

Longitudinal Changes in Relationship Status, Loneliness and Life Satisfaction

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ABSTRACT

There are two main explanation theories for the impact of relationship status on well-being, one is social causation, and the other is social selection explanation. This study will test the applicability of these two explanations by distinguishing different relationship statuses, examining the impact of relationship status and its changes on people's life and family satisfaction, and the moderating role of loneliness among them. The data was derived from a panel survey conducted by the Taiwan PSFD in 2020 and 2022. According to changes in relationship status, the respondents were divided into five groups: continuously married (CM, N=1980), continuously separated/divorced/widowed (CD, N=164), continuously single (CS, N=1574), single becoming married (SM, N=160), and married becoming separated/divorced/widowed (MD, N=57). After controlling the scores in 2020, the loneliness increased and the life and family satisfaction decreased in the CS and MD groups compared with the CM group. Especially, those who were continuously single and had high levels of emotional loneliness experienced the greatest decline in life satisfaction. This suggests that loneliness due to a lack of close partners is highly detrimental to life satisfaction. Finally, the benefits of marriage, the psychological burden of being single, and future research directions were discussed.

Keywords: Marriage statuses, Longitudinal studies, Life Satisfaction, Social causation and selection explanations

The number of single people is increasing, and the number of single people has even exceeded the number of people in relationships in many countries (Fisher & Sakaluk, 2020). Marriage institutions have shifted toward later marriage or never marrying, especially in Japan, Korea, Taiwan, and China since the 1970s and 1980s (Kang, 2013; Wu, 2017). According to the population statistics of the Household Registration Department of the Ministry of the Interior, in 2021, the single population over the age of 30 in Taiwan officially exceeded 6 million, accounting for nearly 40% of the total population. In Taiwan in 2021, the proportion of unmarried men aged 30-49 was 39.6%, approximately 1.41 million people, and the proportion of unmarried women was 29.2%, approximately 1.04 million people. In the past ten years, the number of unmarried men has increased by 10% and that of unmarried women has increased by 7.39%. This phenomenon has far-reaching impacts on individuals, families, and society at all levels and requires further attention and research.

Many studies have focused specifically on marriage and found it to be associated with better mental health than other relationship statuses, showing that marital status and intimacy are critical for mental health (e.g., Bulloch et al., 2017; LaPierre, 2009; Wadsworth, 2016). However, some studies have also shown that cohabitation and close relationships yield similar benefits, as these relationship statuses are associated with better mental health in relatively the same way as marriage (Musick & Bumpass, 2012; Rapp & Stauder, 2020; Zella, 2017). The better mental well-being of those in marriage or in intimate relationships has been suggested to be due to the fact that these relationships provide more social support, financial support, and purpose in life (Soulsby & Bennett, 2015; Umberson et al., 2013). Through marriage, individuals gain access to their spouse's network of friends and kin and thus to a larger social network (Ross & Mirowsky, 2013). As a result, married people are generally happier, are healthier, and live longer (Lillard & Waite, 1995; Tao, 2019; Waite & Gallagher, 2001).

The view that marriage could bring benefits is explained by social causation (social causation explanation). Another possible explanation is social selection (social selection explanation), which holds that healthy and happy people are more likely to find a partner and enter and maintain a marriage (Goldman, 1993; Toomin, 2018). Furthermore, health and well-being are often strongly correlated with factors such as socioeconomic status and appearance, which also affect marriage (Carr & Friedman, 2005; Hamermesh & Abrevaya, 2013).

Researchers have used a variety of statistical analysis methods to explore whether marriage has a causation or selection effect (Lim & Raymo, 2016; Musick & Bumpass, 2012; Simon, 2002). Some researchers have found that the promotional effect of marriage on health is not as obvious as expected or even that marriage has no

effect on health, which means that unobservable selection effects explain the protective function of marriage (Tumin, 2018). In contrast, the results of two studies in Taiwan, Tao (2019) and Hu (2021), show that marriage can significantly improve the happiness of men and women (the health-promoting effect of marriage is supported), and this positive effect is not due to selection effects. These studies further pointed out that marriage protective and selection effects are not mutually exclusive but jointly shape marriage, subjective well-being, and psychosocial health (Lillard & Waite, 1995; Wade & Pevalin, 2004).

In addition, researchers have pointed out that the impact of marriage on mental health is shaped by the meaning and function assigned to marriage in society, so marriage and mental health will change with changes in time and social context (Liu & Umberson, 2008; Musick & Bumpass, 2012; Soons & Kalmijn, 2009). For example, in past societies that discriminated against single people or pushed them to enter into marriage, the psychological well-being of single people was significantly worse than that of married people. However, in recent years, the well-being gap between married and unmarried people has narrowed as discrimination against single people has weakened and single people have gained access to resources similar to those of married people. As the divorce rate in Taiwanese society has risen in recent years, the acceptance of cohabitation and singleness has increased, and the institutional protection of intimacy and economic security through marriage has weakened, all of which may reduce the impact of marriage on personal well-being. The review and discussion of the literature may reveal a causal effect of marriage on well-being or a selection effect in the process of marriage. Moreover, the benefits of marriage to well-being vary according to the meaning and function assigned by the social context.

On the other hand, evidence from numerous long-term studies has shown that the costs to mental health of divorce or widowhood seem to be substantially greater than the mental health benefits of marriage. These studies have shown that divorce and widowhood are associated with decreased mental health and increased depression, anxiety, and alcoholism (Kim & McKenry, 2002; Lee & DeMaris, 2007; Musick & Bumpass, 2012; Simon, 2002). Some past studies have also revealed that married/cohabiting people have higher life satisfaction than unmarried people. Especially compared with those who have been continuously married, widowers and divorcees have lower life satisfaction, and widowers have lower life satisfaction than widows (Kamp Dush & Amato, 2005; Naess et al., 2015).

Findings from previous studies are not consistent with theories that changes in marital status are associated with changes in life satisfaction. Some studies have shown that social selection theory is useful because the lower level of life satisfaction

among divorcees is due to the greater tendency of less satisfied people to divorce (Lucas, 2005; Naess et al., 2015). Other studies have shown that transition to separation/divorce or being widowed leads to a marked decline in well-being, providing support for social causation theories (Kamp Dush & Amato, 2005). A follow-up study by Gustavson et al. (2012) supported both causation and selection theory, with divorced people reporting significantly lower levels of life satisfaction than those who stayed together but not lower levels than those who had new partners. Wójcik et al. (2019) used long-term data at five-year intervals to explore the impact of marital changes on the physical and mental health of 1073 Polish women and men. The results showed that a change to divorce or widowhood impaired mental health, and the negative effects were more pronounced for widowed men.

However, most of these previous studies focused on European and American societies, and there have been few studies on the impact of marriage on individual subjective well-being in East Asian societies (Lim & Raymo, 2016; Tao, 2019). This study focuses on adults in Taiwan, to explore the current well-being of people with different relationship statuses, to examine the association of relationship status change and changes in well-being, and to clarify the causation or the selection effect of marriage on well-being.

Method

Data

Data were derived from a panel survey conducted for the Panel Study of Family Dynamics (PSFD) by the Program of Chinese Families, Academia Sinica, Taiwan. The sample was based on the PSFD data of 2020 and 2022, which included current relationship status, loneliness scale, life and family satisfaction and reasons for being single. The final analyses were based on 1787 women and 2148 men, excluding those over 50 years old.

Measures

Current Relationship Status. Both the 2020 and 2022 surveys asked respondents to indicate their current marital status. Answer options included ‘never married,’ ‘married,’ ‘separated,’ ‘divorced,’ ‘widowed,’ and ‘others’. The three options of separated, divorced, and widowed were combined into ‘separated/divorced/widowed,’ since the total number of people accounted for only approximately 5%, and the “other” item was deleted because it could not be analyzed. Then, the five groups were renamed according to changes in relationship status: continuously married, continuously separated/divorced/widowed, continuously single, single becoming married, and married becoming separated/divorced/widowed, abbreviated as CM, CD, CS, SM and MD, respectively. Table 1 lists the numbers and percentages of men and

women in these five groups.

Table 1. Change in Relationship Status

	<u>Women</u>		<u>Men</u>		<u>Total</u>	
	N	%	N	%	N	%
CM: continuously married	956	24.29	1024	26.02	1980	50.32
CD: continuously SDW	81	2.06	83	2.11	164	4.17
CS: continuously single	645	16.39	929	23.61	1574	40.00
SM: single becoming married	78	1.98	82	2.08	160	4.07
MD: married becoming SDW	27	0.69	30	0.76	57	1.45
Total	1787	45.41	2148	54.59	3935	100.00

SDW: separated/divorced/widowed

Loneliness. The 6-item De Jong Gierveld Loneliness Scale (Gierveld & Tilburg, 2006) was used. These items were measured with a 5-point Likert-type scale that ranged from 1 (never) to 5 (always). The orthogonal axis of rotation results of principal component factor analysis for these 6 items showed that two factors explained more than 60% of the variation. Consistent with previous studies, these two factors, social loneliness and emotional loneliness, had internal consistency alpha coefficients of .74 and .54, respectively. Higher scores indicated greater loneliness.

Life and family satisfaction. The respondents rated their happiness/live well in recent life and satisfaction with family life. The former 2-item was measured with a 7-point Likert-type scale that ranged from 1 (very unhappy/bad) to 7 (very happy/well); the latter 1-item was measured with a 4-point Likert-type scale that ranged from 1 (very dissatisfied) to 4 (very satisfied). Higher scores indicated higher level of satisfaction.

Control Variables. The control characteristics used in this study were the participants' gender and age.

Results

Differences in Relationship Status and Gender

First, two-way analysis of variance (ANOVA) was used to examine the differences in the effects of relationship status and gender on loneliness and satisfaction (Table 2). In 2020 and 2022, the main effects of relationship status were significant ($F_{(2,3929)} = 12.90\sim 47.87$, $p < .001$). The results of multiple comparisons generally showed that the loneliness of unmarried or SDW people was higher than that of married people, and their satisfaction was lower than that of married people. There were significant sex differences in social loneliness ($F_{(1,3925)} = 39.10, 38.04$, $p < .001$), and social loneliness was higher for men than for women in 2020 and 2022. The interaction between relationship status and sex was seen only for family satisfaction in 2022 ($F_{(2,3925)} = 3.24$, $p < .05$), with married men having the highest

family satisfaction.

Table 2. Mean and SD by Relationship Status and Sex and the Results of Two-Way ANOVA

Year=2020			Social		Emotional		Life		Family	
Relationship			loneliness		loneliness		satisfaction		satisfaction	
status	sex	N	M	SD	M	SD	M	SD	M	SD
1.Married	Women	983	2.58	.88	2.17	.70	10.36	2.42	3.10	.60
	Men	1054	2.88	.86	2.15	.70	10.11	2.37	3.19	.58
2.SDW	Women	81	2.73	.93	2.32	.77	9.05	2.41	2.95	.69
	Men	83	3.15	.91	2.42	.84	8.84	2.84	2.93	.69
3.Unmarried	Women	723	2.76	.89	2.35	.78	9.70	2.36	3.01	.61
	Men	1011	2.96	.86	2.32	.77	9.43	2.51	3.04	.62
Relationship Comparison			12.90	***	29.63	***	47.87	***	24.33	***
			2,3>1		2,3>1		1>3>2		1>2,3	
Sex	F(1,3929)		39.10 ***		.18		3.15		.84	
Interaction	F(2,3929)		2.19		.61		.01		1.78	
Year=2022			Social		Emotional		Life		Family	
Relationship			loneliness		loneliness		satisfaction		satisfaction	
status	sex	N	M	SD	M	SD	M	SD	M	SD
1.Married	Women	983	2.65	.92	1.90	.65	10.17	2.35	3.15	.59
	Men	1054	2.90	.88	1.93	.67	9.96	2.36	3.24	.55
2.SDW	Women	81	2.82	.85	2.09	.67	9.34	2.40	3.08	.60
	Men	83	3.19	.96	2.09	.75	9.09	2.77	3.04	.67
3.Unmarried	Women	723	2.84	.91	2.07	.68	9.48	2.50	3.05	.58
	Men	1011	3.04	.87	2.09	.66	9.41	2.44	3.06	.59
Relationship Comparison			18.21	***	28.66	***	35.77	***	28.43	***
			2,3>1		2,3>1		1>2,3		1>2,3	
Sex	F(1,3929)		38.04 ***		.17		2.18		.38	
Interaction	F(2,3929)		2.19		.61		.01		1.78	

SDW: separated/divorced/widowed

*** $p < .001$, ** $p < .01$, * $p < .05$

The Influence of Relationship Status Change

Second, multiple regression analysis was used to explore the influence of relationship status changes on loneliness changes and the moderating role of loneliness between relationship status changes and satisfaction changes. The change in loneliness and satisfaction was obtained by subtracting the 2020 score from the 2022 score and controlling the 2020 score; when analyzing the moderating effect of loneliness, the centered 2022 score was used.

Table 3 shows that the social loneliness of men and older people increased significantly; compared with that of CM group, the social loneliness of the CS group increased significantly, and the emotional loneliness of the CS group and the MD group increased significantly.

Table 3. Long-term Change in Loneliness (2022-2020)

	Long-term Change in Social Loneliness		Long-term Change in Emotional Loneliness	
	b	s.e.	b	s.e.
Intercept	.90 ***	.11	.89 ***	.09
Loneliness (2020)	-.51 ***	.01	-.58 ***	.01
Sex (women=0, men=1)	.11 ***	.03	.03	.02
Age (2020)	.01 ***	.00	.00	.00
CD: continuously SDW ^a	.07	.06	.07	.05
CS: continuously single	.12 ***	.03	.09 ***	.02
SM: single becoming married	-.09	.07	-.07	.05
MD: married becoming SDW	.14	.10	.21 **	.08
R ²	.2435		.3524	
adj-R ²	.2422		.3513	
F _(7,3927)	180.61 ***		305.29 ***	

SDW: separated/divorced/widowed

^a ref. = CM: continuously married, *** $p < .001$, ** $p < .01$, * $p < .05$

Table 4. Long-term Change in Life Satisfaction (2022-2020)

	Model 1		Model 2		Model 3	
	b	s.e.	b	s.e.	b	s.e.
Intercept	5.78 ***	.34	6.45 ***	.32	6.48 ***	.32
Life Satisfaction (2020)	-.51 ***	.01	-.61 ***	.01	-.61 ***	.01
Sex (women=0, men=1)	-.03	.07	.08	.06	.08	.06
Age (2020)	-.02 *	.01	-.01	.01	-.01	.01
CD: continuously SDW ^a	.05	.17	-.09	.16	-.09	.16
CS: continuously single	-.30 ***	.08	-.36 ***	.07	-.36 ***	.07
SM: single becoming married	.10	.18	.14	.17	.14	.17
MD: married becoming SDW	-1.14 ***	.28	-1.21 ***	.27	-1.21 ***	.27
A: Social Loneliness 2022 (C)			-.49 ***	.04	-.48 ***	.05
B: Emotional Loneliness 2022 (C)			-.80 ***	.05	-.70 ***	.07
CD*A					-.08	.17
CS*A					-.01	.08
SM*A					.04	.18
MD*A					.03	.33
CD*B					-.02	.24
CS*B					-.22 *	.10
SM*B					-.25	.26
MD*B					.14	.36
R ²	.2635		.3428		.3438	
adj-R ²	.2622		.3413		.341	
F	20.69 ***		227.48 ***		12.72 ***	
df	7,3927		9,3925		17,3917	

(C): centered score, SDW: separated/divorced/widowed

^a ref. = CM: continuously married, *** $p < .001$, ** $p < .01$, * $p < .05$

Regarding the change in life satisfaction (Table 4), compared with that of CM group, the life satisfaction of the CS group and the MD group decreased significantly; the higher the social loneliness or emotional loneliness, the more life satisfaction

decreased. The interaction of CS \times emotional loneliness was significant, and the CS group with higher emotional loneliness had the greatest decline in life satisfaction.

Regarding the change in family satisfaction (Table 5), compared with that of CM group, the family satisfaction of the CS group, SM group and MD group decreased significantly; the higher the social loneliness or emotional loneliness, the more family satisfaction decreased. However, the interaction between relationship status and loneliness was not significant.

Table 5. Long-term Change in Family Satisfaction (2022-2020)

	Model 1		Model 2		Model 3	
	b	s.e.	b	s.e.	b	s.e.
Intercept	1.91 ***	.09	2.02 ***	.08	2.02 ***	.08
Family Satisfaction (2020)	-.59 ***	.01	-.66 ***	.01	-.66 ***	.01
Sex (women=0, men=1)	.03 +	.02	.07 ***	.02	.07 ***	.02
Age (2020)	.00	.00	.00	.00	.00	.00
CD: continuously SDW ^a	.00	.04	-.02	.04	-.02	.04
CS: continuously single	-.08 ***	.02	-.08 ***	.02	-.08 ***	.02
SM: single becoming married	.15 ***	.04	.16 ***	.04	.16 ***	.04
MD: married becoming SDW	-.22 **	.07	-.22 ***	.07	-.22 ***	.07
A: Social Loneliness 2022 (C)			-.13 ***	.01	-.12 ***	.01
B: Emotional Loneliness 2022 (C)			-.13 ***	.01	-.12 ***	.02
CD*A					-.04	.04
CS*A					-.03	.02
SM*A					.01	.05
MD*A					.01	.08
CD*B					-.07	.06
CS*B					-.01	.03
SM*B					-.02	.07
MD*B					-.06	.09
R ²	.3192		.3763		.3771	
adj-R ²	.318		.3749		.3744	
F	263.00 ***		263.12 ***		139.50 ***	
df	7,3927		9,3925		17,3917	

(C): centered score, SDW: separated/divorced/widowed

^a ref. = CM: continuously married, *** $p < .001$, ** $p < .01$, * $p < .05$

Discussion

This study uses the two-year follow-up data of the PSFD in 2020 and 2022 to examine the participants' current well-being (loneliness and satisfaction) in different relationship statuses (married, single and separated/divorced/widowed) and explores the association of relationship status changes with changes in well-being. It also focuses on single people, comparing reasons for being continuously single with becoming married and their impact on well-being.

First, people's relationship status in 2020 and 2022 affected their well-being.

Those who were single or separated/divorced/widowed were lonelier and had lower life and family satisfaction than married people. This result is similar to the findings of previous studies (e.g., Bulloch et al., 2017; Hu, 2021; Tao, 2019; Wadsworth, 2016), again supporting the positive effect of marriage on well-being.

Second, changes in relationship status also affect changes in well-being. Those who remained married reported greater levels of well-being over time (decreased loneliness, increased satisfaction), whereas those who remained single or became divorced, bereaved or divorced reported an even greater decrease in their well-being over time. In addition, those who were continuously single and had high levels of emotional loneliness experienced the greatest decline in life satisfaction. This suggests that loneliness due to a lack of close partners is highly detrimental to life satisfaction. This phenomenon should not be ignored. On the other hand, the transition to separate/divorced or widowed status reduced well-being, which was also consistent with past research (Kamp Dush and Amato, 2005; Marks and Lambert, 1996; Wójcik et al., 2019). The results imply that marriage has a protective effect, and the social causal effect is also supported.

In summary, the results of this study basically support the protective role and social causal effect of marriage. However, single people may have intimate or cohabiting partners, and married people may not have good relationships with their spouses. This study did not distinguish between these situations, which can be further explored in more detail in the future. Additionally, the data in this study are limited to two-year changes in relationship status. In the future, it will be necessary to use longer-term data to examine the relationship between changes in relationship status and well-being.

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