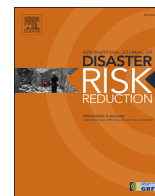




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# Happiness before and during the COVID-19 pandemic in Italy: A population-based longitudinal study

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## ABSTRACT

The aims of the present study were to investigate (1) whether the COVID-19 pandemic and the restrictive measures to control its spread were associated with changes in happiness before and after the pandemic and (2) whether household size, living with a partner/spouse, living with at least one son/daughter, financial support, income loss, and job loss following the pandemic were associated with happiness after controlling for previous levels of happiness. We use data from the Italian Survey on Household Income and Wealth (SHIW). Specifically, we used longitudinal data from 2283 respondents who participated in the SHIW 2016 and SHIW 2020. Results revealed a small but significant increase in happiness from 2016 to 2021. In addition, living with a partner/spouse predicted higher happiness with a medium effect size, and total income loss predicted lower happiness with a small to medium effect size. Household size, living with at least one son/daughter, financial support, partial income loss, and job loss following the pandemic were unrelated to happiness.

## 1. Introduction

There were widespread concerns that the COVID-19 pandemic would have enduring negative effects on mental health and well-being [1]. A number of early longitudinal or cohort studies found that general distress increased soon after the onset of the pandemic (Holman et al., 2020; Pierce et al., 2020), and similar findings were observed for declines in happiness, meaning, and overall flourishing [2]. In contrast to these studies, however, several studies found well-being improved during the early phases [3,4], and one nationally representative longitudinal study in the United States found that perceived social support increased as well [5]. These mixed findings raise important questions regarding the pandemic's effects on well-being. Yet there remain few longitudinal examinations of happiness that include assessments before and after the pandemic [6].

The mixed findings further underscore the marked variability in the effects of the pandemic [7,8]. A meta-analysis of longitudinal studies and natural experiments conducted early in the pandemic revealed highly heterogeneous (and small) effects of pandemic lockdowns on mental health and well-being [9], suggesting that the impact of COVID-19 varied across samples. Similar variation in mental health outcomes was observed when comparing distinct regions in the United States and Italy (see also [10]). Prior findings thus raise important questions regarding the pandemic's overall effects on well-being. Yet there remain few longitudinal examinations of well-being that include assessments before and after the pandemic commenced [6]. In the present study, we used a large nationally longitudinal Italian sample to examine change in happiness before and after the pandemic and to examine the role of economic factors and household composition in predicting happiness post-pandemic.

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Italy was the first country in the Western world to introduce stringent lockdown measures, and thus it provides a unique context to examine the impact of COVID-19 lockdowns on well-being. Some evidence suggests that the pandemic and nationwide lockdowns led to mild negative mental health consequences in terms of well-being in Italy [8]. Although some studies reported elevated mental symptoms were common among Italian participants [11], surprisingly, some evidence from Italian samples also suggests that a higher regional prevalence of COVID-19 predicted fewer mental health symptoms in Italy. That is, people in high-intensity areas in Italy (greater COVID-19 prevalence) reported better mental health outcomes than people in lower-intensity COVID-19 prevalence areas [10]. Although mental health symptoms and well-being are separable outcomes [12], these findings raise questions about whether the pandemic lockdowns and fears about the virus had expectable negative effects on well-being. However, because prior research on well-being has used cross-sectional designs that cannot isolate the unique effect of the pandemic, longitudinal samples comparing pre- and post-pandemic levels of well-being are necessary to document the psychological impact of the pandemic lockdown measures in Italy. Given this gap in the literature, the following research question is proposed:

**RQ1.** Did the levels of happiness change between pre- and during-pandemic in Italy?

### 1.1. Effects of economic stress and support

One crucial factor for well-being is the pandemic's economic impact. Job loss and financial stress substantially increased the psychological burden of the pandemic (e.g., [13–16]). In Italy, the pandemic and the stressors related to lockdowns such as unemployment, financial problems, and domestic work may have had an impact on subjective well-being. Findings from the UK Household Longitudinal Study from April to July 2020 revealed that unemployment, financial problems, and home schooling or childcare needs had an impact on mental health [17]. However, these effects were plausibly mitigated by furlough schemes that allowed for time off, and financial support programs related to COVID-19 restrictions had protective effects [18]. A study conducted in South Africa showed that among those who were employed before the lockdown, those who lost their jobs or whose jobs were furloughed (on unpaid leave) reported significantly more vulnerability to mental health problems than those who retained paid employment during the COVID-19 lockdown [19]. [20] revealed that three forms of economic hardship (income loss, job loss, and workload change) during the COVID-19 lockdown were related to mental health problems. According to Ref. [21]; the accumulation of multiple hardships (e.g., job loss, income loss) related to the COVID-19 crisis additively predicts worsened mental health. This view is consistent with a cumulative risk perspective [22].

### 1.2. Effects of partners, children, and larger households

In addition to economic factors, household relationships would be especially important for well-being during a pandemic, particularly whether a partner is present in the household. Government restrictions on in-person interaction, as well as voluntary choices to avoid socializing [23], deprived people of a fundamental source of emotion regulation, the availability of close others for social exchange [24]. These interactions are widely shown to have main effects on well-being [25,26]. Because stressful conditions stimulate affiliative behavior [27,28], the availability of at least one close social partner could improve well-being, as suggested by psychosocial gains from adversity theory [29–31]. Consistent with this possibility, living alone in the early phase of the pandemic was a clear risk factor, increasing loneliness [5] and reducing well-being [32]. In addition, living with a partner robustly and uniquely buffered changes in social connection after social distancing guidelines were put in place [33].

Although children could also enhance social exchanges, there are additional stresses associated with children that could counteract any beneficial effects. Parents experienced substantially increased childcare, homeschooling, and financial burdens than non-parents during the pandemic [14,21]. During the first phases of the pandemic, living with children was not found to buffer shifts in social connection, and living with young children from 6 to 12 years old was specifically associated with increased depression symptoms [16]. According to a conceptual model of parents' well-being [34], a key contributing factor to parent well-being is financial stress. Thus, living with children during the pandemic may increase the likelihood of reductions in well-being, especially among households with increased financial stress and childcare demands (e.g., homeschooling).

Prior findings on household size have been mixed, but any beneficial effects would likely be subject to moderators and nonlinear effects, becoming inverse for large households. Given that the number of social contacts during the pandemic predicted lower levels of distress [35], living in a larger household, compared to living alone or in a small household, could increase the probability of face-to-face interactions that increase feelings of social connectedness [33]. Consistent with the idea of household size as a resource, some research suggests that larger households predicted lower odds of mental health problems during the pandemic [36]. On the other hand, households of four or larger are associated with a greater likelihood of depression symptoms [16], and larger households have been found to exacerbate the association between virus outbreak intensity and the likelihood of anxiety [37], perhaps because larger households exacerbate fears of contagion and illness under lockdown orders [38]. Consistent with a nonlinear effect of household size, however [39], found an inverted-U relationship between household size and subjective well-being during the COVID-19 pandemic. Specifically, participants from households of two to four persons showed better well-being compared to people living in single-person households as well as those living in households of five persons or more. However, the methodology of these studies is cross-sectional, and it is not possible to determine whether such differences or effects existed before the pandemic or if they emerged during the pandemic.

Based on the link between economic hardship, including job loss, caregiving burden, and declines in psychological well-being [14,21,40,41], and the key role of household members in influencing well-being [35,37], the following hypotheses were proposed:

**H1.** Individuals experiencing job loss following the COVID-19 pandemic will lower happiness compared to individuals not reporting

job loss.

**H2.** Individuals experiencing a partial or total income loss following the COVID-19 pandemic will report lower happiness compared to individuals not reporting partial or total income loss.

**H3.** Among people reporting job loss or income loss, those who received financial support will report higher happiness compared to individuals who did not receive financial support.

**H4.** Individuals who are married or partnered will report lower happiness during the pandemic, compared to individuals who live alone.

**H5.** Individuals who live with at least one son/daughter will report lower happiness during the pandemic, relative to other participants.

Finally, with respect to the role of household size, three competing hypotheses were formulated. The first hypothesis states that household members can be seen as resources [36] and as such household size is expected to buffer the impact of the pandemic on well-being (Hypothesis 6a; household size-as-a-resource hypothesis). The second, competing, hypothesis holds that household size can be conceptualized as a stressor that will undermine the negative effect of the COVID-19 virus outbreak on mental health [16,37], and, therefore, household size is supposed to intensify the negative impact of the pandemic on well-being (household size-as-a-stressor hypothesis; Hypothesis 6b). Finally, the third competing hypothesis states that there is an optimum level of household size at which people's well-being is highest [39], and, therefore, an inverted U-shaped relationship is expected (optimum-level hypothesis, Hypothesis 6c). According to this hypothesis, a household size of two to four persons is expected to buffer the impact of the pandemic on well-being compared to people living in single-person households as well as those living in households of five persons or more. Given the link between age, gender, socioeconomic status, and occupational status and well-being during the first national quarantine in Italy in the spring 2020 [8], we controlled for these socio-demographic factors (in addition to pre-pandemic happiness) in our empirical tests of hypotheses.

## 2. Method

### 2.1. Data and design

To compute the required sample size, a power analysis was conducted using G\*Power [42]. Power analysis revealed that the required sample size to detect a small-sized effect ( $f^2 = 0.02$ ) in a regression analysis with 12 predictors at adequate power (95%) with  $\alpha = 0.05$  is 1304. In addition, the required sample size to detect a small-sized effect ( $d = 0.01$ ) in a statistical test of the difference between two dependent means at adequate power (95%) with  $\alpha = 0.05$  is 1302.

We used data from the Survey on Household Income and Wealth (SHIW [43]; which has been conducted by the Bank of Italy since the 1960s. Specifically, the SHIW aims at representing the population of adult residents in Italy. In each wave, the sample for the SHIW is drawn in two stages. The primary units are the municipalities while households are the secondary sampling units. The primary sampling units (municipalities) are stratified by region and demographic size. Using the population register, a randomly selected sample of households is interviewed. In the latest editions of the survey, data are collected mainly using the Computer-Assisted Personal Interviewing program (CAPI), whereas a small portion of the interviews are conducted using paper-based questionnaires (PAPI, Paper- And-pencil Personal Interviewing) at the main household residence. Although there are considerable variations, interviews last on average 50 min. In the SHIW 2020 survey, due to the COVID-19 restrictions, some interviews were conducted using the Computer-Assisted Telephone Interviewing (CATI) program. In the last editions, a sample of about 8000 Italian households was interviewed in each wave. The data collected in each wave are freely available on the web page "Distribution of the microdata" of the Bank of Italy website [44].

To enable an analysis of changes between waves, a portion of the sample included households that have been interviewed in previous waves (panel households). Due to the COVID-19 restrictions, the SHIW 2020 survey was postponed and conducted starting from March 2021 to December 2021. The SHIW 2020 survey has been strongly influenced by the restrictions and difficulties related to the COVID-19 pandemic and this has affected households' participation in the survey. In the SHIW 2020 survey, the participation rate was 60% for panel households. In the present study, we used data from 2283 participants who have been interviewed in both the SHIW 2016 and SHIW 2020 surveys. Table 1 reports the main sociodemographic characteristics of the sample employed in the current study.

### 2.2. Measures

The complete list of the questions used in each wave is fully available on the web page "Documentation for the microdata" of the Bank of Italy website [44].

**Happiness.** We assessed happiness using a single-item question: "Considering all the aspects of your life, how happy would you say you are? Please score on a scale from 1 to 10, where 1 means "extremely unhappy" and 10 "extremely happy," and the intermediate numbers serve to graduate the response." The identical question was asked in the SHIW 2016 and SHIW 2020.

**Perceived financial stress.** To assess the perceived financial stress of the household, the following question was used: "Is your household's income sufficient to see you through to the end of the month? (1—with great difficulty, 2—with difficulty, 3—with some difficulty, 4—fairly easily, 5—easily, 6—very easily)." We considered the ability to make ends meet as a proxy variable for the economic level of a household.

**Table 1**  
Sociodemographic characteristics of the sample.

	n	%	M(SD)
Age (2016)			62.20 (13.13)
Gender (female; 2016)	948	41.52	
Total income loss	79	3.46	
Partial income loss	168	7.36	
Job loss	63	2.76	
Living with a partner/spouse	1225	53.66	
Living with at least one son/daughter	291	12.75	
Education level			
Primary education or less	517	22.65	
Lower secondary education	769	33.68	
Upper secondary education	685	30.00	
Higher education	312	13.67	
Household size			
1	816	35.74	
2	785	34.38	
3	339	14.85	
4	251	10.99	
5	73	3.20	
6 or more	19	0.83	
Ability to make ends meet (2016)			
With great difficulty	331	14.5	
With difficulty	332	14.54	
With some difficulty	678	29.70	
Fairly easily	677	29.65	
Easily	203	8.89	
Very easily	62	2.72	
Employment status			
Employed	576	25.23	
Self-employed	159	6.96	
Retired	1301	56.99	
Housewife	145	6.35	
Unemployed	102	4.47	

Note. Total N = 2283. Data refers to the SHIW 2020 survey, if not otherwise specified.

**Financial support.** The provision of financial support was investigated by asking participants whether they received any form of income support measures introduced as a result of the COVID-19 emergency. Total income loss, partial income loss, and job loss were measured using the following items, respectively: (1) Kept working, but for a period of time did not receive any income; (2) Kept working but temporarily earned less; (3) Resigned, was dismissed or had to close the business. The response options to all these items were no (coded as 0) or yes (coded as 1).

**Household composition and size.** In addition to sociodemographic information regarding gender, age, employment status, and education, participants were asked to report the number of people living in the household and their respective status in the household. Individuals were defined as living with at least one son/daughter if the participant lives with at least one son/daughter younger than 18 years old. We did not differentiate between types of parenthood (i.e., natural, adoptive, and stepparents). Living with a partner/spouse and living with at least one son/daughter were coded as 0 if there was none in the household and as 1 if there was any.

### 2.3. Statistical analysis

There were no missing data in the current study. A preliminary univariate analysis was performed by one-way analysis of variance for categorical data and point-biserial correlation for dummy variables to detect significant relationships between happiness in the SHIW 2020 and the variables of interest. The research question was answered using the paired *t*-test. To test our hypotheses, we used multiple linear regression analysis. Using this multiple linear regression analysis, happiness is then predicted by the following equation

$$happiness = \beta_0 + \beta_1 + \beta_2 + \varepsilon$$

where  $\beta_1$  and  $\beta_2$  are the predictors.

In regression analysis, we controlled for previous (i.e., SHIW 2016) levels of happiness. Stata v.17 was used for analysis. We chose partial omega squared ( $\omega_p^2$ ) and Cohen's *d* as measures of standardized effect size. According to the guidelines proposed by Cohen [45], small, medium, and large effects correspond to  $d = 0.20$  and  $\omega_p^2 = 0.01$ ,  $d = 0.50$  and  $\omega_p^2 = 0.06$ , and  $d = 0.80$  and  $\omega_p^2 = 0.14$ , respectively.

To secure our main findings, we conducted two robustness checks. To address the problem of omitted variables biases, we used a fixed effects model to control for unobserved individual time-invariant factors. Specifically, we estimated a panel model with fixed effects via structural equation modeling [46]. An advantage of this panel model is that time-invariant variables can be included. Using this model, happiness is then predicted by the following equation

$$Y_{it} = \mu_i + \gamma_1 z_t + \alpha_i + \varepsilon_{it}$$

where  $Y_{it}$  is the value of the dependent variable for individual  $i$  at time  $t$  and  $\gamma_1 z_t$  are vectors of time-invariant predictors, and  $\alpha_i$  is the unobservable time-invariant fixed effect.

To address the issue of time-trend, we considered the existence of a trend before 2016 to rule out the possibility that the change in happiness comes from a time-trend.

### 3. Results

The first research question sought to discover whether there was a change in happiness before and after the pandemic. There was a significant increase in the levels of happiness from before ( $M = 6.97$ ,  $SD = 1.82$ ) to after the pandemic ( $M = 7.17$ ,  $SD = 1.18$ ),  $t(2282) = -4.66$ ,  $p < .001$ ,  $d = -0.10$ , 95% CI [-0.14, -0.06]. See Fig. 1 for a display of means and confidence intervals at the two timepoints.

Preliminary univariate analyses revealed that happiness in 2021 was negatively associated with total income loss,  $r_{pb} = -0.06$ ,  $p = .002$ , and positively associated with living with a partner/spouse,  $r_{pb} = .24$ ,  $p < .001$ , and living with at least one son/daughter,  $r_{pb} = .08$ ,  $p < .001$ . Happiness in 2020 was not related to job loss,  $r_{pb} = -0.04$ ,  $p = .061$ , and partial income loss,  $r_{pb} = -0.00$ ,  $p = .991$ . Finally, happiness in 2020 was related to household size,  $F(5, 2277) = 17.64$ ,  $p < .001$ ,  $\omega_p^2 = 0.04$ . Orthogonal polynomial contrasts revealed that the linear,  $F(1) = 1.61$ ,  $p = .205$ , cubic,  $F(1) = 0.10$ ,  $p = .756$ , and quartic,  $F(1) = 3.74$ ,  $p = .053$ , effects were not significant, while the quadratic effect was significant,  $F(1) = 5.03$ ,  $p = .025$ . Pairwise comparisons of the means of happiness in 2021 across levels of household size did reveal statistically significant differences in means between one-person households and households counting more than one person (Supplementary Appendix Table S1).

A linear regression model on the whole sample was used to test all hypotheses, except for Hypothesis 3. Table 2 displays the results of the regression model predicting happiness in 2020. After controlling for relevant sociodemographic variables (i.e., age, gender, education level, perceived economic level of a household, employment status) as well as previous levels of happiness, living with a partner/spouse was associated with higher levels of happiness (H4), while total (but not partial) income loss significantly predicted lower levels of happiness (H2). In addition, job loss following the COVID-19 pandemic (H1), household size (Hypotheses 6a, 6b, and 6c), and living with at least one son/daughter (H5) were not significantly associated with happiness in 2020. Concerning Hypotheses 6a, 6b, and 6c, pairwise comparisons of the means of happiness across levels of household size did not reveal any statistically significant differences in means (Supplementary Appendix Table S2). To test the third hypothesis, we restricted our sample to participants who reported income or job loss ( $n = 262$ ). A linear regression model revealed that COVID-19-related government financial support was not associated with happiness,  $b = 0.19$ ,  $SE = 0.44$ ,  $p = .663$ ,  $\omega_p^2 = -0.003$ .

As our first robustness check, we estimated a panel model with fixed effects via structural equation modeling (Table 3). Results revealed that living with a partner/spouse (H4) and total income loss (H2) predicted happiness, while partial income loss (H2) job loss following the COVID-19 pandemic (H1), household size (Hypotheses 6a, 6b, and 6c), and living with at least one son/daughter (H5) were not significantly associated with happiness. It should be noted that in this model the effect of job loss (H2) became close to significance.

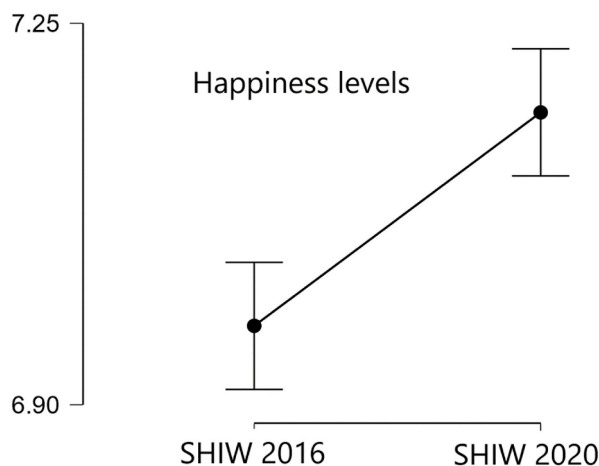


Fig. 1. Change in happiness before and after the pandemic.

Note. Error bars represent 95% confidence interval. The SHIW 2016 was conducted in 2016, while the SHIW 2020 was conducted in 2021.

**Table 2**  
Multiple Linear Regression Results for Happiness in SHIW 2020 survey.

	<i>B</i>	<i>SE</i>	<i>p</i>	95% CI	$\omega_p^2$
Happiness in 2016	0.30	0.02	< .001	[0.26, 0.34]	.083
Age	-0.01	0.00	.097	[-0.02, 0.00]	.001
Gender (female)	-0.11	0.08	.175	[-0.27, 0.05]	.000
Total income loss	-0.60	0.20	.003	[-1.00, -0.21]	.003
Partial income loss	-0.06	0.14	.676	[-0.34, 0.22]	.000
Job loss	-0.33	0.21	.122	[-0.75, 0.09]	.001
Living with a partner/spouse	0.50	0.13	< .001	[0.25, 0.75]	.007
Living with at least one son/daughter	-0.05	0.14	.693	[-0.32, 0.21]	.000
Education level					.002
Primary education or less	-	-	-	-	
Lower secondary education	0.18	0.10	.070	[-0.02, 0.38]	
Upper secondary education	0.25	0.11	.024	[0.03, 0.47]	
Higher education	0.39	0.14	.005	[0.12, 0.65]	
Household size					-.002
1	-	-	-	-	
2	0.05	0.13	.682	[-0.20, 0.30]	
3	-0.07	0.15	.633	[-0.36, 0.22]	
4	-0.05	0.18	.790	[-0.40, 0.30]	
5	0.16	0.24	.509	[-0.31, 0.63]	
6 or more	-0.10	0.40	.798	[-0.88, 0.68]	
Ability to make ends meet					.005
With great difficulty	-	-	-	-	
With difficulty	0.33	0.13	.010	[0.08, 0.59]	
With some difficulty	0.28	0.12	.017	[0.05, 0.51]	
Fairly easily	0.47	0.12	< .001	[0.23, 0.71]	
Easily	0.50	0.16	.002	[0.18, 0.82]	
Very easily	0.38	0.24	.116	[-0.09, 0.86]	
Employment status					.002
Employed	-	-	-	-	
Self-employed	-0.27	0.15	.076	[-0.57, 0.03]	
Retired	-0.16	0.12	.182	[-0.41, 0.08]	
Housewife	-0.33	0.17	.049	[-0.66, 0.00]	
Unemployed	-0.39	0.18	.033	[-0.74, -0.03]	

Note. Total  $N = 2283$ ; CI = confidence interval.  $R^2_{adj} = 0.20$ . The SHIW 2020 was conducted in 2021.

As an additional robustness check, we investigated whether the change of happiness comes from a time-trend. Specifically, we compare happiness levels between the SHIW 2016 and SHIW 2012 among respondents who participated in both surveys. There was a negligible but significant decrease in the levels of happiness from 2012 ( $M = 7.06$ ,  $SD = 1.82$ ) to 2016 ( $M = 6.97$ ,  $SD = 1.77$ ),  $t(2732) = 2.41$ ,  $p = .016$ ,  $d = 0.05$ . Therefore, we can rule out the effect of an increasing time-trend in happiness levels.

#### 4. Discussion

The first aim of the current study was to investigate whether the levels of happiness changed from pre-to post-pandemic in Italy. Surprisingly, we found that the levels of happiness increased after the first year of the pandemic compared to the levels of 2016. Although the effect size was quite small ( $d = 0.10$ ), it was also highly reliable given our large sample. The second aim was to identify socioeconomic factors associated with happiness after controlling for pre-pandemic levels of happiness. We found that participants who lived with a partner were significantly more likely to experience higher happiness, whereas living with children or in larger households was unrelated to happiness. We also found that income loss predicted lower levels of happiness, after controlling for pre-pandemic levels.

In their review and meta-analysis of longitudinal studies and natural experiments investigating the impact of the pandemic on mental health and well-being [9], Prati and Mancini found that, compared to the pre-pandemic period, the change in mental health was small in magnitude and highly heterogeneous. Moreover, in this review and meta-analysis, results revealed that the impact of the pandemic on positive psychological functioning, such as well-being, life satisfaction, and happiness, was not significant. The findings of the current study do not rule out the possibility that Italian people experienced a small increase in mental health symptoms (e.g., depression or anxiety) as a result of the pandemic. Moreover, there is also evidence of a syndrome of negative social and behavioral consequences resulting from the COVID-19 pandemic [23], indicating that the pandemic did have deleterious consequences for some people. Indeed, the two continua model of mental health holds that mental health symptoms and positive mental health (e.g., well-being) are related but distinct dimensions (e.g., [47], [48]). This finding adds to the body of research that well-being (i.e., positive mental health) improved during the early phases of the pandemic, relative to pre-pandemic levels [3,4]. However, the small increase in happiness levels found before and after pandemic should not necessarily be interpreted in terms of a net positive effect of the pandemic. Such a small increase in happiness levels could be better explained in terms of feelings of relief that the worst of the pandemic

**Table 3**  
Fixed-Effects Model Results for Happiness in SHIW 2020 survey.

	<i>B</i>	<i>SE</i>	<i>p</i>	95% CI
Age	-0.01	0.00	.024	[-0.02, 0.00]
Gender (female)	-0.10	0.09	.254	[-0.27, 0.07]
Total income loss	-0.68	0.21	.001	[-1.09, -0.26]
Partial income loss	-0.11	0.15	.477	[-0.40, 0.19]
Job loss	-0.39	0.22	.074	[-0.83, 0.04]
Living with a partner/spouse	0.66	0.13	<.001	[0.40, 0.91]
Living with at least one son/daughter	0.07	0.14	.623	[-0.21, 0.35]
Education level				
Primary education or less	-	-	-	-
Lower secondary education	0.21	0.11	.045	[0.00, 0.42]
Upper secondary education	0.26	0.11	.023	[0.04, 0.49]
Higher education	0.42	0.14	.003	[0.14, 0.70]
Household size				
1	-	-	-	-
2	0.10	0.13	.468	[-0.16, 0.35]
3	-0.09	0.16	.555	[-0.40, 0.21]
4	-0.07	0.19	.719	[-0.43, 0.30]
5	0.20	0.25	.417	[-0.29, 0.69]
6 or more	0.01	0.41	.979	[-0.80, 0.82]
Ability to make ends meet				
With great difficulty	-	-	-	-
With difficulty	0.65	0.13	<.001	[0.39, 0.91]
With some difficulty	0.70	0.12	<.001	[0.47, 0.93]
Fairly easily	0.98	0.12	<.001	[0.74, 1.22]
Easily	1.12	0.16	<.001	[0.80, 1.43]
Very easily	1.00	0.25	<.001	[0.51, 1.49]
Employment status				
Employed	-	-	-	-
Self-employed	-0.22	0.16	.167	[-0.53, 0.09]
Retired	-0.15	0.13	.250	[-0.40, 0.10]
Housewife	-0.47	0.17	.007	[-0.81, -0.13]
Unemployed	-0.70	0.19	<.001	[-1.07, -0.34]

Note. Total *N* = 2283; CI = confidence interval. The SHIW 2020 was conducted in 2021.

is over [10]. Indeed, it is possible that a small and transitory decrease in happiness during the acute phase of the pandemic later rebounded into an increase in happiness.

It is critical to interpret these findings in light of two aspects specific to the Italian context. First, Italy was one of the first countries to implement stringent lockdown policies, and it is possible that early lockdowns were reassuring because they reduced uncertainty, a key contributor to anxiety [49]. Lee and colleagues [50] suggested that the COVID-19 pandemic was a pandemic of uncertainty (e.g., risk of infection, financial problems, and isolation), and government responses that reduce uncertainty should reassure citizens and protect their well-being and mental health. Therefore, people may show resilience to lockdown and other restrictions that were enforced in response to the COVID-19 pandemic as long as the government implemented stringent policies promptly. On this basis, we can hypothesize to find evidence of resilience given the reduction of uncertainty. Second, the first months of the pandemic in Italy were characterized by a strict lockdown in March 2020 followed by the initial reopening in May 2020 and by a complete reopening in June 2020. During the year 2021, less stringent containment measures (e.g., local measures) on the subsequent waves were adopted and a vaccination campaign had been implemented. During the vaccination campaign, the government lifted some containment measures (e.g., mandatory masks). Thus, it is possible that the relaxation of lockdown restrictions and the vaccination campaign may have contributed to a slight increase in happiness levels. Relaxation of government restrictions as well as the vaccination campaign could contribute to the feeling of relief that the worst is over [10]. Evidence of a rebound effect of life satisfaction after the ease of containment measures was found in a longitudinal survey of Singapore residents from July 2018 through July 2020 [51].

Another possibility is that the stress of the pandemic had a beneficial effect on close relationships. As suggested by psychosocial gains from adversity theory, acute stressors can stimulate affiliative behavior with close others and improve well-being [29,52]. In the present study, multiple regression analysis provided support for the role of living with partner/spouse (H4), suggesting that one of the primary correlates of improved happiness was the presence of a partner. On the other hand, happiness was not associated with household size. This finding failed to support any of the three competing hypotheses: that is household size-as-a-resource hypothesis (Hypothesis 6a), household size-as-a-stressor hypothesis (Hypothesis 6b), and optimum-level hypothesis (Hypothesis 6c). It should be noted that a preliminary one-way analysis of variance did find a significant quadratic effect that partially supported the optimum-level hypothesis (Hypothesis 6c). Considering this pattern of findings, we may argue that household size has no more than a distal influence on well-being after the acute period of the pandemic and following the relaxation of government restrictions.

Given the role of living with a partner/spouse, we posit that it is not the number of people in the household that matters, but the presence of a close other in the household. This conclusion is in line with findings from a previous investigation demonstrating that

neither household size nor other aspects of the household composition except for living with a partner buffered changes in perceived social connection during the first phases of the pandemic [33]. Living with a partner/spouse may provide feelings of social connection and emotion regulation during a pandemic that matter for well-being [24]. It should be noted that people living in smaller households may have found ways (e.g., texting, social media, and video calling) to compensate for the effects of containment measures such as stay-at-home orders, self-isolation, and social distancing [9]. Indeed, we have previously found evidence that worries about COVID-19 can contribute to well-being through increased social-affiliative behavior [30]. While living alone may contribute to loneliness, a higher number of household members may be associated with more interactions that are positive but also negative due to lack of privacy, needed time alone, and more conflict [33]. The findings of the present study underscore the need to go beyond household size and future studies could investigate the role of quality of relationships and interpersonal/social coping strategies.

We also found that participants living with at least one child did not report a decrease in happiness during the pandemic, relative to other participants. This finding is at odds with previous research (e.g., [14,16,21]). For instance, using data from the UK Household Longitudinal Study, Cheng and colleagues revealed that time spent on childcare and home schooling is related to the deterioration of mental health during the first months of the pandemic. Although the caregiving burden during a pandemic is clearly a stressor (e.g., children are homeschooled while parents are working remotely from home), the findings of this study suggest that living with children does not necessarily undermine parents' happiness. It is possible to hypothesize that time spent on childcare and home schooling was both an additional stressor and an additional social role (e.g., being the parent and the teacher in homeschooling) that strengthened parents' identity and sense of worth [34]. It is interesting to note that living with children or being a caregiver resulted in similar marginal positive effects in terms of changes in social connection during COVID-19 social distancing [33].

Finally, the findings of the present study showed that income loss (H2) predicted lower levels of happiness, but job loss (H1), partial income loss (H2), and income support resulting from COVID-19 emergency measures (H3) were unrelated to happiness. Although income loss or job loss following the pandemic can have serious consequences for mental health (e.g., [17,19–21,51]), it should be noted that the Italian welfare system provided monetary compensation for those who lost their earnings (e.g., wage supplementation, mobility benefits, unemployment benefits, severance pay, minimum income/pension scheme). Such monetary compensation may also explain why specific income support measures introduced as a result of the COVID-19 emergency were not associated with happiness. Moreover, the consequences of job and income loss depend on the meaning attributed to such experience. It seems possible that participants interpreted job or financial reversals due to the pandemic as a temporary transition stage. In addition, there is evidence that people may assign positive meaning to their job loss, experiencing it as a “blessing in disguise” that provides future career prospects and opportunities to change career [53].

The findings of the current study must be interpreted considering its limitations. First, this sample is not representative of Italian people. For instance, men and older people are over-represented. This still leaves an open question regarding whether the same findings can be found in a sample with younger people or with a greater gender balance. It should be noted that in the current study results were controlled for the most important socio-demographic factors. Second, happiness was derived from a single-item measure. Although single-item measures of subjective well-being are widely used in the literature and their psychometric properties are comparable to multiple-item measures [54,55], future studies should replicate these results using multiple-item measures of happiness. Third, self-report measures may be susceptible to biases such as social desirability and recall biases. Fourth, the results are specific to one country, Italy; therefore, the findings may not be generalizable to other countries. Future studies are needed to replicate these findings in other countries.

## 5. Conclusion

Italy was the first Western country to experience a major outbreak and stringent lockdown measures. Although there were widespread concerns regarding the effects of the pandemic on mental health and well-being [1], there is evidence of people's capacity for resilience [9]. In the literature, few longitudinal examinations of happiness included measures before and after the pandemic [6]. The present study used a large longitudinal data set of a nationally representative longitudinal Italian sample to examine change in happiness and a set of psychosocial predictors of happiness. The surprising overall increase in happiness strongly supports the human capacity for resilience to the COVID-19 pandemic and further suggests the key role of a close partner and economic stability to help ensure it.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Data availability

The SHIW data can be found on the website of the Bank of Italy at the following link: <https://www.bancaditalia.it/statistiche/tematiche/indagini-famiglie-imprese/bilanci-famiglie/index.html?com.dotmarketing.htmlpage.language=1>.

## Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ijdr.2023.103711>.



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