is bound to social categories, and individuals identify with people in some categories and differentiate themselves from those in others. Second, Akerlof and Kranton's model explains how an individual's identity relates to behavior with the psychodynamic theory of personality such that a person's identity must be constantly defended against anxiety in order to limit disruption and maintain a sense of unity.

Sen (1985, 1999) alternatively incorporates the concept of identity into economics through the concept of commitment, which is usually made to identify one's self with others of a particular group such that

a utility-maximizing behavior is a special case in a more general theory of behavior engaging in ''reasoning and self-scrutiny''. Kirman and Teschl's (2004) complexity approach emphasizes that individuals may be better conceptualized as directly interacting with one another in social contexts rather than indirectly through the market. The two papers of Davis (2006, 2007) provide excellent discussions on these different frameworks for incorporating the concept of identity in recent economic studies. Apparently, gender is a familiar aspect of identity, and it has numerous effects on people's behavior and economic outcomes. Incorporating the concept of identity into the analysis certainly will enrich our understanding on many gender issues.

Gender differences have been found in a wide range of subjects such as wage, educational attainment, occupation and labor market outcome, political opinion and political involvement, altruistic behavior, performance in competitive environments, dating behavior, and marriage decision. Along with the applications of self-reported happiness and life satisfaction as measures of well-being in economic studies,[1] researchers also have found gender gaps in job satisfaction (e.g. Clark 1997; Booth and van Ours 2009) and life satisfaction (Booth and van Ours 2009). These findings mostly result from differences in the gender roles played by men and women regarding the labor market and division of housework.

The appropriate gender roles prescribed by social norms may have an important effect on the division of labor in a household. Goldin (2006) argues that starting in the late 1970s for the US, women have become more attached to the workplace, have a greater identity with their careers, and show a better ability to make joint decisions with their spouses, documenting the reality of women's changing economic role. Booth and van Ours (2009) show that a married woman's life satisfaction is increased if her husband works full-time, but a husband's life satisfaction is unaffected by his wife's working hours in the labor market. Apparently, how men and women make their decisions inside and outside the households is affected by how they perceive women's gender identity associated with their assigned social category.

A recent growing body of empirical evidence suggests that women's identity with career, marriage decision, ability to make joint decisions within households, and participation in politics have changed substantially in many developed economies over the past decades. For instance, Goldin and Shim (2004) indicate that a shift among US female college graduates to retaining their surnames as a means of preserving their personal identity after marriage

1 An excellent survey on economic analysis and happiness can be seen in Frey and Stutzer (2002).

started from sometime from the mid-1970s to the early 1980s. Goldin *et al.* (2006) suggest that the large increase in the future work expectations of young women in the 1970s led to women becoming the current majority of US college students. Goldin (2006) also points out that women in the US have increased their attachments to the workplace as a source of personal identity. Moreover, studies in political science (e.g. Box-Steffensmeier *et al.* 2004) show that the differences between employed women and housewives in political opinion and political involvement can be explained by the adaptation of the socialization process that characterizes the taking on of a different social role, involving a change in political attitude.

Incorporating the concept of psychology into a traditional economic model, Akerlof and Kranton (2000) argue that identity, or a person's sense of self, has strong impacts on economic outcomes such as those observed in the cases of gender discrimination in the workplace, poverty, social exclusion, and the household division of labor. Akerlof and Kranton (2002, 2005) use this model to show the linkage between identity and educational outcomes and the effects of identity on organizational performances. In an empirical study on testing the identity theory, Booth and van Ours (2009) find that part-time working women are more satisfied with working hours than those who work full-time, and a married woman's life satisfaction increases if her husband works full-time.

These previous studies tend to suggest that as women increase their attachments to the workplace and a greater emphasis is put on their career success as a source of personal identity, women's job satisfaction may decline as a result of higher expectations on work. However, very few empirical studies directly examine how the gains or losses in gender identity may lead to increases or decreases in subjective well-being.

EMPIRICAL STRATEGY AND DATA

Based on the theoretical framework developed by Akerlof and Kranton (2000), this study examines the effect of gender identity on economic outcomes. Using the self-reported happiness as a proxy of the utility level, how individuals' gains or losses in gender identity lead to increases or decreases in subjective well-being is explored more directly.

According to Akerlof and Kranton's framework, an individual j's utility U_j depends on j's identity or self-image I_j, j's action A_j, and others' actions A_{-j}. In addition, individual j's identity I_j depends on j's own action A_j, others' action A_{-j}, j's assigned social categories C_j, and the extent to which j's own given characteristics ε_j match the ideal of j's assigned category, as

indicated by the prescriptions P. In other words, individual j's identity can be defined as $I_j = I_j(A_j, A_{-j}; C_j, \varepsilon_j, P)$, and therefore individual j's utility function can be written as:

$$U_j = U_j\left[A_j, A_{-j}, I_j(A_j, A_{-j}; C_j, \varepsilon_j, P)\right] \tag{1}$$

Following this theoretical formation, gender identity depends on an individual's assigned social category, the prescribed behaviors and characteristics, and the individual's actions in matching the ideal of women's gender roles in the family and participation in politics.[2] As discussed in Davis (2006), the concept of personal identity employed by Akerlof and Kranton (2000) can be seen herein as a single collection of self-image stocks maintained in given quantities by means of a thermostatic-type feedback rule. An individual's actions serve as an anxiety-reduction mechanism operating in such a way as to maintain his self-image stocks or to prevent their depreciation. While interacting with others, the anxiety can be constantly generated to challenge an individual's identity and the social prescriptions associated with the social categories assigned to the individual are somehow jeopardized by others' actions. This will induce the individual to take actions meant to reduce this anxiety.

The hypothesis drawn from Akerlof and Kranton's (2000) identity model has been empirically examined by Booth and van Ours (2009) who investigate the distribution of time spent on childcare and house work, as well as preferences for full-time and part-time jobs for male and female partners within a household. Despite the fact that Booth and van Ours (2009) do not empirically specify an individual's identity, their results show strong support for Akerlof and Kranton's model. Here, this study assumes that society's prescriptions about appropriate modes of behaviors for males and females might lead to men and women's losses of identity if they deviate from the relevant codes. An individual takes actions to reduce the anxiety generated to challenge his identity while he interacts with others. Thus, under

2 Davis (2006, 2007) argues that the identity defined in Akerlof and Kranton (2000) is not reflexive and is determined in terms of third-party observable relationships between the individual and social characteristics. The concept of identity, or the sense of self employed in Akerlof and Kranton, is drawn on a generalized account of psychodynamic personality theory to treat the individual as an identity separate from all its different social identity. By doing so, the concept of identity can be simply defined as an argument in the standard utility-maximizing framework. Thus, Davis (2006, 2007) suggests that the identity defined in Akerlof and Kranton's model might better be labeled a social image of the self, which the individual adopts rather than a self-image. Other recent studies, using the social-psychology sociological identity approach, on issues of household financial organization and women's demand for entrepreneurial capital, include Sonnenberg (2008) and Fletschner and Carter (2008).

Table 1: Components of the Index of Identity Used in the Empirical Analysis

Identity: Elements of identity related to work, family life, and politics
For each of the following statements, one point is added to the index if respondent disagrees or strongly disagrees it:
If you have a son, do you agree that your daughter should inherit a smaller share of your wealth?
Raising a son is more of a priority than raising a daughter.
Studying sciences and technology is more suitable for males.
Studying arts and literature is more suitable for females.
A husband's educational attainment should be higher than his wife.
A husband should earn more money than his wife.
A pre-school child is likely to suffer if his or her mother works.
All in all, family life suffers when the woman has a full-time job.
A job is alright, but what most women really want is a home and children.
Being a housewife is just as fulfilling as working for pay.
A man's job is to earn money; a woman's job is to look after the home and family.
For each of the following statements, one point is added to the index if respondent agrees or strongly agrees it:
A working mother can establish just as warm and secure a relationship with her children as a mother who does not work.
Having a job is the best way for a woman to be an independent person.
Both the man and woman should contribute to the household income.
Men should do a larger share of household work than they do now.
Men should do a larger share of childcare than they do now.
Working women should receive paid maternity leave when they have a baby.
Do you agree for a child to have the same surname as his (her) mother?
One point if respondent agrees or strongly agrees that:
Female elected representatives are more likely to speak for women.
Female elected representatives are more competent than elected male representatives.
Female elected representatives are less likely to be corrupted than male elected representatives.
One point if respondent disagrees or strongly disagrees that:
Politics is in men's sphere and women should not get involved.
Taking all things together, men and women are quite equal in our society.

this theoretical framework, an individual may gain or lose utility through the gains or losses in gender identity in a standard utility-maximizing model.

To examine the relationship between subjective well-being and gender identity, the empirical framework assumes that an individual *i*'s subjective well-being, happiness H_i*, is a latent variable determined by the *happiness equation* as follows:

$$H_i^* = \beta_0 + \beta_1 Identity_i + \beta_2 X_i + \gamma \tag{2}$$

where $Identity_i$ is a composite index calculated by adding up the responses to 23 questions regarding an individual's attitude towards women's gender role in the family and attitude towards women's participation in politics, X_i is a set of demographic variables including age, gender, marital status, educational attainment, number of children, income, and religious faith as described in Table 2, and γ is the error term and is normally distributed across observations.[3] Since H_i* cannot be observed in the data and only an ordinal variable H_i is observable, the estimations are conducted with an ordered probit model.[4] This study uses happiness scaled from 0 to 4 as the measure related to individual *i*'s ordinal levels of H_i.

Since the identity variable in Akerlof and Kranton's model is endogenous, a two-stage estimation procedure using instrumental variables is taken to overcome the potential endogenieity bias. During the first stage of the estimation, the identity variable, $Identity_j$, is theoretically defined as $I_j = I_j(A_j, A_{-j}; C_j, \varepsilon_j, P)$ and it is estimated with the following *identity equation*:

$$Identity_j = \alpha_0 + \alpha_1 Z_j + \alpha_2 A_j + \eta \tag{3}$$

where Z_j is a set of prescriptions P and characteristics ε_j, A_j is a set of action variables, and η is the error term and normally distributed across observations. This identity equation is based on the concept described in

3 Before constructing the composite index *Identity*, the correlations are calculated between the 23 variables from the responses of the questions representing the elements related to women and work, gender roles in home and family life, and women in politics. The correlations between these 23 variables show that the work and family and political elements are not highly correlated. Thus, one variable, *Identity*, is constructed by summing the responses to these questions (as shown in Table 1). Using a principal-components analysis to construct the identity variable and undertaking the estimation on the relationship between gender identity and happiness also show similar results. However, principal-components analysis is more suitable for constructing indices from the variables of factors that are highly correlated. In this study, using the composite index, *Identity*, appears to have robust results from the estimations.

4 See Greene (2000) for details of an ordered probit model.

Table 2: Variable Definitions

Variable name	Definition	Mean and s.d.	
Dependent variables			
Identity	Index of respondent's views about appropriate roles for women related to family, work, and politics ranging from 0 (most traditional) to 23 (least traditional) (Missing values are considered as "no opinion" about the questions that are asked.)	11.671	(3.427)
Happiness	Categorical variable indicating respondent'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?", ranging from 0 (very unhappy or completely unhappy) to 4 (very happy or completely happy)	3.096	(0.943)
Independent variables			
Age	Age of respondent	47.91	(16.620)
Age2	Respondent's age squared	2572.02	(1745.840)
Gender	=1 if respondent is male (0 otherwise)	0.493	(0.500)
Married	= 1 if respondent is married (0 otherwise)	0.635	(0.480)
Divorced	=1 if respondent is divorced (0 otherwise)	0.020	(0.141)
Separated	=1 if respondent is separated (0 otherwise)	0.015	(0.120)
Widowed	=1 if respondent is widowed (0 otherwise)	0.072	(0.258)

(*continued*)

Table 2: (*Continued*)

Variable name	Definition	Mean and s.d.	
Childn	Number of children	2.066	(1.805)
School	Respondent's years of schooling	10.364	(4.688)
Fy	Family monthly income (in NT$1000)	61.349	(60.454)
Y	Personal monthly income (in NT$1000)	22.932	(25.672)
Higher	=1 if respondent is married & has income above his/her	0.407	M(0.492)
	spouse/partner (0 otherwise)	0.091	F(0.288)
Faith1	=1 if respondent self-identifies as 'faithful' (but not 'very faithful') (0 otherwise) (baseline category: not very faithful and not at all faithful)	0.598	(0.491)
Faith2	=1 if respondent self-identifies as 'very faithful' (0 otherwise) (baseline category: not very faithful and not at all faithful)	0.079	(0.270)
Nojob	=1 if respondent does not work for pay or is a full-time housekeeper (including both unemployed people and those out of the labor force) (0 otherwise)	0.289	(0.453)
Hwork	Average hours respondent reports personally spending on household work in a week (excluding childcare and leisure time activities)	7.181	(10.976)
Votew	=1 if respondent always or often votes for a female candidate	0.537	(0.499)

(*continued*)

Table 2: (*Continued*)

Variable name	Definition	Mean and s.d.	
Wgroup	= 1 if respondent agrees or strongly agrees that most women's groups have very positive impacts on society	0.452	(0.498)
Wstatus	= 1 if respondent supports the many assertions presently being made for enhancing women's status in society	0.470	(0.499)

Akerlof and Kranton's model, arguing that an individual's identity depends on his or her actions, assigned social categories indicated by the prescriptions, and characteristics. With the results from the first-stage estimation of identity equation (3), the fitted values of $Identity_j$ are used to estimate the happiness equation (2) that describes the relationship between subjective well-being and identity variables.

The data used in this study are drawn from the Taiwan Social Change Survey (TSCS) conducted in 2002, focusing on the topic of family and changing gender roles with a sample of 1983 observations. This survey collects information regarding a wide range of gender issues, including modules of family compositions, sex consciousness, gender role attitudes, attitudes toward female work, division of housework, satisfaction with family life and work, female political participation, body consciousness, sexual behaviors, attitudes, and consumptions. The measure of happiness is collected in the survey by asking the respondents the following question.

> If you were to consider your life in general, how happy or unhappy would you say you are, on the whole?

A response to this question is scaled from 0 (completely unhappy) to 4 (completely happy).

The self-reported level of happiness as a measure of utility in economic analysis has been facing numerous theoretical and empirical challenges.

However, results from previous studies (e.g. Kahneman 1999; Frey and Stutzer 2000; Stutzer and Frey 2004) have consistently shown that the reported subjective level of happiness is a satisfactory empirical approximation to individual utility. This study follows such an approach in a similar way by using self-reported level of happiness as a measure of utility in examining the relationship between identity and well-being. Therefore, it is fundamentally based on the identity model of Akerlof and Kranton (2000) with a neoclassical approach in dealing with the concept of social identity in the explanation of individual behavior related to gender issues.

Identity Variable

A composite index, *Identity*, is constructed to estimate the identity equation. As reported in Table 1, this composite index is calculated by adding up the responses to questions with respect to the attitudes toward women's gender roles in the labor market, the family, and in politics. There are 23 questions regarding women's gender role in the labor market, the family, and in politics in the construction of the composite index *Identity*. These questions are directly or indirectly related to an individual's attitude toward women's participation in the labor market, responsibilities for housework and childrearing in the family, and an individual's attitude toward women's participation in politics. A higher value of *Identity* indicates a more positive attitude toward women's participation in the labor market, a higher tendency to agree that the husband and wife should share the responsibilities of housekeeping and childrearing, and a more positive attitude toward women's participation and performance in politics. The value of *identity* constructed with the attitudes toward women's roles in the labor market, in the family and in politics for an individual is used as a measure of his or her ideals of gender identity. Table 2 reports the definitions of variables used in this study, and Table 3 indicates the descriptive statistics of these variables.

Some might argue that the social and cultural literature on identity shows that people's self-images interact and that the value that a particular identity has for a person depends on context. This raises the concern over using the survey data to provide good indices of attitudes about identity. This issue seems to be similar to those concerns raised on many studies using the self-reported level of happiness as a measure of utility. People usually evaluate their levels of subjective happiness with circumstances and comparisons to other persons, past experiences, and prospects for the future. However, it has been shown that these studies have valid results consistent with the outcomes

Table 3: Descriptive Statistics

Variable	Full sample	Married males	Married females	Unmarried males	Unmarried females
Age	47.91 (16.62)	53.77 (14.19)	49.58 (12.64)	38.35 (17.17)	44.35 (20.64)
Age2	2572.02 (1745.84)	3092.65 (1629.68)	2617.71 (1319.59)	1764.89 (1767.71)	2391.43 (2191.87)
Gender	0.4927 (0.50)				
Married	0.6354 (0.4814)				
Divorced	0.0202 (0.1406)				
Separated	0.0146 (0.1201)				
Widowed	0.0716 (0.2579)				
Childn	2.0655 (1.8050)	2.6832 (1.5209)	2.6270 (1.3408)		
School	10.3641 (4.6879)	10.3891 (4.3639)	9.3276 (4.6047)	12.1239 (4.1479)	10.4212 (5.3099)
Fy	61.3490 (60.4541)	64.0595 (56.9286)	63.4875 (65.5297)	61.6620 (54.3235)	52.7582 (62.1224)
Y	22.9324 (25.6723)	35.5547 (31.3831)	16.5752 (19.9250)	20.2253 (21.8548)	15.2310 (16.4868)
Higher		0.4068 (0.4916)	0.0909 (0.2877)		
Faithd1	0.5976 (0.4905)	0.6350 (0.4818)	0.6458 (0.4787)	0.5070 (0.5007)	0.5380 (0.4992)
Faithd2	0.0792 (0.2701)	0.0707 (0.2566)	0.0925 (0.2899)	0.0563 (0.2309)	0.0924 (0.2900)
Identity	11.6712 (3.4269)	11.1833 (3.2141)	11.9107 (3.4088)	11.6028 (3.2905)	12.1467 (3.8202)
Nojob	0.2885 (0.4532)	0.0595 (0.2367)	0.4028 (0.4909)	0.3380 (0.4707)	0.4293 (0.4957)
Hwork	7.1810 (10.9759)	5.9486 (7.9487)	16.1191 (12.7587)	0.3915 (4.2661)	0.3179 (3.2135)
Votew	0.5371 (0.4988)	0.6093 (0.4883)	0.5972 (0.4909)	0.4056 (0.4917)	0.4375 (0.4968)

(*continued*)

Table 3: (*Continued*)

Variable	Full sample	Married males	Married females	Unmarried males	Unmarried females
Wgroup	0.4518 (0.4978)	0.4293 (0.4954)	0.4765 (0.4998)	0.4535 (0.4985)	0.4457 (0.4977)
Wstatus	0.4695 (0.4992)	0.4421 (0.4970)	0.5000 (0.5004)	0.4507 (0.4983)	0.4810 (0.5003)
Happiness	3.0963 (0.9430)	3.1479 (0.8777)	3.1348 (0.9396)	2.9803 (0.9697)	3.0543 (1.0187)
N	1983	622	638	355	368

Note: Numbers in parentheses are standard deviations. Missing values are considered as zero or "no opinion" responding to the questions that are asked in the survey.

from context-free setting (e.g. van Praag 1991; Kahneman 1999; Frey and Stutzer 2000; Stutzer and Frey 2004). Similarly, people's senses of themselves are evaluated with regard to circumstances around them, comparisons to others, and other persons' perceptions about themselves. Following this approach of "behavioral economics" on incorporating psychological aspects of emotions, self-signaling, goal completion, mastery, and meaning and status (e.g. Rabin 1998; Frey and Stutzer 2001), this study employs subjective survey data with an understanding about many previous studies suggesting that subjective survey data are fairly reliable. Of course, using self-reported information from survey data about the attitudes toward gender issues to construct an identity variable may be still an incomplete indicator, but this approach offers a fruitful complementary path to study the complicated framework of social identity under the setting of a context, fully taking into account the interactions among different individuals in the society. Therefore, the main purpose of this study is to employ such an approach to empirically examine the relationship between identity and subjective well-being.

Action Variables

The set of action variables used in our estimation of the *identity equation* includes whether the respondent has a paid job (*Nojob*), the tendency of voting for a female candidate (*Votew*), the average hours spent by the respondent personally on housework in a week (*Hwork*), whether the respondent agrees that most of the women's groups (*Wgroup*) have positive impacts on society, and whether the respondent supports the assertions for enhancing women's status in society (*Wstatus*). As described previously, an individual's actions serve as an anxiety-reduction mechanism, operating in such a way as to maintain his self-image stocks or to prevent their depreciation. While interacting with others, the anxiety can be constantly generated to challenge an individual's identity and the social prescriptions associated with the social categories assigned to the individual are somehow jeopardized by other people's actions. This induces the individual to take actions meant to reduce this anxiety. Thus, these action variables are used to reflect that identity depends on how an individual takes his or her actions corresponding to the prescribed behaviors indicated by his or her social categories. Through these actions, an individual can approach or deviate from the ideal of identity. More specifically, it is assumed that those people whose views of women's roles are more non-traditional will more likely have

paid jobs, vote for a female candidate in an election, share responsibilities for housework with their spouses, and be more supportive for women groups and the enhancement of women's status in society. These actions are used to reduce the anxiety generated by the challenge to their identities when they interact with others.

As for the variable *Nojob*, when a female individual chooses to be a full-time housekeeper without a paid job in the labor market ($Nojob = 1$), we expect that this action has a negative effect on the value of her identity index *Identity* because this action deviates from her ideal of gender identity with more non-traditional roles for women. By contrast, doing a few hours of housework and being supportive to women's groups and enhancing women's status tend to raise the role of women in the labor market and in politics. Thus, it is expected that *Hwork* has negative effects on *Identity*, and the dummy variables *Wgroup* and *Wstatus* have positive relationships with *Identity*. Similarly, the dummy variable *Votew* is expected to have a positive relationship with *Identity*.

EMPIRICAL RESULTS AND DISCUSSION

According to the empirical framework described in equations (2) and (3), the two-stage estimation with the identity equation and the happiness equation is undertaken to investigate the relationship between subjective well-being and gender identity. Gender identity is captured by the variable, *Identity*, describing women's gender roles in the family, in the labor market, and in political participation for the estimation of the identity equation. The self-reported level of happiness is used to represent a measure of subjective well-being as the dependent variable in the ordered probit estimations of the happiness equation.

Identity Equation

Table 4 reports the estimated results for the identity equation with *Identity* as the dependent variable. With the full sample, as expected, female individuals tend to have a higher value of *Identity* than males, and those who have more years of schooling also appear to have more positive attitudes toward women's participation in the labor market and in politics. More importantly, action variables *Wgroup*, *Wstatus*, and *Votew* are positively related to the value of *Identity* and those without a paid job have a lower value of *Identity* than people with paid jobs. This indicates that when an individual has a more

Table 4: Estimation Results for Identity Equations

Variable	Full sample	Married males	Married females	Unmarried males	Unmarried females
Constant	11.05* (0.40)	10.35* (0.73)	11.93* (0.79)	10.09* (0.98)	10.27* (1.03)
Age	−0.046* (0.0052)	−0.037* (0.0095)	−0.066* (0.011)	−0.045* (0.012)	−0.048* (0.013)
Gender	−0.88* (0.14)				
School	0.18* (0.02)	0.13* (0.035)	0.17+ (0.035)	0.14* (0.053)	0.23* (0.053)
Y	0.0027 (0.0031)	−0.0016 (0.0043)	0.016 (0.0081)	0.0052 (0.0093)	0.016 (0.14)
Higher		0.49 * (0.24)	0.41 (0.39)		
Hwork	0.0037 (0.0061)	0.0077 (0.015)	−0.0055 (0.0086)	0.038 (0.035)	0.067 (0.047)
Wgroup	0.70* (0.14)	0.87* (0.25)	0.50* (0.23)	1.01* (0.33)	0.58+ (0.32)
Wstatus	1.49* (0.13)	1.48* (0.25)	1.64* (0.23)	1.17* (0.32)	1.51* (0.32)
Nojob	−0.34* (0.16)	0.92+ (0.49)	0.012 (0.29)	0.28 (0.45)	−0.006 (0.42)
Votew	0.64* (0.13)	0.24 (0.24)	0.64* (0.22)	0.99* (0.33)	0.90* (0.31)
R^2	0.33	0.22	0.38	0.28	0.45
N	1983	622	638	355	368

Note: Numbers in parentheses are standard errors. * and + indicate statistical significance at 5%, and 10%, respectively. Wald tests show that the data reject the restrictions that the coefficients do not differ across the four categories of married males, married females, unmarried males, and unmarried females.

positive attitude toward women's participation in the labor market and in politics, he or she takes actions towards having a paid job, showing more support to women's groups and the assertions of enhancing women's status, and voting for women candidates in order to match the ideals of his or her gender identity. Most of these results are consistent with the findings from recent studies on gender issues suggesting that women have become more attached to the workplace (e.g. Goldin 2006; Goldin *et al*. 2006) and there are differences between employed women and housewives in political opinion and political involvement (e.g. Box-Steffensmeier *et al*. 2004).

To take a further look at the potential effects of marriage on the formation of gender identity, the identity equation is also estimated with the subsamples of married males, married females, unmarried males, and unmarried females, respectively. One might also argue on a self-selection issue of marriage based upon the finding as shown in the descriptive statistics of Table 3, whereby marriage is associated with a lower value of *Identity* for both male and female individuals. Completely clarifying this potential issue might need some instrumental-variable estimations to distinguish between the selection effect and causal effects of marriage. Unfortunately, good instrumental variables that are closely related to the marriage decision, but not related to gender identity, seem to be unavailable in the dataset used in this study. However, it is reasonable to believe that the effect of marriage on gender identity strongly dominates the effect of gender identity on marriage, because marriage provides more opportunities of interactions for the understanding of gender issues for husbands and wives, while people with a stronger inclination toward non-traditional roles for women may still have a very positive attitude towards marriage.

Happiness Equation

After estimating the identity equation, the second stage of the two-stage estimation is conducted with the happiness equation as described by equation (2), which indicates the relationship between identity and subjective well-being. In other words, the estimated coefficients from the *Identity equation* represent the measures of the effects of people's characteristics, prescriptions, social categories, and actions on achieving their ideals of gender identity, and the fitted values of *Identity* are used as the measures of achieved levels of gender identity. Therefore, theoretical predictions of the identity model indicate that the higher the achieved level in matching the ideals of gender identity for an individual, the higher the level of happiness he or she will have

because more anxieties—generated to challenge the individual's identity—are reduced. Again, the happiness equation is estimated with the full sample, and the subsamples of married males, married females, unmarried males, and unmarried females, respectively. Table 5 reports the results from these estimations.

For the full sample, age has a U-shaped relationship with the level of happiness, as is found in numerous previous studies (e.g. Clark and Oswald 1994; Blanchflower and Oswald 2004), indicating that happiness first decreases with age and then increases with age after reaching the lowest point. Marriage and family income are found to be positively associated with happiness, and this is consistent with the findings of previous empirical studies, arguing that marriage enhances an individual's social support and the sense of belonging to a close relationship while a higher level of family income is often linked to a higher level of satisfaction with consumption. In addition, when an individual is very faithful to a religion, he or she tends to report a higher level of happiness. This result is also consistent with the literature (e.g. Ellison 1991) on the subject of the beneficial effect of religion upon subjective well-being.

It is found, most importantly, that the index *Identity* has a significantly positive relationship with happiness. This means that when an individual has a more positive attitude toward women's participation in the labor market, while sharing the responsibilities of unpaid housework, and also takes action in supporting women groups, enhancing women's social status and supporting women's participation in politics to match the ideals of his or her identity, then he or she will derive utility from the association with self-image. This finding provides empirical evidence for the theoretical prediction of Akerlof and Kranton's model, suggesting that an individual can gain utility through a match between his behavior and characteristics with the ideals for his assigned social category. To further examine the potential effects of marriage on the perception of identity and its influences on subjective well-being, estimations of the happiness equation are also undertaken with four different subsamples—married males, married females, unmarried males, and unmarried females.

As shown in Table 5, the variable *Identity* is positively related to the level of happiness for the sub-samples of married males, unmarried males, and unmarried females. Additionally, those unmarried females who are faithful or very faithful to their religion appear to be happier than those without a strong religious attachment. The number of children also has a positive effect on happiness for married females, while family income is positively associated with happiness for married males. More importantly, *Identity*

Table 5: Estimation Results for Happiness Equations

Variable	Full sample	Married males	Married females	Unmarried males	Unmarried females
Constant	1.08* (0.36)	1.33+ (0.79)	2.08* (0.79)	1.13 (0.73)	0.34 (0.75)
Age	−0.023* (0.011)	−0.022 (0.023)	−0.021 (0.025)	−0.028 (0.022)	−0.056* (0.018)
Age2	0.0002* (0.0001)	0.0002 (0.0002)	0.0001 (0.0002)	0.0003 (0.0002)	0.0007* (0.0002)
Gender	0.040 (0.053)				
Married	0.22* (0.081)				
Divorced	−0.27 (0.19)				
Separated	−0.35 (0.21)				
Widowed	0.13 (0.13)				
Childn		0.035 (0.038)	0.084* (0.041)		
Fy	0.0011* (0.0005)	0.0018* (0.0008)	0.0013 (0.0008)	0.0009 (0.001)	0.0010 (0.0010)
Faithd1	0.050 (0.055)	0.10 (0.10)	−0.11 (0.10)	−0.14 (0.12)	0.30* (0.12)
Faithd2	0.34* (0.10)	0.33 (0.19)	0.11 (0.18)	0.36 (0.28)	0.60* (0.23)
Identity	0.10* (0.019)	0.13* (0.038)	0.034 (0.034)	0.12* (0.047)	0.18* (0.044)
μ_1	0.58* (0.036)	0.81* (0.076)	0.51* (0.063)	0.52* (0.080)	0.59* (0.079)
μ_2	1.13* (0.032)	1.43* (0.060)	1.02* (0.056)	1.13* (0.072)	1.07* (0.073)
μ_3	2.39* (0.036)	2.72* (0.066)	2.27* (0.064)	2.44* (0.085)	2.29* (0.085)
L-likelihood	−2354.258	−710.337	−748.102	−435.181	−441.044
N	1983	622	638	355	368

Note: Numbers in parentheses are standard errors. * and + indicate statistical significance at 5%, and 10%, respectively. Wald tests show that the data reject the restrictions that the coefficients do not differ across the four categories of married males, married females, unmarried males, and unmarried females.

does not have a significant relationship with happiness for married females. In other words, a greater positive attitude toward women's participation in the labor market and in politics is significantly related to the level of happiness for married males, but not for married females. By reflecting their perceptions about women's responsibilities of being a breadwinner and raising children, the link between subjective well-being and identity for married men is observed in the attitude toward women's gender roles in the labor market, in the family, and in political participation. When a married man has a more positive attitude toward women's participation in the labor market and in politics and when he is more willing to share the responsibilities of housekeeping and childrearing within the household, he tends to have a higher level of happiness.

As for unmarried individuals, the relationship between identity and subjective well-being is also apparent. The variable *Identity* is significantly related to happiness for unmarried males and females. This suggests that, for unmarried men and women, the link between identity and subjective well-being can be observed in their attitudes toward women's gender role in the labor market, women's responsibilities in housekeeping and childrearing, and women's participation in politics. Comparing the results for married females and unmarried females, this implies a potential impact of marriage on women's gender identity for female individuals in that a change in the link between identity and subjective well-being occurs from their attitudes toward women's gender role in the labor market and in the family, as well as their attitudes toward women's political participation. Likewise, for male individuals, the significant link between identity and subjective well-being can be observed in them as well as in unmarried males' attitudes toward women's gender role in the labor market, in the family, and in politics. In other words, marriage tends to cause apparent differences in the link between gender identity and subjective well-being for female individuals.

CONCLUSION

This study empirically examines the relationship between gender identity and subjective well-being with the data from the Taiwan Social Change Survey. The findings from the two-stage estimations with the identity and happiness equations provide supportive evidence for the identity model. Some important results can be drawn from the findings of this study. First, an individual's attitudes toward women's groups, assertions of enhancing women's social status, and the tendency of voting for a female candidate in an election are important for explaining his or her perceptions about

women's gender roles in the family and in political participation. Second, gender identity has a strong positive effect on subjective well-being. The extent to which an individual's actions correspond to the ideal of his or her assigned social category as indicated by prescriptions and characteristics can lead to increases or decreases in subjective well-being derived from the gains or losses in gender identity. Third, there is a difference in the pattern of the link between gender identity and subjective well-being for married females and unmarried females. Marriage appears to have some effects on a female individual's perceptions about women's gender roles in the labor market, in the family, and in politics.

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