

# Improving Women's Happiness and Self-Rated Health and Social Capital in Rural Cambodia

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## Abstract

Achieving a state of happiness and good health is undoubtedly important for people's mental health. It is a challenging feat in any country, but more so in developing countries. However, scant research exists on the happiness and self-rated health of people in developing countries. To examine the impact of social capital on women's happiness and self-rated health in rural Cambodia, this study applies ordinal logit regression on the interview data of 283 women living in Siem Reap. The following factors positively impacted the happiness of the women: high household income, lending of money to others, high level of trust toward family, social participation, and having high self-rated health. The following factors were associated with higher self-rated health, similarly as with happiness: high level of trust toward family, lending of money to others, social participation, and higher number of surviving children. However, self-rated health decreased when the women were of advanced age, had given birth to many children, or had received poverty identification. The novelty of this study is that it provides a valuable insight into the impact of social capital on the happiness and self-rated health of women in rural Cambodian villages.

**Keywords:** Happiness, self-rated health, social capital, rural Cambodia

## 1. Introduction

Studies on the impact social capital has on happiness and self-rated health have been conducted for a long period of time. During this time, research on the concept of social capital and its measurement methods have advanced, with the shared understanding of its impact on happiness and self-rated health also deepening. One of the most important findings in the traditional research is that happiness and self-rated health also depend on social capital, as much as they do on economic wealth (Frey, 2008; Kawachi, Subramanian, & Kim, 2008; Dolan, Peasgood, & White, 2008; Leung, Kier, T. Fung, L. Fung, & Sproule, 2011). However, although a large amount of research on developed countries has accumulated (Easterlin, 1974, 2003; Frey & Stutzer, 2002a, 2002b; Diner & Seligman, 2004; Bruni & Porta, 2005; Graham, 2011), research studies on happiness and self-rated health in developing countries is limited.

In light of this, this paper will empirically analyse the impact that social capital has on a Cambodian rural village women's happiness and self-rated health. According to the 2022 World Happiness Index, Cambodia's level of happiness ranked 114<sup>th</sup> in the world (United Nations, 2022). Cambodia has experienced stagnant political economic activity – which would normally include democratizing and economic growth – due to the Pol Pot regime (April 1975- January 1979) and the civil war that followed until the Paris Peace Agreements (October 1991). Since 1998, the long-running Hun Sen administration has maintained economic growth of around 7 per cent from 2010 to pre-Covid-19, while repressing democratization (Asian Development Bank, 2019). While experiencing such political and economic upheaval, how did the social capital in Cambodia change, and what kind of impact have such developments had on the happiness and self-rated health on its populace? In the shadow of the negative impact of its tumultuous political and economic systems, can social capital serve as an effective means to improve happiness and self-rated health in Cambodia?

To fill the aforementioned gap in the literature, this paper will empirically analyse the impact social capital has on the happiness and self-rated health of women in rural Cambodia, using data collected from interviews in Siem Reap, Cambodia. Here, self-rated health does not refer to medical health but a subjective self-evaluation of one's health (Kawachi et al., 2008). This indicator represents an overall state of health state that cannot be represented

through medical indices. This paper will, in particular, validate the following hypotheses: First, the happiness of Cambodian rural village women is impacted by their self-rated health and social capital. Second, self-rated health is impacted by factors differing to that of happiness. Third, happiness and self-rated health are impacted by cognitive and structural social capital. There have been no past research studies that have estimated such hypotheses for Cambodian rural village women.

The novelty of this paper is that it provides a valuable insight into the impact of social capital on the happiness and self-rated health of women in rural Cambodian villages. In particular, this paper demonstrates that with cognitive social capital, reciprocity (lending of money to others) and trust toward family are significant variables, and social network (structural social capital) is represented through social institution including temples/pagodas, funeral assistance, a school parents' association, and a forestry cooperative is found to be a significant variable. Additionally, although the previous studies had not analysed the impact of the number of births given to, the number of surviving children, and illnesses/injuries, this study found that the number of births given to and illnesses/injuries decreased self-rated health, with the number of surviving children increasing self-rated health.

The remainder of the paper is organized as follows. First, the method is presented consisting of a research review on social capital in rural Cambodia, data collection, and modelling of happiness and self-rated health. Then, the results and the discussion are described. Finally, the findings and the policy implications are presented.

## 2. Method

### 2.1 Social Capital in Rural Cambodia

Social capital refers to trust, norms of reciprocity and social networks that can increase the stability and efficiency within society by promoting cooperative behaviour between its peoples (Bourdieu, 1986; Colman, 1988; Putnam, 1993, 2000; Lin, 2001). This social capital can be distinguished between cognitive social capital and structural social capital (Harpham, Grant & Thomas, 2002; Yip et al., 2007; Kawachi et al., 2008). Cognitive social capital refers to norms of reciprocity and trust borne from social networks, as well as from subjective relationships (emotions) such as identification. In contrast, structural social capital refers to observable social networks and participation (actions) in a social organization.

Cognitive social capital comprises of trust and norms of reciprocity, with trust being distinguishable between specific trust and general trust. Specific trust refers to trust toward members of an organization that one belongs to. General trust is expressed through responses to such questions as, 'do you think you can trust most people?' Such trust can further be divided between an individual level and a group level. Group level trust represents the group characteristics, promotes group activity, and represents social cohesion within the group (Kawachi & Berkman, 2000; Kawachi et al., 2008). Reciprocity is the act of supporting someone with a hope of some kind of return. Such type of return includes 1) monetary support, 2) daily life assistance, and 3) emotional support (conversation, soothing, and encouragement) (Li, Song, & Feldman, 2009). Norms related to such reciprocity comprise cognitive social capital. Norms of reciprocity have the potential to expand from a family and relatives to the local community.

Structural social capital is categorized into 1) bonding (relationship within an exclusive organization, such as family and relatives, that share a common interest), 2) bridging (relationship opened to different people between the organizations), and 3) linking (relationship with authority and government) (Putnam, 2000; Kawachi et al., 2008). In bonding social capital, trust and norms of reciprocity are borne within a social network that includes families, relatives, and communities. In contrast, in bridging social capital, trust and norms of reciprocity are created between different social networks, promoting the transmission of information and cooperation with external resources. Structural social capital can further be classified between a formal structure (e.g., religious organizations and political organizations) and an informal structure (e.g., family, neighbours, and friends). Structural social capital becomes the medium of trust and norms of reciprocity and people's conformity behaviour (habits).

In this paper, the social capital in a Cambodian rural village will be measured using the following indices of 1) trust, 2) norms of reciprocity, and 3) social network. First, trust toward family and relatives correspond to the specific trust in cognitive social capital. The Cambodian village has a bonding social capital centred on familial relationships, and as such, has a tradition of specific trust and reciprocity. Marriage is based on a monogamous one-husband, one-wife system, with matrilocal residence (husband moving into the wife's residence) after marriage being common. For this reason, the familial bond on the wife's side becomes stronger. However, such a relationship is closed off from those other than their relatives. No general trust is observed, and rather, 'although no one is excluded, at the same time, others are not trusted until they are found to be trustworthy' (Grahn, 2006). Thus, in this manner, the scope of trust is limited in Cambodia and is extended only up to neighbours and friends. After

experiencing the period of the Pol Pot regime and civil war, social relations crumbled, resulting in fear and distrust characterizing Cambodian society (Sen, 2012).

Second, granting of monetary assistance (merit-making) and monetary lending (reciprocity) also comprise cognitive social capital. Merit-makings in Buddhism (monetary granting) is an action in which one accumulates virtues, rather than being purely altruistic in nature. In Cambodian villages, there have been norms of reciprocity (monetary lending) in which families and relatives help each other against the risk of income decline that may arise from some kind of reasons (Sen, 2012). However, such norms of reciprocity have been eroding due to the penetration of the market economy. That being said, this does not mean that formal systems, such as micro financing, are sufficiently functioning to the point that they can replace monetary lending (reciprocity) in local society.

Third, the social network (structural social capital) is represented through social institutions including temples/pagodas, funeral assistance, a school parents' association, and a forestry cooperative. 1) Buddhist temples/pagoda hold an important position in the lives of the village community's residents (Grahn, 2006; Sen, 2012), with there being a gathering of sutra recitation once a week on a regular basis. In addition, monks are revered in Cambodian society, which follows Theravada Buddhism. 2) Funeral assistance refers to the mutual assistance between local residents in which the costs and ceremonial duties are being shared between one another during a funeral. Mutual assistance between local residents is conducted during a funeral, memorial service, or marriage ceremony, making community bonds stronger. 3) In Cambodia, where the cluster school system of education is currently advancing, school parents' meetings are held several times per year, providing support for children's education. In the event that a school support committee is active, local residents will contribute to a school's operations (Pellini, 2005). 4) In the event a community forest exists, the village's forestry cooperative would be responsible for managing its activities such as planting and forest conservation. Such structural social capital serves as a medium of mutual assistance, information sharing, and customs between community residents.

## 2.2 Data Collection

In this paper, an analysis was performed using the data obtained from interviews conducted in September 2018. The survey was administered across seven villages in the Chi Kraeng District of the Siem Reap Province to 283 women who had experienced giving birth. This region is a typical rainfed agricultural rice growing region in Cambodia. In addition, this is a poverty-stricken region with approximately 70 per cent of households' budgets below the poverty line (3,503 riels/person/day, 4,000riels  $\approx$  1 USD) set by the Cambodian government for rural areas. The respondents were randomly selected from the lists of village households with the help of village chiefs. Individual face-to-face interviews were conducted in each household of the village according to the principles of outlined in the Declaration of Helsinki of 1975 and as revised in 2000. Prior to data collection, oral informed consent that the personal information collected would be used for research purposes only and for no other purpose was obtained from all respondents. Participation was voluntary, and confidentiality was maintained by not letting others know whether or not they had participated.

## 2.3 Model

The functions of happiness and self-rated health are determined by 1) individual socioeconomic attributes and social capital, and 2) village attributes. The individual socioeconomic attributes include age, number of household members, number of elderly or children, household income, poverty identification, educational level, occupation, deliveries, and illness or injury. Social capitals include monetary lending (reciprocity), monetary borrowing, monetary granting (merit-making), trust for family, neighbour and monk, and social participation in temple/pagoda, funeral assistance, school parents' association, forestry cooperation and others. As for the attributes of the villages, the seven villages were distinguished according to dummy variables. The functions are presumed in the following manner:

$$\text{Happiness/Health}_i = f(X_i, V_i) \quad (1)$$

$\text{Happiness/Health}_i$  is individual  $i$ 's happiness or self-rated health, with  $X_i$  as a vector that represents individual socioeconomic attributes and social capital, and  $V_i$  as a vector that represents village attributes. Equation (2) is a model used for empirical analysis.

$$\text{Happiness/Health}_i = \beta_0 + \beta_1 X_i + \beta_2 V_i + u_i \quad (2)$$

$\beta_0$  to  $\beta_2$  represents unknown parameters, while  $u_i$  indicates an error term. In the following section, happiness and self-rated health are estimated using an ordinal logistic regression analysis.

### 3. Result

#### 3.1 Happiness, Self-rated Health, and Attributes of Respondents

In the interview, the women were first asked about their happiness: 'How happy do you usually feel? Please circle the one that best describes your response from the following items. (1) Very happy, (2) Relatively happy, (3) Neither happy nor unhappy, (4) Relatively unhappy, (5) Unhappy.' Second, they were asked about their health: 'How do you usually feel about your health? Please circle the one that best describes your response from the following items. (1) Very healthy, (2) Relatively healthy, (3) Neither healthy nor unhealthy, (4) Relatively unhealthy, (5) Unhealthy.'

Tables 1 and 2 represent the response distribution for happiness and self-rated health. Happiness was calculated by quantifying 1) Very happy with a score of 5, 2) Relatively happy with 4, 3) Neither happy nor unhappy with 3, 4) Relatively unhappy with 2, and 5) Unhappy with 1. Self-rated health was similarly calculated by quantifying 1) Very healthy with a score of 5, 2) Relatively healthy with 4, 3) Neither healthy nor unhealthy with 3, 4) Relatively unhealthy with 2, and 5) Unhealthy with 1.

Table 1. Distribution of Happiness

Village	Very happy	Relatively happy	Neither happy nor unhappy	Relatively unhappy	Very unhappy	Happiness	Observation
OL	0	1	23	16	0	2.62	40
CH	3	4	44	18	3	2.79	72
DS	0	1	15	6	4	2.50	26
KS	0	8	42	27	1	2.73	78
TV	0	1	10	3	0	2.85	14
RO	1	4	14	9	3	2.70	31
CL	0	0	14	8	0	2.63	22
Total	4 (1.4)	19 (6.7)	162 (57.2)	86 (30.4)	12 (4.2)	2.70	283

Note. Happiness is mean value. The value in parentheses is percentage.

Table 2. Distribution of Self-rated Health

Village	Very healthy	Relatively healthy	Neither healthy nor unhealthy	Relatively unhealthy	Very unhealthy	Self-rated Health	Observation
OL	0	1	18	20	1	2.57	40
CH	0	2	46	23	1	2.68	72
DS	1	0	17	8	0	2.76	26
KS	0	3	45	30	0	2.65	78
TV	0	0	8	6	0	2.57	14
RO	0	5	8	16	2	2.51	31
CL	0	4	13	5	0	2.95	22
Total	1 (0.4)	15 (5.3)	155 (54.8)	108 (38.2)	4 (1.4)	2.65	283

Note. Self-rated health is mean value. The value in parentheses is percentage.

The distribution of happiness in Table 1 shows that 4 respondents felt 1) Very happy, 19 felt 2) Relatively happy, 162 felt 3) Neither happy nor unhappy, 86 felt 4) Relatively unhappy, and 12 felt 5) Very unhappy. The mean happiness score value was 2.70. The happiness was slightly skewed toward unhappiness on average, rather than toward neither happy nor unhappy. The distribution of self-rated health in Table 2 shows that 1 subject felt 1) Very healthy, 15 felt 2) Relatively healthy, 155 felt 3) Neither healthy nor unhealthy, 108 felt 4) Relatively unhealthy, and 4 felt 5) Very unhealthy. The mean value of self-rated health was 2.65. Self-rated health was also skewed

slightly toward Relatively unhealthy on average rather than neither healthy nor unhealthy. Self-rated health also had a higher proportion of 4) (Relatively unhealthy) compared to happiness, with self-rated health being slightly lower than happiness on average.

Table 3 presents the socioeconomic attributes of the respondents. The mean age of the 283 respondents was 31.4 years old. The mean number of household members was 5.2; among these, those aged 60 years and above were 0.2 on average, children aged under 15 years old were 2.1 on average, and children aged under 5 were 1.0 on average. Household income, including remittance from family members working away from home, was 57.4 USD/month on average. Among this household income, remittance was 18.0 USD/month, accounting for 31.3 per cent. For household income per month, the ranked value of the three-choice responses was calculated by setting 1) income of less than 30 USD as 15 USD, 2) income of 30 to less than 60 USD as 45 USD, and 3) income of 60 USD and above as 75 USD. Although household income was self-assessed, the poverty identification was an objective poverty certification by the government.

Table 3. Attributes of Respondents

Variables		SD	Min	Max
Observation	283			
Age (mean, years)	31.4	7.6	18	56
Household members (mean, no.)	5.2	1.7	2	14
(Over 60 years of age, no.)	0.2	0.5	0	2
(Under 15 years of age, no.)	2.1	1.0	0	8
(Under 5 years of age, no.)	1.0	0.7	0	3
Household income (USD / month)	57.4	18.9	15	75
Income of working away from home (USD / month)	18.0	12.6	15	75
Poverty identification (ID Poor, no.)	38			
Education (primary school not graduated, no.)	205			
(primary school graduated, no.)	78			
Occupation (agriculture, no.)	267			
(forestry, no.)	24			
(others, no.)	121			
Age of last childbirth (mean)	27.7	6.0	15	46
Deliveries (mean, no.)	2.39	1.39	0	9
(survival rate of deliveries, %)	94.4			
Household members suffered from illness or injury (no.)	132			
Respondents suffered from illness or injury (no.)	86			
Monetary lending (reciprocity, no.)	110			
Monetary borrowing (no.)	227			
Monetary granting (merit-making, no.)	41			
Trust 1 (family)	4.56	0.7	1	5
Trust 2 (neighbor)	3.69	0.5	2	5
Trust 3 (monk)	4.77	0.4	3	5
Social participation (mean, no.)	1.62	1.0	0	5
(temple/pagoda, no.)	14			
(funeral assistance, no.)	156			
(school parent's association, no.)	110			
(forestry cooperative, no.)	65			
(others, no.)	115			

In terms of education levels, 205 (72.4 per cent) of the respondents dropped out of primary school. In terms of occupation (multiple answers allowed), 267 (94.3 per cent) were engaged in agriculture. The mean age of most

recent childbirth was 27.7 years old. The average number of births given was 2.39, and the average survival rate of offspring after delivery was 94.4 per cent. The number of respondents whose family members suffered from an illness or injury for seven or more days within the past year was 132 (46.6 per cent), and the number of respondents who themselves received treatment for seven days or more was 86 (30.4 per cent).

Next, let us examine social capital. Concerning cognitive social capital, 110 (38.9 per cent) respondents had lent money to people, and 227 people had borrowed money from people (80.2 per cent). Monetary lending was a proxy variable for reciprocity. The number of respondents who had granted money (merit-making) was 41 (14.4 per cent). Trust level for family, neighbours, and monks was calculated by quantifying five-choice answers. A score of 5 was given for 1) Very trustworthy, 4 for 2) Relatively trustworthy, 3 for 3) Neither trustworthy nor untrustworthy, 2 for 4) Relatively not trustworthy, and 1 for 5) Not trustworthy at all. The trust level was 4.56 toward family, 3.69 toward neighbours, and 4.77 toward monks. Participation in temples/pagodas (4.9 per cent) was high among many elderly people even within the family, and the participation of respondents was 14. The level of participation was 156 (55.1 per cent) in funeral assistance, 110 (38.3 per cent) in school parents' associations, and 65 (22.9 per cent) in forestry cooperatives.

To summarize, the socioeconomic attributes of the respondents included a mean age of 31.4 years old, with many respondents engaged in agriculture (94.3 per cent), and 72.4 per cent having dropped out of primary school. The mean age of last child delivery was 27.7 years old, with a mean of 2.39 births in total. In the past year, 30.4 per cent of respondents had received treatment for an illness/injury for seven days or more. Regarding social capital, respondents had more trust toward families and monks than neighbours, with few giving money (merit-making), while most had the experience of borrowing money from others (80.2 per cent). Concerning social participation, respondents participated in funeral assistance, a school parents' association, or a forestry cooperative.

### 3.2 Determinants of Happiness

Table 4 shows the estimated result for the respondents' happiness. The village attributes are controlled, but the village fixed effects are not shown in the table. Model 1 used all factors as independent variables and Model 2 removed self-rated health from independent variables.

Table 4. Estimated Results of Happiness

	Model 1		Model 2	
	Coefficient	Standard error	Coefficient	Standard error
Age	-0.0371	0.0228	-0.0491**	0.0224
Number of household members	0.0764	0.0941	0.0825	0.0932
(Under 5 years of age)	-0.4679**	0.2305	-0.4358*	0.2243
(Under 15 years of age)	-0.2875	0.1760	-0.2679	0.1687
Household income	0.0342***	0.0082	0.0348***	0.0082
Poverty identification	-0.9763**	0.4164	-1.1422***	0.4043
Education (primary school graduated)	-1.3113***	0.4610	-1.1804***	0.4465
Occupation (agriculture)	0.3866	0.6108	0.3551	0.6131
Illness/injury	-0.3912	0.3388	-1.0472***	0.3084
Monetary lending (reciprocity)	0.5836*	0.3187	0.7063**	0.3120
Monetary granting (merit-making)	0.3649	0.4265	0.3019	0.4183
Trust 1 (family)	0.4447**	0.2066	0.6554***	0.1963
Trust 2 (neighbor)	0.3385	0.2796	0.3390	0.2712
Trust 3 (monk)	-0.3565	0.3301	-0.3994	0.3194
Temple worship	0.2828	0.5363	0.2537	0.5118
Social participation	0.9172*	0.4697	1.0798**	0.4637
Self-rated health	1.3166***	0.2670		
Obs.	277		277	
McFadden R-square	0.2166		0.1729	
Log likelihood	-228.60		-241.37	

Note. \*\*\* significant at  $p < 0.01$ ; \*\* significant at  $p < 0.05$ ; \* significant at  $p < 0.1$ . The village attributes are controlled, but the

village fixed effects are not shown in the table.

The results of Model 1 showed that considering the result of the respondents' happiness, the following variables are found to be significant predictors: number of household members (children aged under five), household income, poverty identification, educational background (graduation from primary school), monetary lending (reciprocity), trust 1 (family), social participation, and self-rated health. The coefficients for household income, monetary lending (reciprocity), trust 1 (family), social participation, and self-rated health show positive values. We can conclude that having a higher household income, lending money to people, having a high level of trust toward family, engaging in social participation, and having higher self-rated health will result in greater happiness. Cognitive social capital, as expressed through reciprocity (monetary lending) or trust (family), and structural social capital, expressed through social participation, have significant effects on happiness. Social participation here does not refer to the existence of participation in specific social organizations such as temples/pagodas, funeral assistance, parents' school associations, or forest cooperatives, but refers to participation in some of these activities.

The coefficients of number of household members (children aged under five), poverty identification, and educational background (graduating from primary school) are negatively significant. Therefore, families that have children aged younger than five and receive poverty identification will have decreased happiness. For mothers, children under five will become a source of stress. Receiving poverty identification will decrease happiness. Furthermore, those whose educational background includes graduating from primary school will have low happiness. In a rural village in which 72.4 per cent of the population has dropped out from primary school, graduating from primary school will classify one as relatively highly educated. Those with a high educational background have a high aspiration level, and are said to experience a happiness decrease if such aspiration is not met (Frey, 2008).

Self-rated health is a significant variable of happiness, and its effect is also large. If we estimate Model 2, in which self-rated health is excluded from the explanatory variables, the estimated result shows that people who are older, and have been treated for illness/injuries within the past year, will have lower happiness. However, these variables are no longer significant variables in Model 1, in which self-rated health is included in the explanatory variables. This shows that the decrease in happiness due to age or illness/injury can be expressed through the effect of self-rated health. The coefficient of household income and poverty identification are virtually the same between Model 2 without self-rated health and Model 1 with self-rated health, indicating that these economic variables are not influenced by self-rated health in their impact on happiness.

### 3.3 Determinants of Self-rated Health

Table 5 shows the estimated result for the respondents' self-rated health. The village attributes are controlled, but the village fixed effects are not shown in the table.

Table 5. Estimated Results of Self-rated Health

	Coefficient	Standard error
Age	-0.1057***	0.0321
Number of household members	0.0033	0.0995
(Under 5 years of age)	-0.3593	0.2665
(Under 15 years of age)	-0.2508	0.2025
Number of deliveries	-0.9812**	0.4540
Number of surviving children	1.5293***	0.5527
Household income	0.0107	0.0085
Poverty identification	-1.1669**	0.4787
Education (primary school graduated)	0.0132	0.4736
Occupation (agriculture)	0.1675	0.6531
(forestry)	-0.5759	0.5512
Illness/injury	-2.4732***	0.3621
Monetary lending (reciprocity)	0.6440*	0.3396
Monetary granting (merit-making)	-0.1119	0.4547

Trust 1 (family)	0.7711***	0.2203
Trust 2 (neighbor)	0.1845	0.2912
Trust 3 (monk)	-0.2791	0.3350
Temple worship	0.0448	0.5274
Social participation	0.7799*	0.4686
Obs.	276	
McFadden R-square	0.2455	
Log likelihood	-195.23	

*Note.* \*\*\* significant at  $p < 0.01$ ; \*\* significant at  $p < 0.05$ ; \* significant at  $p < 0.1$ . The village attributes are controlled, but the village fixed effects are not shown in the table.

Considering the result of the respondents' self-rated health, the following variables are found to be significant predictors: age, number of children given birth to, number of surviving children, poverty identification, illness/injury, monetary lending (reciprocity), trust 1 (family), social participation. We can find that factors other than happiness had impact.

The coefficients of number of surviving children, monetary lending (reciprocity), trust 1 (family), and social participation had a positive value. Therefore, those with a higher number of surviving children had higher self-rated health. Those who lent money to people and had a higher level of trust toward their family, and those engaging in social participation had higher self-rated health. Cognitive social capital represented by reciprocity (monetary lending) and trust 1 (family), and structural social capital represented by social participation, indicate a significant positive impact on self-rated health, similarly to happiness.

On the other hand, the coefficients of age, number of births given, poverty identification and illness/injury were negatively significant. This means that those who were older, had given birth many times, received poverty identification, and had illness/injuries had lower self-rated health. Although having given birth to a higher number of children would decrease self-rated health due to the physical burden, self-rated health would increase if there was a higher number of surviving children. In addition, while the self-reported household income is not a significant variable, objective poverty identification significantly decreased self-rated health. Social capital did not have variables that posed a negative impact on self-rated health.

## 4. Discussion

### 4.1 Comparison with Previous Studies

We now compare the factors that were found to affect the happiness and self-rated health in this study with those of previous research. There are only a few research reports on the impact that social capitals have on happiness in developing countries. The only research on the impact of women's happiness is Noor (2006). On the topic of the happiness of a Chinese rural village, there are the studies by Yip et al. (2007) and Monk-Turner and Turner (2012). Other relevant studies include self-employed Vietnamese farmers by Markussen, Fibaek, Tarp, and Tuan (2017), Thai elderly by Gray, Pungpond, Sirinan and Thongthai (2008), and the happiness of five ASEAN countries by Kuan and Juan (2011). There are not many research studies on the relationship between social capital and the self-rated health of residents in developing countries. There are no previous studies on the impact on the self-rated health of rural village women. Within the limited previous studies, Yip et al. (2007) and Li et al. (2009) examined the relationship between social capital in Chinese rural villages and self-rated health, while Hurtado, Kawachi and Sudarsky (2011) examined the impact that social capital in Bogota has on self-rated health. The characteristics of this study's results in comparison to those studies are as follows.

First, concerning the impact of individual socioeconomic attributes on happiness and self-rated health, there are several differences between the results of this study and those of previous studies. In terms of educational background, although the studies by Yip et al. (2007), Monk-Turner and Turner (2012), and Markussen et al. (2017) found that it increased happiness, this study's result found that it posed a negative impact instead. This discrepancy can be attributed to the specificity of this study's research sites. Having a high educational background (graduating from primary school) does not necessary lead to high income in this study's research sites, as well as additionally having the problem of not satisfying their aspiration level. In terms of the number of children, it was not a significant variable in the study by Markussen et al. (2017); however, children aged under five years old had a negative impact on happiness in this study. Although the previous studies had not analysed the impact of the number of births given to, the number of surviving children, and illnesses/injuries, this study found that the number

of births given to and illnesses/injuries decreased self-rated health, with the number of surviving children increasing self-rated health. Concerning household income and self-rated health, this study found that they increase happiness, similarly as with Yip et al. (2007) and Markussen et al. (2017).

Second, in terms of the impact that social capital has on happiness, the finding in this study that trust in the family (cognitive social capital) increases happiness is the same as the results from the studies by Yip et al. (2007), Gray et al. (2008), and Kuan & Jiuan (2011). However, Noor (2006) reported a negative impact from structural social capital (family) concerning the happiness of Malaysian women. Bonding social capital can at times pose a negative impact on happiness (Portes, 1998). According to Noor (2006), the roles of a woman (e.g., mother of a child, wife of a husband, and caregiver of the parents) is posing a negative impact on happiness and health among the women of all generations. The finding in this paper that social participation (structural social capital) increases happiness was the same as those by Monk-Turner & Turner (2012) and Markussen et al. (2017). However, in their studies, social participation referred to participation in the Communist Party organizations. For this reason, no significant results on participation in a local social organization was found in previous studies. Regarding the impact of reciprocity (monetary lending) on happiness revealed by this paper, there have been no previous studies that have examined such impact in developing countries.

Third, concerning the impact that social capital has on self-rated health, the analytical results of this paper signalled that family's trust, a form of cognitive social capital, increased self-rated health similar to that of the research by Yip et al. (2007). Concerning the impact that reciprocity has on self-rated health, this study found results similar to that of Li et al. (2009) and Hurtado et al. (2011). The point that social participation has on self-rated health showed results similar to that of Yip et al. (2007) and Hurtado et al. (2011). However, although this study's analysis identified participation in local social organizations such as temples/pagodas, funeral assistance, a school parents' association, and a forestry cooperative as a significant variable, a study by Hurtado et al. (2011) showed such significance for autonomous participation in social organizations such as volunteering work, and in Yip et al. (2007), it was shown through participation in a Communist Party organization.

#### *4.2 Discrepancy between Happiness and Self-Rated Health*

Different factors relating to individual socioeconomic attributes as well as social capital influence the happiness and self-rated health of Cambodian village women. First, individual socioeconomic attributes show that poverty identification was a significant variable between both measured levels, decreasing both happiness and self-rated health. However, while children aged under five, household income, and educational background were significant variables for happiness, they were not significant to self-rated health. With self-rated health, variables related to childbirth and physical condition, such as age, number of births, number of surviving children, and illnesses/injuries, rather than income and educational background, were found to be significant. With childbirth, having had more births would supposedly decrease self-rated health due to the physical burden. However, having a higher number of surviving children would arguably increase self-rated health due to psychological reasons.

Second, for social capital, the same variables had a significant positive effect on both happiness and self-rated health. With cognitive social capital, reciprocity (monetary lending) and trust toward family were significant variables, and social participation was found to be a significant variable in terms of structural social capital. Although trust in monks was higher than trust in families, this did not impact happiness or self-rated health. Concerning social participation, participating in social activities in general was more important than participating in a specific social organization, as it increased happiness and self-rated health.

While the village fixed effects are not shown in the table, we found a discrepancy between the happiness and self-rated health. Although village dummy variables were not significant in terms of happiness, Villages DS and CL were found to be significant variables in terms of self-rated health. This indicates that there are discrepancies between villages in terms of happiness and self-rated health. However, the reasons why Villages DS and CL have higher self-rated health than reference Village OL are not clear.

### **5. Conclusion**

This paper examined the determinants of the happiness and self-rated health of the rural village women in Siem Reap, Cambodia. Our main findings are as follows. First, the following factors positively impacted the happiness of the women: high household income, lending of money to others, high level of trust toward family, social participation, and having high self-rated health. Second, the following factors were associated with higher self-rated health, similarly as with happiness: having a high level of trust toward their family, lending of money to others, social participation, and having a higher number of surviving children. However, self-rated health was negatively impacted by advanced age, had given birth to many children, and poverty identification. Third, the

happiness and self-rated health of the women were significantly impacted by cognitive social capital (trust in family and reciprocity) and structural social capital (social participation).

This study contains valuable information and policy implications for local governments, development assistance agencies, and NGOs that are going to improve happiness and self-rated health in low-income developing countries. Regarding social capital, the same variables had a significant positive effect on both happiness and self-rated health. With cognitive social capital, reciprocity and trust toward family were significant variables, and social participation was found to be a significant variable in terms of structural social capital. However, bonding social capital can at times have a negative impact on happiness. From a practical perspective, it is important to encourage women to participate in social networks or structural social capital such as funeral assistance, a school parents' association, and a forestry cooperative.

However, this study will be subjected several limitations. First, there is a limitation in the research samples. In this paper, those with the experience of having given birth were the research subjects, with women who had not given birth excluded. In addition, the sample size was relatively small. To increase the accuracy of the statistical analysis, it would be desirable to have a larger sample in future studies. Second, there is an issue related to differences between the villages. Although this paper did point out that there are differences in self-rated health between villages, the causes behind this have not been sufficiently examined. Examining these issues is our task for the future.

### **Ethics Statement**

Ethical approval for this study was granted by the ethical committee of Kobe University. The survey was appropriately designed according to the ethical principles (the Declaration of Helsinki).

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### **Informed Consent**

Obtained.

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### **Data Availability Statement**

The data that support the findings of this study are available on request.

### **Competing Interests Statement**

The author declares no conflicts of interest associated with this manuscript.

### **References**

- Asian Development Bank (2019). *Key Indicators Database*.  
<https://data.adb.org/sites/default/files/cambodia-key-indicators-2019.pdf>.
- Bourdieu, P. (1986). The Forms of Capital. In J. G. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education* (pp. 241-258). New York: Greenwood Press.
- Bruni, L., & Porta, P. L. (2005). *Economics and Happiness: Framing the Analysis*. Oxford: Oxford University Press. <https://doi.org/10.1093/0199286280.001.0001>
- Colman, J. S. (1988). Social Capital in the Creation of Human Capital. *American Journal of Sociology*, 94, S95-S120. <https://doi.org/10.1086/228943>
- Diner, E., & Martin, S. (2004). Beyond Money: Toward an Economy of Well-Being. *Psychological Science in the Public Interest*, 5, 1-31. <https://doi.org/10.1111/j.0963-7214.2004.00501001.x>
- Dolan, P., Peasgood, T. & White, M. P. (2008). Do We Really Know What Makes Us Happy? A Review of the Economic Literature on the Factors Associated with Subjective Well-being. *Journal of Economic Psychology*, 29, 94-122. <https://doi.org/10.1016/j.joep.2007.09.001>
- Easterlin, R. (1974). Does Economic Growth Improve the Human Lot?: Some Empirical Evidence. In P. A. David and M. W. Reder (Eds.), *Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz* (pp. 89-125). New York: Academic Press. <https://doi.org/10.1016/B978-0-12-205050-3.50008-7>
- Easterlin, R. (2003). Explaining Happiness. *Proceedings of the National Academy of Science*, 100(19), 1176-1183.

- <https://doi.org/10.1073/pnas.1633144100>
- Frey, B. (2008). *Happiness: A Revolution in Economics*. Cambridge: MIT Press. <https://doi.org/10.7551/mitpress/9780262062770.001.0001>
- Frey, B., & Stutzer, A. (2002a). What Can Economists Learn from Happiness Research? *Journal of Economic Literature*, 40(2), 402-435. <https://doi.org/10.1257/002205102320161320>
- Frey, B., & Stutzer, A. (2002b). *Happiness and Economics*. Princeton: Princeton University Press.
- Graham, C. (2011). *The Pursuit of Happiness: An Economy of Well-being*. Washington D.C.: Brookings Institution Press.
- Grahn, H. (2006). *In Search of Trust: A Study on the Origin of Social Capital in Cambodia from an Institutional Perspective*. Retrieved from <https://www.semanticscholar.org/paper/In-the-Search-of-Trust-A-Study-on-the-Origin-of-in-Grahn/09eea2e62453a3ba72a3896010adb6d48f12b77a>
- Gray, R. S., Pungpond R., Sirinan K., & Thongthai, V. (2008). Inner Happiness among Thai Elderly. *Journal of Cross-Cultural Gerontology*, 23, 211-224. <https://doi.org/10.1007/s10823-008-9065-7>
- Harpham, T., Grant, E., & Thomas, E. (2002). Measuring Social Capital within Health Surveys: Some Key Issues. *Health Policy and Planning*, 17(1), 106-111. <https://doi.org/10.1093/heapol/17.1.106>
- Hurtado, D., Kawachi, I., & Sudarsky, J. (2011). Social Capital and Self-rated Health in Colombia: The Good, the Bad and the Ugly. *Social Science & Medicine*, 72, 584-590. <https://doi.org/10.1016/j.socscimed.2010.11.023>
- Kawachi, I., & Berkman, L. F. (2000). Social Cohesion, Social Capital, and Health. In L. F. Berkman and I. Kawachi (Eds.). *Social Epidemiology*. Oxford: Oxford University Press.
- Kawachi, I., Subramanian, S. V., & Kim, D. (2008). *Social Capital and Health*. New York: Springer. <https://doi.org/10.1007/978-0-387-71311-3>
- Kuan, T. S., & Juan, T. S. (2011). Subjective Wellbeing in ASEAN: A Cross-Country Study. *Japanese Journal of Political Science*, 12(3), 359-373. <https://doi.org/10.1017/S1468109911000168>
- Li, S., Song, L., & Feldman, M. W. (2009). Intergenerational Support and Subjective Health of Older People in Rural China: A Gender-based Longitudinal Study. *Australasian Journal of Aging*, 28(2), 81-86. <https://doi.org/10.1111/j.1741-6612.2009.00364>
- Lin, N. (2001). *Social Capital: A Theory of Social Structure and Actions*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511815447>
- Leung, A., Kier, C., Fung, T., Fung, L., & Sproule, R. (2011). Searching for Happiness: The Importance of Social Capital. *Journal of Happiness Studies*, 12, 443-462. <https://doi.org/10.1007/s10902-010-9208-8>
- Noor, N. M. (2006). Malaysian Women's State of Well-Being: Empirical Validation of a Conceptual Model. *The Journal of Social Psychology*, 146(1), 95-115. <https://doi.org/10.3200/SOCP.146.1.95-115>
- Markussen, T., Fibaek, M., Tarp, F., & Tuan, N. D. A. (2018). The Happy Farmer: Self-employment and Subjective Well-being in Rural Vietnam. *Journal of Happiness Studies*, 19(6), 1613-1636. <https://doi.org/10.1007/s10902-017-9858>
- Monk-Turner, E., & Turner, C. G. (2012). Subjective Wellbeing in a Southwestern Province in China. *Journal of Happiness Studies*, 13(2), 357-369. <https://doi.org/10.1007/s10902-011-9268-4>
- Pellini, A. (2005). Decentralisation of Education in Cambodia: Searching for Spaces of Participation between Traditions and Modernity. *Compare*, 35(2), 205-216. <https://doi.org/10.1080/03057920500129866>
- Portes, A. (1998). Social Capital: Its Origins and Applications in Modern Sociology. *Annual Review of Sociology*, 24, 1-24. <https://doi.org/10.1146/annurev.soc.24.1.1>
- Putnam, R. (1993). *Making Democracy Work: Civil Tradition in Modern Italy*. Princeton: Princeton University Press.
- Putnam, R. (2000). *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon & Schuster. <https://doi.org/10.1145/358916.361990>
- Sen, V. (2012). Social Capital in an Urban and a Rural Community in Cambodia. *Cambodia Development Review*, 16(2), 5-10.
- United Nations. (2022). *World Happiness Report 2022*. Retrieved from <https://worldhappiness.report/ed/2022>

Yip, W., Subramanian, S. V., Mitchell, A. D., Lee, D. T. S., Wang, J., & Kawachi, I. (2007). Does Social Capital Enhance Health and Well-being? Evidence from Rural China. *Social Science & Medicine*, 64, 35-49. <https://doi.org/10.1016/j.socscimed.2006.08.027>

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