MENG-WEN TSOU and JIN-TAN LIU

HAPPINESS AND DOMAIN SATISFACTION IN TAIWAN

ABSTRACT. Happiness and life satisfaction are two empirically correlated but conceptually different measures of well-being. As an emotional state, happiness is sensitive to sudden changes in mood, whilst satisfaction is regarded as a cognitive or judgmental state. Using estimations from two empirical models, the aim of this study is to examine the determinants of happiness and satisfaction amongst Taiwanese people in a number of life domains. First of all, we attempt to investigate the individual characteristics of happiness by using an ordered probit model. Secondly, using ordinary least squares, we include an individual's value or attitude variables as determinants of the level of satisfaction with different life domains.

Our results suggest that higher income is associated with a higher level of subjective well-being. Measures of comparison income are significantly negatively correlated with the reported level of happiness and job satisfaction, which supports the hypothesis that well-being depends on income relative to a reference group. Consistent with the results from other countries, married people report a higher degree of happiness and satisfaction, whilst the past experience of unemployment significantly reduces subjective well-being. There is little gender difference in happiness or satisfaction with different domains. Furthermore, individual's personal values have strong effects on both marital satisfaction and job satisfaction. The findings of this paper confirm that the effects of personal characteristics are fundamentally different in terms of happiness and satisfaction with specific domains of life.

KEY WORDS: happiness, domain satisfaction, marital satisfaction, job satisfaction, financial status, leisure time, comparison income.

INTRODUCTION

There has been a dramatic increase in research on well-being since the 1980s, with most researchers agreeing that feelings of well-being comprise of a cognitive-evaluative factor (satisfaction) and an affective factor (happiness) (Andrews and Withey, 1976; Campbell, 1981; Emmons and Diener, 1985). Although there is some empirical correlation, in varying degrees, between happiness and life satisfaction, they are nevertheless distinct. Happiness is an emotional state which is sensitive to sudden mood changes, whilst life satisfaction is a cognitive and judgmental state which refers to an assessment of life as a whole (Vermunt et al., 1989; Tepperman and Curtis, 1995).

According to the 'domain satisfaction approach', overall satisfaction relates to specific satisfaction associated with a person's job, marriage,

family, leisure activities, and the like. A number of social scientists have examined the relationship between domain satisfaction and satisfaction with life as a whole (Andrews and Withey, 1976; Argyle, 1989; Vermunt et al., 1989; Veenhoven, 1996; Kousha and Mohseni, 1997).[1] The ways in which individual characteristics have an effect on satisfaction and happiness have also been subjects for research.[2] Whilst Tepperman and Curtis (1995) found that older people were more satisfied than younger people, Clark and Oswald (1994, 1996), Clark (1997) and Theolossiou (1998) all suggested a U-shaped relationship between age and subjective well-being. According to Veenhoven (1996), the gender effect is small. Travers and Richardson (1993) and Saunders (1996) reported that there was no gender difference in the degree of happiness, whereas Clark and Oswald (1996) and Hartog and Oosterbeek (1998) found that women had higher levels of happiness (or job satisfaction) than men. Happiness is generally found to correlate negatively with unemployment and education, whilst correlating positively with health (Saunders, 1996; Winkelmann and Winkelmann, 1998).

With regard to the relationship between happiness and income, it has long been suggested in the social sciences that subjective well-being depends on relative income rather than absolute income. Economists have also discussed the relative income hypothesis, suggesting that what matters more for individuals in a rich country is their relative wealth as opposed to their absolute wealth (Easterlin, 1974; Hamermesh, 1977; Ng and Wang, 1991; Clark, 1999). Clark (1996, 1997) defines an individual's utility from work as a function of comparison or reference income level. The higher the comparison level of income is, the lower is the individual's relative income and the lower is their well-being or satisfaction. Clark and his colleague found a significantly negative correlation between measures of comparison income and reported levels of job satisfaction in Great Britain.

To our knowledge, there has been little research on these issues in developing countries. Using a sample of Taiwanese people, this paper undertakes an analysis of happiness and satisfaction with several life domains. The purpose of this study is to examine the factors that shape individual happiness and satisfaction with specific domains.

Our results support the hypothesis that happiness and job satisfaction depend on income relative to a reference group. Married people report higher levels of happiness and satisfaction. However, there is little

gender difference in happiness and domain satisfaction. The experience of past unemployment is associated with decreased satisfaction. Higher-educated people appear to be happier and have a higher level of satisfaction in terms of financial status and leisure, but not in terms of jobs and marriage. Compared with the other domains, we find that individual's values and attitudes have stronger effects on both marital satisfaction and job satisfaction.

The remainder of the paper is organized as follows. In Section 2 we describe the data and measurement. Section 3 presents the empirical results. Conclusions follow in Section 4.

DATA AND MEASURES

The data used in this study are drawn from the 1994 research project 'Taiwan Social Change Survey (Year 5 of Cycle 2)' sponsored by the Taiwan National Science Council.[3] The data were collected by means of face-to-face interviews with the questionnaires focusing on cultural values and religious activities, but also including demographic and psychological questions. This survey includes two data sets, both of which comprise of individuals aged between 20 and 64 years. The survey adopts a stratified two-stage sampling method. The Ts'un to Li, a basic administrative unit, is designated as the primary sampling unit, and the household in the primary sampling unit is the secondary sampling unit. The sampled Ts'un or Li's for the two data sets are not the same in principle. The first original data set consists of 1862 observations and the second original data set consists of 1853 observations. After deleting from the two data sets those persons with missing values in terms of age, education, income, happiness or satisfaction scores, 1533 and 1796 observations were available for use in our analysis, respectively.

In the first data set, the evaluation of life as a whole, in terms of happiness, was measured with a single question: "In general, do you feel happy in your present life" The answers were coded as five scale points ('very unhappy' (1), 'not quite happy' (2), 'OK' (3), 'happy' (4) and 'very happy' (5)). In the second data set, satisfaction/dissatisfaction was measured for several domains of life, such as marriage, job, financial status and leisure time. Respondents' answers to these questions were coded on a 0–100 score running from 'total dissatisfaction' (0)

to 'total satisfaction' (100). The major limitation of our study is that the two data sets are not collected from the same respondents. Thus, we cannot examine the relationship between domain satisfaction and happiness.

We use happiness and satisfaction with specific domains as measures of a dependent variable. In terms of happiness, the explanatory variables include gender, age, educational level, marital status, health status and personal income.[4] We also utilize information on social background, such as a previous experience of unemployment, religious attendance, participation in community activities and mental distress from inter-personal relationships.

Since it has long been discussed in the social sciences that happiness and satisfaction levels depend on relative rather than absolute income, we measure the comparison income from an external data source. The 1994 Taiwan Manpower Utilization Survey (TMUS) provides data on the earnings of different kinds of workers. This survey includes employees, employers, self-employed workers, unemployed and people who do not belong to the labor force.[5] Individuals' age and education level were divided into 5 categories for both males and females.[6] Each individual in our data was then assigned the comparison income corresponding to his or her age.[7] This method produced 10 data points for comparison income and each is an income cell-mean by gender and age. Table I provides the variable definitions and summary statistics for the first data set.

As Table I shows, almost 19 percent of respondents said that they were 'very happy', with a further 39 percent reporting that they felt

TABLE I

Variable definitions and summary statistics (The first data set)

Variable	Definition	Mean (std. dev.)
Happiness		
= 0 (lowest)	A response of 'very unhappy'.	0.01 (0.07)
= 1	A response of 'not quite happy'.	0.04 (0.19)
= 2	A response of 'OK'.	0.38 (0.49)
= 3	A response of 'happy'.	0.39 (0.49)
= 4 (highest)	A response of 'very happy'.	0.19 (0.39)
Male	Dummy variable equal to 1 if the respondent is male.	0.44

TABLE I
(*Continued*)

Variable	Definition	Mean (std. dev.)
Age	Age.	38.84 (10.65)
Age squared/100	Age squared/100.	16.22 (8.94)
Educational level		
Elementary	Dummy variable, 1 if respondent's education level is elementary (or interrupted) school.	0.24
Junior high	Dummy variable, 1 if respondent's educational level is junior high or vocational junior high school.	0.17
Senior high	Dummy variable, 1 if respondent's educational level is senior high, vocational senior high or military preparatory school.	0.32
Junior college	Dummy variable, 1 if respondent's educational level is five-year, two/three-year junior college, or military/police school.	0.08
University	Dummy variable, 1 if respondent's educational level is military/police school, university or graduate school.	0.12
Marital status		
Married	Dummy variable, 1 if respondent is married.	0.78
Divorced	Dummy variable, 1 if respondent is divorced or separated.	0.02
Widowed	Dummy variable, 1 if respondent is widowed.	0.03
Log personal income	Log (personal monthly income) (NT$1000s).	2.61 (1.48)
Log comparison income	Log (average monthly income for people of same age and sex, 1994 Labor Force Survey) (NT$1000s).	3.18 (0.35)
Health status		
Frustrated	Frequency of feelings of frustration.	0.91 (1.18)
Illness	Frequency of inability to lead a normal life due to injury or illness lasting over one month.	0.20 (0.47)
Social background variables		
Past unemployment	Dummy variable, 1 if respondent was previously unemployed.	0.23
Community	Dummy variable, 1 if respondent participates in a community activity.	0.18
Temple	Frequency of visiting a church or temple within the past year.	14.68 (29.71)
Interpersonal	1–4 scale for feelings of difficulty in getting along with others.	1.54 (0.80)

Note: Number of observations = 1533.

'happy'. Around 38 percent responded with 'OK' and only 4 percent felt either 'not quite happy' or 'very unhappy'. In the second data set, life satisfaction was measured with several life domains, including marriage, job, financial status and leisure time. The mean satisfaction levels of these four specific life domains are reported in Table II.

Amongst the four aspects of life, the mean level of satisfaction with marriage was the highest, followed by an individual's job, and then by finance and leisure. On a scale of 0–100, the average level of satisfaction

TABLE II

Variable definitions and summary statistics (The second data set)

Variable	Definition	Mean (std. dev.)
Married life	Satisfaction with married life (score from 1 to 100).	82.91 (16.02)
Job	Satisfaction with job condition (score from 1 to 100).	77.99 (14.74)
Financial status	Satisfaction with financial status (score from 1 to 100).	69.04 (18.35)
Leisure time	Satisfaction with leisure time (score from 1 to 100).	65.08 (21.28)
Male	Dummy variable, 1 if respondent is male.	0.47
Age		39.46 (10.86)
Age squared/100	Age squared/100.	16.75 (9.20)
Educational level		
Elementary	Dummy variable, 1 if respondent's education level is elementary (or interrupted) school.	0.23
Junior high	Dummy variable, 1 if respondent's educational level is junior high or vocational junior high school.	0.15
Senior high	Dummy variable, 1 if respondent's educational level is senior high, vocational senior high or military preparatory school.	0.32
Junior college	Dummy variable, 1 if respondent's educational level is five-years, two/three-year junior college, or military/police school.	0.12
University	Dummy variable, 1 if respondent's educational level is military/police school, university or graduate school.	0.12

TABLE II

(*Continued*)

Variable	Definition	Mean (std. dev.)
Marital status		
Married	Dummy variable, 1 if respondent is married.	0.77
Divorced	Dummy variable, 1 if respondent is divorced or separated.	0.03
Widowed	Dummy variable, 1 if respondent is widowed.	0.02
Log personal income	Log (personal monthly income) (NT$ 1,000s).	2.67 (1.43)
Log comparison income	Log (average monthly income for people of same age and sex, 1994 Labor Force Survey) (NT$ 1000s).	3.37 (0.25)
Social background variables		
No. of Children	Number of children.	2.11 (1.52)
Hours	Weekly working hours.	36.93 (25.63)
Past Unemployment	Dummy variable, 1 if respondent was previously unemployed.	0.23
Self-employed	Dummy variable, 1 if respondent is self-employed or family business helper.	0.22
Father self-employed	Dummy variable, 1 if respondent is self-employed or family business helper.	0.49
Couple	Dummy variable, 1 if respondent lives with wife/husband.	0.94
Attitudes and values		
Health	The importance of health to the respondent's life (1–5 scale).	4.65 (0.78)
Love	The importance of love to the respondent's life (1–5 scale).	3.56 (1.34)
Happy marriage	The importance of a happy marriage to the respondent's life (1–5 scale).	4.42 (0.92)
Extra-marital affair	The attitude towards extra-marital affairs (1–4 scale: 1: absolutely wrong, 4: absolutely right).	1.79 (0.86)
Support family	I work in order to support my family (1–4 scale: 1: strongly disagree, 4: strongly agree).	2.98 (0.65)
Chance to be successful	Anyone willing to work hard will have the chance to become successful (1–4 scale: 1: strongly disagree, 4: strongly agree).	3.13 (0.65)
Meaningful life	If there was more leisure time, life would be more meaningful (1–4 scale: 1: strongly disagree, 4: strongly agree).	2.89 (0.66)

Note: Number of observations = 1769.

with marriage was 83, as compared with the average satisfaction level of 78 for an individual's job. The mean satisfaction scores for financial status and leisure time were 69 and 66, respectively.

With the exception of demographic variables, different social background and individual's values (or attitudes) variables are included in the regressions of satisfaction with specific life domains. For satisfaction with marriage, we include the number of children, living with a spouse, attitude to health, and three value variables on marriage (the importance of love, the importance of a happy marriage, and the attitude towards extra-marital affairs). There is evidence that unmarried men are less happy than unmarried women, which suggests that men appear to get more out of marriage than women (Argyle, 1989; Travers and Richardson, 1993).

As research confirms, the overall satisfaction with marriage also depend on the quality of marriage. It is obvious that being rewarded by one another is important in a happy marriage. Each partner provides certain rewards, and some, like sex and companionship, are simultaneously rewarding to both (Levenson and Gottman, 1985). The effects of children on marital satisfaction are ambiguous. Most people think that children make their own marriage closer (Veroff et al., 1981), despite evidence to the contrary. Compared to childless couples, parents worry more and have more marital problems than those without children (Argyle, 1989). Although this variable is open to different interpretations in domain satisfaction, it controls for possible stress associated with child rearing.

In the job satisfaction equation, we include any previous experience of unemployment, individual's occupation level, hours of work, number of children, attitude to health, and two work value variables (the attitude of "I work in order to support my family", and the attitude of "anyone who is willing to work hard will have the chance to become successful"). Empirical research relates workers' job satisfaction to individual characteristics, such as gender, age and education, and to job characteristics, such as establishment size, hours and pay (Clark, 1996, 1997, 1999; Clark et al., 1996). Women report higher job satisfaction levels than men in Great Britain and the United States. However, in most countries, there is no gender/job-satisfaction paradox. With regard to an individual's occupation level, job satisfaction is greatest among self-employed Britons and Americans (Blanchflower and Oswald, 1992). Good physical health is generally found to positively correlate with

job satisfaction, and longer hours of work reduce satisfaction. Worker values are also important predictors of a worker's well-being (Clark, 1997). Since being unemployed decreases well-being, the experience of past unemployment is included as a proxy for this kind of mental distress.[8]

For satisfaction with personal financial status, we include any previous experience of unemployment, number of children, an individual's occupation level and father's occupation level. People who are self-employed or having a self-employed father are expected to be more satisfied with their financial status (Hartog and Oosterbeek, 1998).

We finally include hours of work, number of children and one attitude variable (the attitude of "if there was more leisure time, life would be more meaningful") in the regression of satisfaction with leisure time. For most people, longer working hours mean less time spent on leisure activities, which reduces their satisfaction with leisure time.[9] Table II reports the summary statistics for the variables used in the regression analysis.

RESULTS

This section presents the empirical findings on subjective well-being amongst Taiwanese people. The first half of the section examines the effects that personal characteristics can have on happiness. In the second part, we further investigate the impacts of personal characteristics, as well as an individual's values, on levels of satisfaction with specific domains.

Happiness Equations

We begin our analysis by examining the effects of individual characteristics on happiness. Happiness is measured on an ordinal scale, and hence either ordered probit or ordered logit models would be the most appropriate econometric techniques (Greene, 1993). A number of ordered probit equations are provided in Table III.

In contrast to the evidence found in Great Britain and the United States (Clark and Oswald, 1994, 1996; Clark et al., 1996; Blanchflower and Oswald, 2000), we find a weak U-shaped relationship between happiness and age. Highly-educated people appear to have higher levels

TABLE III
Ordered probit estimates for happiness (The first data set)

	(1)	(2)	(3)
Constant	3.7489 (6.40)***	4.0159 (6.87)***	5.0221 (8.30)***
Age	−0.0145 (−0.60)	−0.0150 (−0.62)	−0.0343 (−1.43)
Age squared/100	0.0244 (0.89)	0.0254 (0.93)	0.0425 (1.56)
Elementary	0.4074 (3.30)***	0.3444 (2.82)***	0.3436 (2.70)***
Junior high	0.3879 (2.62)***	0.2921 (1.98)**	0.2900 (1.88)*
Senior high	0.3909 (2.49)***	0.3122 (2.02)**	0.3758 (2.35)**
Junior college	0.5410 (2.62)***	0.4819 (2.35)**	0.5293 (2.50)***
University	0.6026 (2.44)***	0.5215 (2.14)**	0.5505 (2.17)**
Male	0.2232 (1.66)*	0.2370 (1.76)*	0.1705 (1.23)
Married	0.2888 (3.00)***	0.2809 (2.91)***	0.2228 (2.27)**
Divorced	−0.1896 (−1.03)	−0.1364 (−0.74)	−0.1386 (−0.71)
Widowed	−0.2293 (−1.23)	−0.1900 (−0.99)	−0.3013 (−1.52)
Log personal income	0.0479 (2.11)**	0.0498 (2.18)**	0.0617 (2.67)***
Log comparison income	−0.5476 (−2.07)**	−0.5473 (−2.09)**	−0.4686 (−1.75)*
Frustrated		−0.1235 (−6.87)***	−0.0929 (−4.66)***
Illness		−0.1112 (−2.20)**	−0.0828 (−1.55)
Past unemployment			−0.3127 (−4.70)***
Temple			0.0006 (1.36)
Community			0.2698 (3.57)***
Interpersonal			−0.3847 (−10.63)***
MU(1)	0.9216 (6.92)***	0.9582 (6.83)***	1.0371 (6.82)***
MU(2)	2.4831 (17.47)***	2.5495 (17.14)***	2.7374 (17.10)***
MU(3)	3.5681 (24.67)***	3.6441 (24.13)***	3.8882 (23.93)***
Pseudo R^2	0.0015	0.0028	0.0082
Log-likelihood	−1818.78	−1801.95	−1730.57
Log-likelihood at zero slopes	−1839.36	−1839.36	−1839.36

Note: Figures in parentheses are t-statistics. ***, ** and * represent statistical significance at 1%, 5% and 10% level, respectively.

of happiness, although the effect is non-monotonic.[10] Married individuals are happier than single people, however, there is no substantial gender difference in the degree of happiness after controlling for the social background variables.

Table III also provides a test of the hypothesis that happiness depends on relative, rather than absolute, income. The measure of comparison income is drawn from the 1994 TMUS. As expected, comparison

income has a significantly negative correlation with happiness. Personal income is positive and significant at the 1% level, suggesting money does buy happiness. This result is similar to the findings of Saunders (1996), Clark (1996, 1997), Clark and Oswald (1996) and Blanchflower and Oswald (2000).

The two health variables included (the frequency of feelings of frustration, and the frequency of the inability to lead a normal life due to injury or illness lasting over one month) demonstrate an expected negative effect on subjective well-being. Individuals with a previous experience of being unemployed are less happy.[11] One possible explanation for their lower levels of satisfaction is that these individuals are in insecure jobs and their satisfaction level is affected by fear of potential future job losses (Winkelmann and Winkelmann, 1998). There is a strong effect between social participation and happiness. People who participate in community activities, or those with less mental distress in interpersonal relationships, are also happier.

Our results suggest that highly-educated and married people report higher levels of happiness. Happiness is positively associated with health and social participation, but negatively associated with any previous experience of unemployment. Income can buy happiness, and comparison income is an important predictor of reported levels of happiness.

Regressions for Satisfaction of the Four Life Domains

The individual characteristics associated with well-being need not only be observable (age, education, income, etc.), but they should also reflect an individual's priorities or values. Therefore, in this section we further control for the values which the individuals themselves possess for different aspects of life domains. Table IV presents the OLS regressions in which the satisfaction levels of four specific life domains are the dependent variables. Since heterocedasticity arises primarily in the analysis of cross-section data, a White's heteroskedastic-consistent covariance matrix is used (Greene, 1993).[12]

The first column reports the estimation results for satisfaction with marriage. There is no substantial difference in satisfaction scores as a result of gender, age or education. Couples who live together have a higher level of satisfaction with marriage, however, having more children does not significantly affect the satisfaction level. Personal income

TABLE IV

Domain satisfaction equations (The second data set)

	Married life	Job	Financial status	Leisure time
Constant	68.798 (3.43)***	75.272 (4.02)***	47.04 (2.56)***	42.569 (2.32)**
Age	0.4280 (0.76)	1.4303 (2.51)***	1.1373 (2.28)**	−0.1733 (−0.37)
Age Squared/100	−0.5091 (−0.80)	−1.5431 (−2.39)**	−1.3067 (−2.27)**	0.2434 (0.45)
Elementary	−0.9303 (−0.39)	0.7691 (0.26)	0.7922 (0.37)	3.4539 (1.09)
Junior high	2.5867 (1.05)	3.0255 (1.00)	5.4665 (2.37)**	10.219 (3.09)***
Senior high	−0.0267 (−0.01)	3.4592 (1.14)	8.9753 (3.98)***	12.084 (3.73)***
Junior college	3.1206 (1.20)	2.6728 (0.86)	12.850 (5.39)***	11.916 (3.47)***
University	2.1774 (0.79)	2.7910 (0.89)	12.783 (5.24)***	14.555 (4.28)***
Male	2.5840 (0.51)	4.3966 (1.24)	−2.4718 (−0.67)	−4.4201 (−1.03)
Married		4.1446 (2.37)**	5.3180 (3.12)***	1.6292 (0.88)
Divorced		−1.7019 (−0.57)	−2.0960 (−0.75)	−3.4475 (−1.09)
Widowed		−0.4669 (−0.11)	2.7446 (0.77)	1.3589 (0.30)
Log personal income	0.0133 (0.04)	4.7391 (5.33)***	1.5405 (4.11)***	2.2526 (3.96)***
Log comparison income	−3.1873 (−0.39)	−16.812 (−2.11)**	−3.9876 (−0.51)	5.2236 (0.71)

	(1)	(2)	(3)	(4)
No. of children	−0.6638 (−1.32)	−0.7596 (−1.60)	−0.5476 (−1.13)	−0.0526 (−1.70)*
Health	−0.5702 (−0.95)	0.1940 (0.39)		
Couple	8.2025 (3.07)***			
Past unemployment		−1.2504 (−1.18)	−5.1833 (−4.84)***	
Hours		−0.0345 (−1.20)		−0.1101 (−3.75)***
Self-employed		−0.6808 (−0.69)	0.3494 (0.34)	
Father self-employed			1.4789 (1.79)*	
Love	1.7096 (4.19)***			
Happy marriage	1.4790 (2.24)**			
Extra-marital affair	−0.9816 (−1.78)*			
Support family		0.2032 (0.29)		
Chance to be successful		2.4583 (3.45)***		
Meaningful life				0.4216 (0.53)
Adj. R^2	0.072	0.070	0.121	0.080
N	1251	1143	1796	1539

Note: Figures in parentheses are t-statistics. Regressions are estimated by ordinary least squares using a heteroskedastic-consistent covariance matrix. ***, **, and * represent statistical significance at 1%, 5% and 10%, respectively. N is the number of observations.

has a positive but insignificant correlation with marital satisfaction, whereas comparison income has only a negatively insignificant effect on satisfaction with marriage. In relation to value variables, individuals who rank highly the importance of love and a happy marriage in their lives, and those who disapprove strongly of extra-marital affairs, are also more satisfied with their marriage. Our findings support the argument that socioeconomic variables do not directly relate to marital quality (Vannoy, 1992).

Column 2 of Table IV reports the job satisfaction regression results.[13] We find an inverted U-shaped relationship between job satisfaction and age, whilst education has a weak correlation with job satisfaction. These results are in contrast to the findings of Clark et al. (1996) and Clark (1997), whose studies found a strong U-shaped relationship between age and all measures of job satisfaction, and suggested that higher levels of education are associated with less-satisfied workers.[14] After these controls, married people were found to be more satisfied with their jobs. However, there is no significant gender difference in job satisfaction. Higher income is associated with higher levels of job satisfaction. Comparison income is significantly negatively correlated with job satisfaction, suggesting that income comparisons are important determinants of workers' reported well-being. These results are consistent with the findings in Clark (1996, 1997) and Clark and Oswald (1996).

The experience of past unemployment and hours of work have a weakly negative correlation to job satisfaction. The self-employers do not seem to report higher levels of job satisfaction. In addition, the attitude towards the importance of health in a respondent's life and the number of children in the household, both have little effect on job satisfaction.[15] With respect to the work value variables, individuals who strongly agree that "anyone who is willing to work will have the chance to become successful" are significantly more likely to have higher job satisfaction.

In column 3 we report the estimation results for satisfaction with individual financial status. Similarly, there exists an inverted U-shaped relationship between satisfaction with financial status and age.[16] Highly-educated and married people appear to be more satisfied, and as expected, higher personal income is accompanied by greater satisfaction with one's financial status. Comparison income is, however, only weakly related to the satisfaction level. A previous experience

of joblessness has a strong negative effect on satisfaction levels. Although the self-employed do not show higher satisfaction levels than those employed within organizations, family background does have an affect on an individual's financial condition. Those who report their father as being self-employed or a family business helper have significantly higher scores of satisfaction in terms of financial status.

Column 4 of Table IV reports the results for satisfaction with leisure time. As can be seen, age and gender have little effect on satisfaction, and highly-educated and married people are more content with their leisure time. Richer people are more satisfied with their leisure time. The comparison income variable has an insignificant correlation with the level of satisfaction, but longer hours of work are associated with lower satisfaction. Leisure is negatively affected by the number of children, indicating that children limit people's leisure time and thus reduce their satisfaction level. The effect of attitude towards "if there was more leisure time, life would be more meaningful" has an insignificantly positive correlation with leisure satisfaction.

To summarize, the results presented here suggest that married people tend to be more satisfied than single people for different aspects of life. Highly-educated people are also more satisfied with their financial status and leisure. In contrast to several previous studies (Lu, 1995; Tepperman and Curtis, 1995; Loscocco and Bose, 1998), no evidence was found to suggest that older people are more satisfied than younger people. Neither is there much gender difference in satisfaction with different domains. Higher personal income is generally accompanied by a greater satisfaction with one's life, and comparison income is significantly negatively correlated to the level of job satisfaction. Furthermore, we find that an individual's values or attitudes have strong effects on both marital satisfaction and job satisfaction.

CONCLUSIONS

This paper examines the determinants of happiness and domain satisfaction. Using data on happiness and satisfaction for a sample of Taiwanese people, our results suggest that the effects of individual characteristics on happiness and satisfaction with different aspects of life are fundamentally different. This finding is largely consistent with

the evidence reported by Kushman and Lane (1980) and Vermunt et al. (1989).

The fact is that money does indeed buy happiness. Consistent with the evidence found by Clark (1996, 1997) and Clark and Oswald (1996) in the UK, comparison income is negatively correlated with individuals' reported levels of happiness and job satisfaction. This result supports the hypothesis that well-being depends on income relative to a reference group. However, the same relationship does not hold for the effects of comparison income and the other domain satisfaction. As in previous empirical studies, married people are found to have the highest degree of happiness and satisfaction. There also exists an inverted U-shaped relationship between age and job satisfaction, and a similar pattern is also observed with regard to satisfaction with financial status. Highly-educated people appear to be happier and have higher levels of satisfaction in terms of financial status and leisure, but not in terms of jobs and marriage. There is no substantial gender difference in the level of happiness or domain satisfaction. Individuals with an experience of past unemployment have lower levels of both happiness and satisfaction with financial status, indicating that the fear of potential future job loss leads to a significant reduction in subject well-being.

It is interesting to note that the major determinant of satisfaction with marriage is an individual's values or attitudes towards marriage, rather than other socioeconomic variables. Job satisfaction is also strongly affected by work values. The substantial effect of the father's level of occupation on an individual's satisfaction with regard to finances reflects the effect of transfers or inheritances. In addition, people who have longer working hours, or those who have more children, are less content with their leisure time.

NOTES

[1] There are two ways to find out the most important domains of life. One is to ask people which areas are most important; the other is to correlate satisfaction in each domain with overall satisfaction. For example, Argyle (1989) rates satisfaction with marriage, family and job as the three most important facets of an individual's overall well-being in both Britain and the United States. Kousha and Mohseni (1997) found that for married Iranian women, life satisfaction is directly linked to their satisfaction with marriage, employment and leisure activities.

[2] Abbey and Andrews (1980), Michalos (1985) and Lerner (1997) all found that the relationship between the demographic characteristics of people and their subjective well-being was rather weak. However, since different research projects have been undertaken on different populations or in different domains of life, there are numerous exceptions.

[3] This research project was conducted by Dr. Hei-Yuan Chiu and Dr. Ly-Yun Chang of the Institute of Social Sciences, Academia Sinica. The Office of Survey Research, Academia Sinica was responsible for the interviews.

[4] For schooling, we use dummies for five different levels: elementary school, junior high school, senior high school, junior college and university. The omitted category is people without formal schooling.

[5] The TMUS is an annual household survey covering the non-institutionalized population of Taiwan. The data includes approximately 17,000 households and 55,000 individuals each year.

[6] We categorize workers into five age groups: age below 30, age between 30 and 39, age between 40 and 49, age between 50 and 59, and age above 59.

[7] There are several ways to measure the comparison of income. Following Clark and Oswald (1996), we have tried to use the other two approaches to measure comparison income. One matches the average income of individuals with the same banded hours and gender from the 1994 Taiwan Manpower Utilization Survey, whilst the other method econometrically predicts the comparison income in the sample. The predicted income is calculated for every individual in the sample using a wide range of individual characteristics, including dummy variables for age, schooling, parents' educational levels, occupation and religious belief. The results indicate that these two measures of comparison income are significantly or insignificantly positive correlated with job satisfaction, which is inconsistent with the empirical evidence.

[8] The questionnaire contains no information on job characteristics and establishment size.

[9] Almost every study of leisure satisfaction has found that the social-motivation factor is one of the main components. It includes contact with family, friends and the opposite sex. Due to data limitations, we cannot investigate which kinds of leisure activities or social factors are associated with greater leisure satisfaction.

[10] This finding is similar to that found by Blanchflower and Oswald (2000) in the US, but contrasts with the evidence reported by Clark and Oswald (1994, 1996) and Clark et al. (1996) in the UK. Clark and Oswald (1994, 1996) and Clark et al. (1996) found that highly-educated individuals showed greater distress (or less satisfaction) than others.

[11] The questionnaire contains no questions on respondents' current employment status.

[12] For example, even after accounting for differences in personal income, we expect to observe a greater variation in well-being of richer people than in that of poor people. The variance of well-being might also depend upon the other regressors or omitted variables. If the disturbances in the regressions are heteroskedastic, then the ordinary least squares estimators are not efficient.

[13] Since we focus on the well-being of employees, employers and self-employers in the regression of job satisfaction, the measure of comparison income is calculated for workers in the 1994 Taiwan Manpower Utilization Survey.

[14] We find that job satisfaction maximizes where $1.4289 - 0.0308 \times (age) = 0$, namely at age 46.

[15] Due to data limitation, we use an individual's attitude on 'the importance of health to the respondent's life' as a proxy for health. This is not a subjective evaluation, nor an objective medical classification of an individual's health status.

[16] We find that satisfaction with financial status maximizes where $1.1373 - 0.0262 \times (age) = 0$, namely at age 43.

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Address for Correspondence:
MENG-WEN TSOU
Tamkang University
Department of International Trade
151 Ying-Juan Road
Taipei Hsien (251)
Taiwan

E-mail: tsoumw@mail.tku.edu.tw