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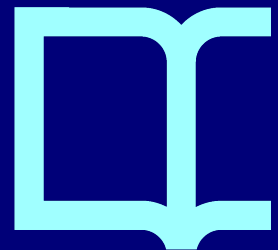
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Life Satisfaction and Socio-Economic Vulnerability: Evidence from the Basic Income Experiment in Barcelona

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Abstract

This work focuses on the implications of introducing a variation of a Basic Income for individuals in grim socio-economic conditions in Barcelona (Spain). We explore the happiness and socio-psychological imprint of living in material deprivation in a metropolitan city. Surveying people who joined the two-year Municipal Inclusion Support (MIS) scheme launched by the Municipality of Barcelona, we first identify the major constructs that contribute to recipients' subjective well-being, paying particular attention to the sense of socio-economic vulnerability. Secondly, we explore the way beneficiaries' subjective well-being changed over the project duration. Overall, the introduction of the MIS has had a positive effect on the subjective well-being of its recipients over the program duration. We also find that the profound and lasting effect of material and food deprivation, and the continuous stress these entail, explain changes in subjective well-being better than the actual income level. Notably, the creation and presence of networks for mutual support emerges as a pillar for human well-being in contexts of socio-economic vulnerability. This result stood out for women, who were majority group among the basic income recipients, pointing at high level of female economic vulnerability.

Keywords Life satisfaction · Basic Income · Barcelona · Socio-economic vulnerability

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Introduction

Upon decades of unprecedented global economic growth, absolute levels of inequality within and across countries have been on the rise (Facundo et al., 2017; Piketty, 2014). The trickle down illusion, inspired by the economic growth imperative, has largely failed those living and working in precarious and contaminated environments (Hickel et al., 2022). One of the emerging approaches to address socio-economic vulnerabilities, including those associated with an ecological, or degrowth transition, can be summarized under the Universal Basic Income (UBI) proposal (Fitzpatrick et al., 2022; Van Parijs, 2009). The UBI represents a periodic cash payment which is individual, universal, and unconditional (Van Parijs, 2004; De Wispelaere & Stirton, 2011). Advocates of UBI argue that this scheme could relieve people from the imperative to involuntarily trade their labor for life's necessities, gearing them to choose a worthwhile way to contribute to society (Afscharian et al., 2022; Jenkins, 2015). The proposal is expected to improve workers' bargaining position vis-à-vis employers (Manjarin & Szlinder, 2016; Van Parijs, 2013; Widerquist, 2013), and offer a basis to reject poor working conditions and employment relations (Van der Veen & Van Parijs, 2006). The Universal Basic Income proposal is furthermore meant to be an emancipatory mechanism, affronting the so-called 'in-work poverty', when having a job is no guarantee of decent living for many in both high- and low-income countries (Standing, 2015).

The global health crisis of 2020 has seen a surge in UBI derivatives targeted at those disproportionately affected by the pandemics. This trend has been anticipated by a range of basic income initiatives in Namibia (Frankman, 2010; Haarmann et al., 2009), India (Davala et al., 2015; Standing, 2015), Canada (Calnit-sky, 2016; Forget et al., 2016), Finland (Kangas et al., 2020), the Netherlands (Verlaat et al., 2020), Brazil (Suplicy, 2007), and Iran (Salehi-Isfahani & Mostafavi-Dehzoeei, 2018), among many others. Another recent basic income pilot is the Municipal Inclusion Support (MIS) designed by Barcelona City Council within the B-MINCOME pilot project (Riutort et al., 2023). The initiative provided monthly allowances aiming to guarantee a decent quality of life for about 1000 households in situation of economic vulnerability from the 'Eix Besòs' area of Barcelona for a period of two years. The B-Mincome project functioned through a combination of a passive policy (cash transfers) with four activation social and labour inclusion measures. The experiment had different modalities, depending on the mandatory character of attending the social and labour inclusion policies, and the size and type of cash benefit reduction associated with earning additional monthly income.

Research on the varied impacts and implications of the existing Basic Income experiments is growing in volume and depth (Chrisp et al., 2023; Merrill et al., 2021; Standing, 2021; Widerquist, 2018). Yet few studies provide an in-depth account of the ways basic income pilots influence the subjective well-being of beneficiaries. This is the major tenet of our work. To this aim we firstly ask: In what ways the major 'happiness domains' (van Praag & Ferrer-i-Carbonell,

2011), such as income, employment, free time and social relations contribute to the subjective well-being of people facing extreme socio-economic precarity and residing in the Besos district of Barcelona (Spain)? Secondly, we pursue the effect of introducing the MIS scheme on beneficiaries' subjective well-being, by analysing the impact produced by the changes in financial and material security parameters on life-satisfaction. We also test for, and explore, the effect of the differential MIS typologies on subjective well-being.

Our main hypothesis is that the beneficial effects of material security, good health and socialization on life-satisfaction found in other studies, also hold for our study group. Furthermore, and considering the multiple dimensions of vulnerability experiences among project beneficiaries, our second hypothesis is that the existence of social and community support networks constitutes a positively to their well-being. Our analysis is grounded in standard quantitative surveys, complemented by the ethnographic research conducted by Hill-Dixon et al. (2020).

In the remainder of this text, we firstly contextualize our analysis in literatures on basic income, feminist studies, postgrowth and life satisfaction. The Municipal Inclusion Support scheme is then described in more detail, followed by an account of the data and the method of analysis employed in the paper. The key results from the statistical analysis are provided in section five, and contextually situated and unpacked for discussion in the penultimate and conclusion sections of the article.

Basic Income and Happiness: Conceptual Sources and Perspectives

The introduction of a UBI is commonly perceived as a way to enhance freedom and social transformation allowing people to take control over their own lives and refuse roles they find offensive, degrading or unfulfilling (Casassas 2016; Henderson, 2017; Jenkins, 2015). A basic income, some argue, could provide the space for citizens and to participate in the cultural, economic, social, and political life of their polity, and challenge roles they regard as an insult to their dignity (Pateman, 2003). Others yet argue that current economic configurations may constrain, and actually worsen the bargaining position of socio-economically vulnerable workers (Birnbau & De Wispelaere, 2016). These claims have been partly addressed by Forget et al. (2016) and Calnitsky and Latner (2017) who provide evidence that beneficiaries actually work and organize differently with a BI (than under status quo), being equipped with more tools to combat economic precarity, even when their employability does not immediate improve.

As per the role of women and care-providers in the basic income experiments, feminist researchers tend to disagree over how UBI might affects gender relations and justice (Robeyns, 2008, 2010) compares the UBI to paid parental leave, arguing it could keep women away from the labour market and confine them to the household, especially when the gains of the marginal income obtained from a potential labour market are inferior to a UBI (Rodriguez, 2016). Others, however assert that a UBI can provide income security for women working double shift, or those tied to the household, while also promoting their independence from financially unequal relationships (Elgarte, 2008). This said, encouraging women's entry into the

labour market without addressing deeply-seated patriarchal relations (Barca, 2020) would merely change their time-use rather than contribute to gender justice. This is what the promoters of Universal Care Income (UCI) try to address, advocating for a cash benefit that recognizes, and compensates for, the unpaid care work historically attributed to women and marginalized subjects (Barca et al., 2020). This said, hardly any researchers frame the UCI as a silver bullet for gender equality (O'Reilly, 2008). Its introduction, the authors argue, must go along with measures that shrink and restructure contaminating industries and precarious job placements, while clearly targeting patriarchal relations (Barca, 2020).

The theorization and application of the UBI can be further grounded in post- and degrowth literatures, framed as a policy measure that could allow people to experiment with more ecologically-friendly and politically engaged ways of life, challenging dependence on perpetual economic growth in the North (Kallis et al., 2020). A UBI, others argue, could facilitate the transition to a low-carbon and impact economy, (Pinto & Howard, 2018), which is particularly relevant for contaminating and energy-intensive industries such as mining, pesticides-intensive agriculture, or petro-chemicals. Whenever UBI enables workers to reject ecologically undesirable employment, its introduction may weaken the allure of 'dirty jobs'. The introduction of a UBI could thus instigate workers' resistance against the imposition of environmental burdens onto communities worldwide (Barca & Leonardi, 2016). By granting a minimum material security, the income could 'liberate the time' for initiating less, or non-, polluting and exploitative forms of production, otherwise deemed economically unviable (Nooteboom, 2013). Importantly, UBI can be funded by taxes on carbon, wealth, land value, resource extraction, and corporate profits as modeled in various econometric scenarios, which clearly demonstrates its socio-ecological relevance (Hickel, 2021). This said, the existing pilots have tended to be small and short-lived, restricted to the most economically disadvantaged members of society making their ecological impact hard to capture. In a recent study MacNeill and Vibert (2019) find that among the 1168 papers they find on basic income as of 2013, only eight mention environmental concerns, and they do so in relation to consumption and food security.

For what concerns subjective well-being¹ and its relationship with basic income experiments, empirical studies are relatively rare (Kangas et al., 2020). Some of the insights from the happiness literature that are relevant for our analysis, is the loose relationship between material welfare and happiness over time and past a given income threshold (Easterlin et al., 2010). A large volume of research indicates that increases in life satisfaction (LS) triggered by income hikes are rather temporary at higher levels of income, implying that habituation to greater earnings tends to curtail subjective well-being (Easterlin et al., 2010; Blanchflower, 2009). A few studies disprove the so-called disconnect between income growth and happiness (Stevenson

¹ While subjective well-being is used interchangeably with happiness and life satisfaction throughout this paper, we are aware that well-being is a complex construct, where hedonic conceptions of happiness, and eudemonic approaches resting on meaningfulness and self-realization might get easily confounded (Ryan & Deci, 2001).

and Wolfers 2013). Their results, however, mostly rest upon cross-sectional panels, or short-term data sets (Easterlin & O'Connor, 2020). What studies further show is that social status, or relative position with respect to relevant others, has a marked influence on life satisfaction (Di Tella et al., 2010; Clark et al., 2008).

Other findings from the happiness literature that bear relevance for our research concern the role of social networks and social capital, broadly defined as cooperative behaviour and trust in others. The higher the level of trust, relatedness and social engagement, the less important are the effects of materialism and comparison income on subjective well-being (Bartolini & Sarracino, 2014; Gui & Sugden, 2005). This said, experiencing severe material constraints pays a heavy toll on subjective well-being. The feeling of instability and unpredictability has been reported to limit people's capacity to formulate long-term objectives and cope with life (Sheldon & Hoon, 2013), generating continuous anxiety and constraining 'mental bandwidth' (Mani et al., 2013). Life satisfaction levels are also tightly linked to the existing levels of socio-economic disparities. Studies have found that communities and countries with higher degree of inequality tend to report low on life satisfaction, and vice versa (Oishi et al. 2011, Alesina et al., 2004).

The Barcelona Municipal Inclusion Support Scheme

Most of the deemed features of a UBI, such as universality, unconditionality, uniformity, and complementarity to social welfare services are politically and economically challenging to attain and sustain in practice. One interpretation, or counterpart, of the UBI is thus, the 'negative-income scheme', where a minimum income is granted, but eventually discounted from any additional income a person may earn on top of a given threshold. To an extent, the Barcelona Municipal Inclusion Support (MIS) can be considered an example of this 'negative-income scheme' although some of its modalities resemble an unconditional basic income. The MIS was launched in ten neighbourhoods along the river Besòs (Eix Besòs) chartered by particularly high concentrations of socio-economic vulnerability, and rates of poverty and social deprivation for the city (Lain & Torrens, 2019). It was granted individually and adjusted for households' compositions, costs, and earnings. The cash benefit amount and variation were determined by the difference between the total household income and household needs, in function of what the City calculated as sufficient to cover basic material conditions for decent living conditions.²

A total of 4.824 people from the municipal social services register at the level of Eix Besòs corresponded to the inclusion criteria defined by the City³. When approached in 2017, about of 2500 responded with an interest to participate (Lain

² For example, for a household of four members (two adults and two minors) with a total income of 900 euros/month, the MIS was calculated at 400 euros. The maximum amount a household could get was 1676 € per month (Lain et al., 2019).

³ Selection criteria included: not exceeding a maximum level of income, residing for more than two years in the neighbourhood and being inscribed in the municipal social services.

Table 1 Modalities of Barcelona MIS schemes

Beneficiaries (950)	MIS unconditional (419)		Limited (233) Unlimited (186)	Unconditional
	MIS + Active policy (531)	Training and employment (152)	Conditional (76) Unconditional (76)	Unlimited
		Entrepreneurship in the social economy (99)	Conditional (49) Unconditional (50)	
		Refurbishing flats to rent out rooms (10)	Conditional (4) Unconditional (6)	
		Communitarian participation (270)	Limited (137) Unlimited (133)	Unconditional

Source: Riutort et al. (2023)

& Julià, 2022). Like in other pilot projects, a randomized control trial approach was used to select 1000 beneficiaries, who were then assigned to several treatment groups through stratified randomisation (Table 1). About 35% were assigned to the so-called “limited” MIS modality where a total household income ceiling was established and their cash benefit got reduced by any additional earning beyond an upper limit (*limited modality*). The remaining beneficiaries had just a fraction of their MIS reduced when earning more than the ceiling assigned to their household⁴(*unlimited modality*). The MIS beneficiaries were then also split into *conditional* and *unconditional* modalities of participation depending whether taking part in one of the following activation policies was mandatory: i) *professional training and employment*; ii) *entrepreneurship in social economy*, iii) a programme encouraging *housing improvements*; and iv) a *community participation* programme.

The *professional training and employment* programme (152 individuals) sought to improve employability through a combination of a certified professional training course and a 12-month full-time contract to work on projects in the fields of maintenance, construction, conviviality, community development culture, environment, leisure, green economy, and food (Riutort et al., 2023). The *entrepreneurship in the social economy* modality (99 individuals) offered participants an alternative to the traditional labour market by combining tailored training, internships and professional support to develop and promote their own income-earning projects. The *flat refurbishing* program, which eventually had very few eligible participants (10 individuals) was targeted at those program beneficiaries who owned their flats, but were unable to invest in its maintenance, in order to refurbish rooms to rent out as a means of generating an additional income⁵. Finally, the *community participation* program (270 individuals) was meant to engage beneficiaries in community activities so as to address their needs through collective action and projects of common interest. Unlike the other three programs, participation here was not mandatory, and people were free to choose for the type of social networks and activities they deemed most beneficial for their life realities.

Designed by the City in collaboration with civil society and neighbourhood associations, the pilot aimed to identify the most adequate and person-tailored policy design, in terms of both catering for people’s basic needs and providing them with greater autonomy and decision-making capacity within and beyond the realm of employment. While the first program modality was meant to provide participants with the skills and experience that enhance their employability, the second one (partly) tried to engage with the need for workplace autonomy and democracy (Gourevitch, 2016), through the promotion of worker cooperatives and social start-ups tailored to the capacities, professional trajectories and interests of project beneficiaries. To an extent this element of the trial, grounded in values around reinforcing, and contributing to the commons, responds to the critique that rejecting a bad

⁴ MIS reductions were 25% for the first €250 earned above the basic threshold for their household and of 35% for bigger amounts (Barcelona City Council, 2019).

⁵ Participants into these three modalities of participation were split into conditional and unconditional groups to test the effect of compulsory activation programs.

job when having access to a UBI is not an option when better jobs are not available (Birnbaum & De Wispelaere, 2016). As the third (*flat-refurbishment*) scheme modality was *de facto* dysfunctional due to the low number of participants, the fourth typology was justified by the fundamental role of relationality and support networks in presence of multidimensional vulnerability (Hill-Dixon et al., 2018). This later participation modality aimed to strengthen social cohesion, trust and bonding (involving communication, reciprocity-based interactions, mutual help), along with professional skills and capacities (such as working in groups, self-organizing, building teams, developing new community projects, and learning to taking decisions and responsibility around these).

As reported in other basic income experiments (Muffels & Gielens, 2019) the process of randomly assigning people to treatment groups had a number of ethical issues and organizational hurdles (Riutort et al., 2023). Reflecting upon their program assignment some of the beneficiaries felt that while the employability and social economy active policy modalities provided some useful skills for some, these did not immediately improve employability in the medium to long term. As reported in the qualitative evaluation of the project, “many felt that they had been randomly assigned to a program which did not align with their skills and interests, or that the training or work opportunity was not aligned with the real labour market” (Hill-Dixon et al., 2018, p. 6). This sentiment has been particularly pervasive with respect to the social economy program, which participants deemed less suited to their realities due to the high level of risk that setting up a social enterprise actually entails (*ibid*).

Methodological Approach

Data

The people who entered the draw were characterized by higher degree of socio-economic vulnerability than the average population at risk of poverty in Barcelona. Initially the average rates of material deprivation and severe material deprivation in the sample were 93.4% and 69.0%, correspondingly, against 44.6% and 15% city-level averages (Barcelona City Council, 2019). The high levels of socio-economic vulnerability are also reflected in the ethnographic work undertaken within the B-MIN-COME project revealing the constant distress associated with living without a promise of stability among participants (Hill-Dixon et al., 2018).

As per the data collection, the City launched three waves of survey (in person and by phone), where the first one took place in October 2017, shortly before the start of the pilot project when respondents did not know whether they would be eventually selected. This was done as a way of avoiding potential bias in responses on subjective well-being. In this wave we worked with a total of 1209 responses (87% response rate), whereas out of the 950 households eventually assigned to the scheme, 915 received at least one monthly payment (Blanco et al., 2021). The second survey was conducted in the fall of 2018, when beneficiaries had been receiving

the MIS for about a year, with 781 observations (94.9% response rate). This was reduced to 731 when removing incomplete responses. The third and last data collection was conducted in July 2019, several months before the end of the project, with 788 responses (75.7% response rate), which was reduced to 662 after data cleaning. The participants who remained in the program the entire period and filled in all three surveys were 570.⁶

The questionnaire containing about 70 questions covering demographics, employment and economic activities, physical and psychological health, subjective well-being, material conditions and housing, social capital, free time activities, as well as questions pertaining to mood and personality. These domains then formed the basis of our independent variables (See Appendix 1 for descriptive statistics and variables list). All survey items were part of validated measures, hence either taken from existing (National/Catalan) surveys in the fields of health, education, subjective well-being and mental health, or from previous studies.

The average age of beneficiaries in the sample was 41, with 'women', using a heteronormative gender notion, notably occupying three-quarters of the sample. Less than 15% of the participants had completed technical or tertiary education. Average household size was 4.1 members, (with an average 2.5 for Barcelona (Barcelona City Council, 2019), a big majority (86%) of them with children under the age of 18.

As per the major trends in the descriptive statistics as a result of the MIS, a more egalitarian income distribution was observed: while 33% of the population were located in the lowest income bracket (€ 182/month) in the start of the project, in the second and third surveys just 18% of the beneficiaries remained at this level of income⁷. Average income almost doubled one year after the start of the project, while unemployment rates remained identical. In terms of well-being, we employed a standard self-reported approach to life satisfaction (LS), based on asking: "Making a general balance of your life, how satisfied do you feel at present?" Responses were allocated along a numeric scale where 0 represented "totally dissatisfied" and 10 "totally satisfied (with life)". Notably, a year after the launch of the scheme, average LS rates increased from 5.00 to 6.44, and remained at a similar level in the last survey.⁸ Overall, 60% of the surveyed reported higher levels of LS one year after the start of the programme and 22% reported some deterioration. Looking through the income distribution, the biggest life satisfaction increase took place for those situated in the lowest income brackets. For these individuals LS rose by 36% in the second project year. Nevertheless, individual variation in the rates of life satisfaction was large, and at times unrelated with the level of income. Oftentimes, for example, individuals in the higher income brackets reported lower LS than those located with lower level of earnings.

⁶ Over time, some beneficiaries dropped out (for earning more) while others did not respond.

⁷ The lowest income bracket rose to respectively € 603 and € 676 in the second and third year.

⁸ This is relatively close to the average life satisfaction measured in Spain for 2017 (6.4) (Arrondo et al., 2021).

Method of Analysis

Our first research question centres on the statistical relationship between life satisfaction (the dependent variable) and a number ‘domains’ such as health, income, employment, free time, social and family life, among others (Van Praag & Ferrer-i-Carbonell, 2011). To this aim we firstly explore the way these ‘domains’ contribute to the subjective well-being of beneficiaries, using cross-sectional regression for each of the surveyed periods. Such modelling approach aims to find those time variant and invariant variables that best explain current rates of life satisfaction. As elsewhere in the literature, we applied an Ordinary Least Squares (OLS) regression.⁹

$$L_n = \beta_0 + \beta_1 x_{1\rho} + \dots + \beta_\rho x_{n\rho} + \varepsilon_n \quad (1)$$

In (1) LS is modelled as a dependent variable whose variation is explained by a set of independent regressors (with intercepts derived by minimising the sum of squared residuals). L_n represents the value of life satisfaction; β_0 is the intercept value; ρ is the number of explanatory variables; n is the number of observations in the sample; x is an explanatory variable; β stands for the strength (or size) of each variable’s contribution to LS; and ε_n accounts for the error term(s).

Our second research question concerns the relationship between the introduction of the Barcelona MIS and the changes in beneficiaries’ subjective well-being. This relation is partly elicited in the cross-sectional regressions from the second and third year. Yet, in order to obtain a more precise picture of the scheme’s impact we employed panel-data regression models for the two-year period. Panel-data analysis tries to explain changes in life satisfaction by changes in both time-variant and time-invariant characteristics (Andress et al., 2013). This said, no data set can capture all circumstances that influence the life satisfaction of the beneficiaries including unobserved, or underlying, individual-specific features. These invisible features are reflected in the leftover variation of the dependent variable that is not explained by the regressors (Balestra, 1992). As the exact effects and duration of these circumstances and characteristics are unknown, we used a mixed-effects model (2), catering for both fixed and random effects. Model 2 takes into consideration unobserved variables associated with the individuals and the moment of measurement.¹⁰

$$L_{it} = \beta_0 + \sum \beta_k x_{kit} + \beta_{k\zeta} x_{kit} + \sum \gamma_{ji} z_{ji} + u_i + e_{it} \quad (2)$$

In (2) L_{it} stands for the value of life satisfaction for the individual i at time t ; β_0 is the intercept value or regression constant; $\sum x_{kit}$ is the range the k time-varying independent variables for individual i at time t , where ζ represent the MIS modality individuals are assigned to, and β - their respective coefficients; $\gamma_{ji} z_{ji} z_{ji}$ are the

⁹ Research has demonstrated that assuming ordinality and cardinality of life satisfaction (scores) in the regression approach makes little difference in terms final results and significance levels (Ferrer-i-carbonell & Frijters, 2004).

¹⁰ Unobserved variables that pertain either to individual level can be: being robbed or suffering a personal casualty, and the ones that pertain to the moment of measurement can be related to particular events that take place (such as vacation periods, or a social upheaval).

time-invariant variables and γ their respective coefficients; u_i and e_{it} – stand for the error terms associated with the variables that change over time and those that do not.

Results

The cross-sectional and panel data regression models were derived through progressive inclusion of variables per each life domain and consecutive removal of parameters that result insignificant until obtaining a best fit. We ran Pearson and Spearman correlation tests for both cardinal and ordinal/dummy variables and tested for multicollinearity via variance inflator factors.

Cross-Sectional Data Analysis

Table 2 shows the results of the cross-sectional regressions with the contribution of key domains to subjective well-being before the launch of the MIS, as well as for each of the two successive years. The first two columns present the regressions with data collected in Year 0 (Models 1a & 1b), just before the launch of the project. The 1209 individuals in this group did not yet know whether they would be eventually selected. For this data set we ran separate regressions for men (1a) and women (1b) to test for potential structural differences in the sample. Data for the next regression models (Year 1, Models 2a and 2a) was collected a year after the MIS took force, and the last two columns of Table 2 (Year 2, Models 3a and 3b), are based on the surveys conducted shortly before the end of the project (*Year 2*).

Starting with the demographic characteristics *household size* bears a positive relationship with life satisfaction only in Year 0, while the presence of *children* did not result significant in either model. *Age* bears an ambiguous, or inconclusive, relationship with LS in the totality of the models¹¹ ranging from positive for the *Year 0* female only sample to negative (yet less significant) for the observations collected in *Year 1*. As age has been found to positively contribute to happiness in the early and later stages of life (Frijters & Beaton, 2012), the omission of these age groups in our sample is likely to drive this result.

Women in the sample report higher satisfaction with life (than men), although the parameter reflecting gender is only significant for Years 0 and 2. In turn, having an *ethnic origin* outside the European Union is associated with higher levels of LS (although this variable is not significant in all specifications). This is a peculiar result since the qualitative research found that immigrants tended to have more difficulties accessing and navigating through the Spanish welfare system than locals or Europeans, which added to their sense of precariousness and insecurity (Hill-Dixon et al., 2018). Yet the MIS implied reduced bureaucracies (Riutort et al. 2023), and allowed for undocumented migrants to apply (Hill-Dixon et al. 2020), which may

¹¹ The inclusion of age squared did not result in significant coefficients.

Table 2 Cross-section regression results

	Year 0			Year 1			Year 2		
	Model 1 A		Model 1B	Model 2 A		Model 2B	Model 3 A		Model 3B
		Coef.		Coef.		Coef.	Coef.		Coef.
Number of obs	1209		893	726		731	659		662
R-squared	0.150		0.148	0.2681		0.2270	0.1640		0.3534
Adj R-squared	0.136		0.134	0.2506		0.2108	0.1431		0.3363
LS			Coef.			Coef.			Coef.
Household size	0.117**		0.153**	0.039		-0.029***	-0.013		0.042
Age	0.009		0.024**	-0.016*		-0.082	0.001		0.001
Gender	0.405**			-0.019			0.491**		0.465***
Children	0.038		0.393	-0.236			0.087		-0.180
Non-EU origin	0.334**		0.279	0.234		0.300**	0.302*		0.108
Education level	0.025		0.095			0.099	-0.015		0.003
Bad health	-0.637***		-0.623**	-0.714***			-0.864***		-0.432*
Inactive due to sickness	-0.548*		-0.883**						
No limitations to physical autonomy	0.392**		0.461**						
Lost sleep due to stress				-0.263					
Full-time employment	0.460**					0.444**	0.511**		0.32
Part-time Employment						0.426*			
Job Seeker	-0.552***			-0.534***		-0.178			
SMI limited						-0.297*			
Ln Income (per household)				0.301		0.390**	0.237		0.072
Economic satisfaction									0.418***
Material Deprivation									-0.361**
Food deprivation	-0.54***		-0.717***						
Worry about financial situation				-0.646**					
Extreme financial stress*				0.699***					
Non-frequent mobile phone consumption	-0.199***		-0.214***						
Non-frequent furniture consumption	-0.230***		-0.205**						

Table 2 (continued)

	Year 0		Year 1		Year 2	
	Model 1 A	Model 1B	Model 2 A	Model 2B	Model 3 A	Model 3B
Possession of a washing machine	1,041***	1,259***				
Importance of com. participation			0,554***	0,599***	1,957***	1,738***
Relatedness					0,094***	0,054**
Trust in others	0,379**					
# of groups one participates			0,1563**			
Low frequency of volunteering					-0,103	-0,092
Little screen leisure	-0,015		-0,134**	-0,139***	0,081	0,361
Social leisure	0,033**	0,025				
Confidence in taking decisions			0,657***	0,985***		
Extravert personality	0,442***					
Lack of self-confidence					-0,026	0,132
Feeling stress on a daily basis						
Feeling helpless			-0,421***	-0,782***	-0,834***	-0,375**
_cons	4,479	3,371	6,798	4,539		

* stands for p -value > 10%, ** for p -value > 5%, and *** for p -value > 1%

Material deprivation is the weighted average of the following components: not being able to afford – 1) an unexpected expense of 750 EUR; 2) at least one week “out-of-home” vacations per year; 3) eating meat or equivalent vegetarian food every second day; and 4) keep the house adequately heated during winter

Extreme financial stress here means a combination of the following five factors: (1) perception of financial uncertainty; (2) perceived risk with a financial situation; (3) perceived threat from financial uncertainty; (4) extend of worriedness about financial situation; (5) amount of time thinking about financial situation;

Importance of community participation was formulated in terms of making friends and getting to know people in the neighbourhood

Trust in others is a combination of three questions: (1) agreement with the statement that people tend to help each other; (2) disagreement with the idea that people take advantage of ‘me’ if given the opportunity; and (3) affirmation of having a support network (consisting of family members, friends or neighbours)

Relatedness comprises eleven aspects: receiving visiting friends and family; receiving help on house chores; receiving recognition at work; having people who care about you; receiving love and affection; having people to talk to; receiving invites out; receiving useful advice when something important happens; receiving help when bed sick

Economic satisfaction is measured on a scale from 1 to 10

partly explain the positive contribution of having a *Non-EU ethno-cultural background* (to happiness).

Health is a key and latent, determinant of happiness. It is a factor that bears a heavy weight when present in its negative modality - permanent sickness, or bad health. Likewise, as standard, the absence of physical and functional limitations bears a positive relation with life satisfaction.

Full-time employment, is associated with higher rates of LS in all models, unlike *unemployment* which is a negative predictor of happiness. *Part-time employment* has a beneficial effect (in Year 1), which may be driven by earning an income while enjoying time off-work, highly relevant for women with substantial household and care-work in the sample.

The (natural) logarithm of the *household income* was significant and positive in just one of the models due to its interference with the variables measuring material derivation and consumption. In fact, *material and food deprivation* explain changes in life satisfaction far better than actual income level. The effect of *material deprivation* is large even when broken down into its components. Results, for example, indicate that those who cannot afford at least one week of vacation outside home per year and those who are not able to afford heating their houses properly in the winter report 0.68 and 0.62-point lower-levels of LS than the rest. Likewise, the variables *worry about financial situation* and *extreme financial stress* (both significant and negative) and the satisfaction with one's economic situation explain subjective well-being better than the actual level of income. One-point increase in *economic satisfaction* for example is associated with 0.4 points higher level of subjective well-being. What these variables tend to capture is the essence of living in material deprivation and the attached sense of deep vulnerability, insecurity and obstructed self-determination.

On the consumption side, the frequency of purchasing gadgets (like mobile phones & furniture) and being in *possession of a washing machine* tend to bear a positive association with LS (Year 0). This result may be partly driven by the social pressure and prestige attached to the possession of a relatively new mobile, or having a better-looking home. A result that draws further attention is the importance of washing machines, which is the variable with the highest coefficient in Year 0. This finding can be contextualized with the significant share of women in the sample, majority of whom taking care of children and grandchildren, along with the highly gendered distribution of care work in the households (Rodriguez, 2016).

The variables capturing social capital include constructs like relatedness, trust in others, the importance assigned to community participation, volunteering and group activity. Having *trust in others* emerges as a strong positive predictor of life satisfaction in almost all models. Likewise, the perceived importance of *community participation* and the *number of groups one participates in* contribute positively to life satisfaction (in Year 1). *Relatedness*, comprising the acts of receiving friends and family visits, invites out, help, recognition, and having people to talk to when needed, is another variable that bears a strong positive relation with LS. In fact, those respondents with high scores on *relatedness* reported around two-units' higher levels of life satisfaction than the rest.

As per the free-time domain, as standard in happiness studies, having time for social activity (going to bars, cinema, concerts or clubs) and screen leisure¹² contribute positively to happiness. The people who said they could not afford spending time on screen-related leisure were predominantly women (85%). These results, along with the descriptive statistics, actually show that in a context of extreme material and financial precarity having ‘time for oneself’ is particularly rare for women.

The personality-related variables show that being extrovert and having a sense of autonomy, or confidence, when taking a decision contribute positively to the subjective well-being of the BI recipients. The results furthermore point to the exceptionally high levels of stress and profound sense of helplessness associated with the daily experience of economic vulnerability, or the constant concern with survival. The variable *feeling stress on a daily basis* has a profoundly negative impact on LS, judging from the size and strength of the intercept. As also noted in the ethnographic reports, stress was omnipresent among many people in the study, (Hill-Dixon et al., 2020).

Finally, we consecutively included controls for the various MIS modalities (limited; unlimited; professional training & employment; social economy; housing improvements; community participation). Yet, the only one that resulted significant, (for the sample in Year 1), was the *limited* modality. It is not surprising that the type of participation, associated with the reduction of the cash benefit by the totality of any additional earnings at the level of the household, has a negative imprint on life satisfaction. Reducing people’s economic support because of their income-generating efforts thus tends to weaken the (overall rewarding) effect of the MIS on life satisfaction. Next, while testing for participation in the different project modalities did not result in significant coefficients, we can deduce the beneficial effects of the *community participation* track from the positive signs of *importance of community participation*, *number of groups one participates* and *relatedness* variables.

Panel Data Results

The panel data analysis (Table 3) restates the trends identified in the cross-sectional one: while the household size, age and education level are not significant, *female* (gender) has the familiar positive sign and yet higher level of significance (than in cross-sections analysis). Having a *non-European ethnicity* keeps its (positive) sign and high significance, while bad health is associated with declining life satisfaction.

Full-time employment and *unemployment* have the familiar signs: being unemployed brings about a decrease in, while obtaining a full-time job contributes positively to, subjective well-being. The level of income emerges as a strong positive predictor of life satisfaction: going one point up in the income bracket brings about from 0.5 to 1.2 points increase in happiness, depending on the model specification used.

Like in the cross-sectional data set, the variables *material* and *food deprivation* are highly significant and large in impact and size. The possession of a washing

¹² In Table 3 screen leisure is presented in its negative modality, which explains the negative sign of the parameter.

Table 3 Panel data regression results

	Mixed-effects model	Fixed-effects model
Number of obs	1666	1666
Wald chi2(20)/ # of groups	289,82	570
Prob > chi2 / F(14,1082)	0,0000	9,67
LS	Coef.	Coef.
Household size	0,053	0,021
Age	-0,011	(dropped)
Gender	0,545***	(dropped)
Non-EU	0,377***	(dropped)
Education level	0,041	(dropped)
Income bracket	0,551**	1,237***
Bad health	-0,809***	-0,117
Full-time employment	0,544***	0,852***
Job Seeker	-0,224*	-0,040
Material Deprivation	-0,813***	-0,889***
Food deprivation	-0,844***	-0,488**
Poor housing	-0,296***	-0,102
Possession of a washing machine	0,490*	0,319
SMI Limited	-0,107	(dropped)
Low frequency of volunteering	0,095	0,193***
# of groups one participates	0,199***	0,247***
Support networks	0,234**	0,187
Low frequency of social leisure	-0,118*	-0,096
Little screen leisure	-0,258***	-0,210***
Extrovert personality	0,314***	(dropped)
_cons	4,848	4,926

* stands for p -value > 10%, ** for p -value > 5%, and *** for p -value > 1%

machine bears a positive relation with subjective well-being here as well, although its effect is less strong than in the cross-sectional specifications. The panel data analysis reveals the negative impact of poor housing, something which was not captured in earlier models.

In the domain of social and community life we can see two seemingly distinct trends. On the one hand reducing volunteer (non-paid) commitments is associated with a slight increase in subjective well-being (in the fixed effects model). This result can be seen in the light of beneficiaries' increased engagement in professional and project-related trainings, hence prioritizing those activities that could diminish their socio-economic vulnerability. On the other hand, those individuals whose rates of community engagement, social leisure, networking and participation increased throughout the project reported higher levels of life satisfaction. As in the cross-sectional regressions, while none of the MIS typologies were significant in the panel data analysis, this second result is likely to reflect the impact of the

community participation modality. The positive imprint of the community-related activities organized within the project, leading to the establishment of groups for mutual support, is likely to be reflected in the sign and significance of the *support networks* variable. The *limited* modality of the MIS, a variable otherwise significant in the cross-sectional specification, is negative, yet not significant in the panel data analysis.

Discussion and Key Trends

As regards to our first research question and hypotheses, we find solid evidence that material security, good health, socialization and the existence of support networks are some of the key positive predictors of the subjective well-being of people facing extreme socio-economic vulnerability (in Barcelona). In these results one pattern stands out as most compelling for discussion, and this concerns the perverse impact of economic vulnerability, in its interaction with gender and social relatedness, or networking. Secondly, testing for the effects of the different project modalities by controlling for the LS of the individuals participating under each of the sub-schemes, we find little evidence for clear-cut, or, differentiated impacts. Participation in the limited version of the MIS is the only project modality that bears a significant (and negative) relationship with subjective well-being in the cross-sectional regressions one year after the project launch. This said, we can deduce the positive impact of the *community participation* project track on life satisfaction, from the sign and significance of the variables associated with the scheme. We discuss the theoretical relevance of these findings below.

One of the first and obvious results, also elicited through the descriptive statistics, is the profound effect of economic precarity on life satisfaction. As demonstrated in the fixed effect model (Table 3), moving one percentile up the income distribution ladder, as a result of the MIS, increases subjective well-being by 1.23 points. While this significant effect is to be expected given the material conditions of the beneficiaries, it is uncertain whether it held after the end of the scheme. Since our study is comprised of individuals who barely meet their material needs, rather than adaptation to higher incomes (Di Tella et al., 2010), one would expect that the positive effect on subjective well-being will hold as long as the sense of socio-economic vulnerability is permanently abandoned, hence if the project continued for longer.

Notably, while income is a strong and significant predictor of happiness in our sample, its effect gets diluted when variables measuring economic vulnerability were included in the model. Stated differently, income level is a strong predictor of life satisfaction and happiness as far as it proxies for deeper underlying constructs such as material vulnerability, uncertainty, autonomy, and security. This is manifested through the profound and lasting effect of the financial stress, and material and food deprivation-related variables. In the regression analysis these explain subjective well-being far better than the actual income level, which at any rate is just around the poverty threshold.

It is hardly any surprise that material deprivation is associated with high levels of psychological (di)stress and low levels of life satisfaction. Precarity in Eix Besòs is a daily reality and ‘normality’, impacting people lives not only in practical terms, but also through the sense of lacking control, agency and confidence, repercussions on their physical and mental health. Many participants talk about the high levels of uncertainty produced by the constant ‘gambling in-and-out’ of precarious employment (Hill-Dixon et al., 2018). What is critical here is that the experiences of economic precarity tends of curtail self-empowerment and self-confidence (ibid.), which precludes oneself from leaving the negative loop of life events and conditions, by searching for social support, for example. Before the B-MINCOME project many participants could hardly afford having a social life due the constant struggle to access some form of unreliable, poorly paid, and informal employment. Some also suffered from social exclusion for racial or ethnic reasons. The availability of the MIS, even temporarily, has fostered the cognitive abilities of some participants, opening up their mental ‘bandwidth’ for socialization (Hill-Dixon et al., 2020). This reverberates upon one’s motivation and hence capacity to participate in community life, relate with others and eventually find a way out of socio-economic precarity (Mullainathan & Shafir, 2014).

Hence, a second key result, that is well-grounded in the literature (Bertrand et al., 2000), concerns the positive effect of social networks and community engagement on the subjective well-being. Whenever people could engage with community projects and groups, have someone to share and organize with, establish, or rest upon, a support network, the prospects, or nuances, of their socio-economic vulnerability changed and well-being improved. In this regard, Hill-Dixon et al. (2020) report that the informal support networks emerging as a result of the project stood in sharp contrast with regular personal experiences of tension and conflict. The ethnographic studies further detail how close relationships and social networks actually helped beneficiaries overcome situations of deeper economic deprivation and associated emotional instability. This said, not all participants could find a way to engage with the community participation program due to time or language barriers, and reported a lack of community belonging, and a sense of isolation (ibid.).

A third and related finding concerns gender, and the way gender dimensions intersect with perceived socio-economic vulnerabilities and subjective well-being. It is no accident that 73% of the sample consists of women, many of whom with children and substantial care-work load (Hill-Dixon et al., 2018). Feminist studies have long noted the higher rates of economic vulnerability among women, all driven by pervasive gender and racial discrimination (Barca, 2020; Mies, 2014; Millar & Glendingning, 1989). The profound negative effect of lacking a washing machine or free-time, on subjective well-being, for example, can best be understood in the context of the predominantly female population in the sample and the gendered nature of the domestic care work. Those not having a washing machine at home, and having little, or no, time for leisure, in the sample, are mostly women with disproportional share of care and reproductive work, which further hollows their socio-economic vulnerability.

One result which can be discussed in the context of gender dynamics is part-time work, being the type of employment often favoured by women with care responsibilities. The subjective well-being of part-time workers, for example, was

higher than those with full-time jobs. Given the large percentage of women and households with children in the sample, this result points to the importance of having sufficient time-off formal-work. The ethnographic research on the beneficiaries' life situations also indicated that the presence of children in the households had a strong influence on their parents' or guardians' well-being who at times took their kids' happiness as a reference for their own (Hill-Dixon et al., 2018).

It is also notable that the female participation in the community-based modality of the project was 77%. Mostly women opted for joining this track, even if all members of the participating households were invited to participate (Blanco et al., 2021). As documented by Hill-Dixon et al. (2020) joining the community participation scheme helped a number of women challenge traditional gender roles. The authors quote a woman explaining that the community dynamics and networking activities opened up a "new world" for her. She could take the metro for the first time without her partner. Participating in the community meetings, sharing experiences and, certainly, the sense of economic empowerment that the cash benefit provided, made her feel more secure and able to question entrenched gender roles in the household.

As per the impacts of the different project modalities, we can deduce that the community participation program modality that underpinned, or facilitated, higher levels of social *relatedness*, the emergence of *support networks*, and *groups participation* had a beneficial impact on the subjective well-being of participants. The inconclusive evidence on impact of the *professional training and employment* and *social economy* modalities can be placed in the context of findings from the qualitative research. As Hill-Dixon et al. (2020) explain, most participants express a desire for a stable and secure work, something they did not feel equipped to obtain as a result of joining these modalities. This effect is also likely driven by the mismatch between deemed skills or interests, and the typology of professional training people got eventually (and randomly) assigned to (for the *professional training and employment*), or the unpredictability and risks involved in setting up a social enterprise (for the *social economy*).

While little can be said about the *housing* modality due to the limited participation in there, we find that participation in the most 'interventionist' MIS modality, (the limited modality), which reduced allowances by the size of additional earnings, is associated with lower life satisfaction. These individuals were also having more personal debts, unpaid rents or mortgage, and worse quality sleep (Todeschini & Sabes-Figuera, 2019). This result corroborates findings in the literature on conditioned, means-tested benefits, and negative income tax schemes (Widerquist, 2005), which has been criticized for contributing to the so-called poverty traps, as individuals get discouraged from (searching for) new employment for losing the amount of aid they are receiving (Van Parijs, 2004). Moreover, as Hill-Dixon et al. (2020) explain, not all beneficiaries understood well why sometimes they got a reduction in their monthly allowances, or the implications of the modality they were assigned to. The limited MIS modality thus made their income fluctuate, at times significantly, reinforcing previous and pervasive experiences of unpredictability, precarity and insecurity, and the associated low levels of well-being.

Our dataset has a number of clear caveats. Firstly, respondents are between 25 and 60 years old, which is likely to skew results somewhat, as in comparison with standard full life-span statistical LS analysis. Secondly, no data collection was undertaken after the end of the project, meaning that we could not assess the results durability. Third, for institutional

reasons a few survey questions differed between waves. These pertained to the variables on community participation, physical autonomy, stress, and purchasing habits. While this change did not affect cross-sectional data analysis, to an extent it limited the number of variables and observations in our panel dataset. Finally, evaluating subjective well-being through a single-item measure can only go so far, being inherently limited, and bound to leave a potentially large number of unobservable trends and features. While we found high levels of correlation between reports on life-satisfaction and on happiness in the questionnaire, the singularity of the measure, along with its numerical character, provides little guidance on the range and depth of mental health aspects, and their idiosyncratic determinants.

As per the practical contributions of this study, a number of lessons from the pilot can be drawn for future research and experimentation with basic income trials. Firstly, rather than randomly assigning participants into program modalities, it might be both cheaper (for administrators), and more beneficial (for those joining), if people could freely choose for the type of active policy and training that is best aligned with their preferences, skills, needs and (professional) interests. Overall, the design of basic income schemes needs to be underpinned by an in-depth understanding of the values and priorities of local participants. An improved version of the MIS, implemented in Barcelona, could make use of workshops to co-design potential interventions with local communities and prospective participants (Hill-Dixon et al., 2020). Secondly, means-tested benefits, or otherwise negative income tax schemes, seem to deepen the perception and experience of economic insecurity and vulnerability for those whose employment is ad hoc, informal and unreliable, especially when language and 1:1 communication form a barrier. In this sense, universal, truly unconditional, and longer-term cash transfers are likely to provide better results for the overall well-being of participants. From a project design perspective, one of the strong practical features of the B-Mincome approach has been the combination of quantitative with qualitative forms of data collection and analysis, which have fed into, and built upon, each other.

Conclusion

The Universal Basic Income proposal has steadily gained traction in contexts of the recent financial (Koistinen & Perkiö, 2014) and health crises (Nettle et al., 2021) and associated attempts to cushion experiences of socio-economic precarity. In this article we firstly tried to understand the mayor factors that underpin the subjective well-being of people with high levels of socio-economic vulnerability from the Eix Besòs area of Barcelona. This involved studying the contribution of domains such as income, employment, free time and social relatedness. Next, we studied the effect of introducing the Barcelona MIS scheme, along with and its accompanying measures, on beneficiaries' subjective well-being.

One of our key findings concerns the essence of living in material deprivation and the attached sense of deep vulnerability, socio-economic exposure and lack of autonomy. Firstly, the introduction of a Basic Income led to an increase in the levels of subjective well-being of beneficiaries. We argued above that this effect was actually driven by improvements in deeper underlying constructs such as material vulnerability, uncertainty, autonomy, security and the associated levels of psychological stress. We find that the degree of material and food deprivation explain subjective

well-being far better than the actual income level. The sense of economic precarity tends to curtail self-confidence, precluding the search for social support and the perspectives of finding a way out of socio-economic precarity.

Secondly, the majority of MIS recipients were women, pointing to the higher rates of female economic vulnerability in Barcelona, and beyond (Barca, 2020; Mies, 2014; Millar & Glendinning, 1989). The positive impact of the MIS on the life-satisfaction of women can be partly explained with the enhanced sense of autonomy and relief from the continuous stress associated with making ends meet, the associated support with care-related responsibilities and addressing oppressive relationships. The crucial role of the domestic sphere for women, is further reflected in the positive contribution of seemingly ordain parameters such as the possession of a washing machine for the subjective well-being of project participants. Notably, the majority of the participants in the community engagement activities and spaces for mutual empowerment where new support networks were created were female (Blanco et al., 2021).

In this context, and as commonly found in the literature (Rodríguez-Pose & von Berlepsch, 2012), community engagement and the presence of informal social networks stand out as powerful contributors to life satisfaction. Apart from the positive impact of sociability and relatedness, community engagement has interacted with, and somewhat alleviated, the prospects of social isolation and economic vulnerability experienced by women, being core part-takers in these schemes. Nonetheless, while alleviating the sense of exposure to material insecurity, their presence did not, and could not, compensate for the extreme levels of financial stress and uncertainty produced by economic precarity.

Finally, we find little direct evidence for differentiated impacts of the various project modalities. Participation in the limited version of the MIS is the only track that bears a significant and negative relationship with subjective well-being in the cross-sectional regressions one year after the project launch. This result, corroborating findings on the potential poverty-trap implications of a negative income tax (Widerquist, 2005), is partly driven by the large and unexpected fluctuations in the income levels associated with the scheme, and the reinforced perceptions of insecurity this entailed (Hill-Dixon et al., 2020). On the other hand, we can infer that the *community participation* project modality contributed positively to the subjective well-being of participants, judging from the effect of the establishment of support networks and enhanced socialization in general.

Our study, nonetheless, has a number of limitations. Before all, numbers are reductionist and have a low descriptive power to present, represent and capture the amplitude of diverse realities, experiences and subjectivities of those located in socio-economic vulnerability. Furthermore, we have data of limited time span, with certain questions changing across the waves, making it difficult to follow particular variables over time. Most probably life-satisfaction rates have deteriorated after the end of the project, as income losses sometimes have a greater effect on well-being than equivalent income gains (Boyce et al., 2013). Stated differently, one would expect that subjective well-being will have a permanent and stable increase when the perceived and objective sense of socio-economic vulnerability among the participants is permanently abandoned, hence if the project continued for longer. On a final note, enhancing social equity, justice and sustainability cannot be instigated without addressing the structural causes of economic vulnerability and precarity. Such a task, however, requires drastic rates of income redistribution, rather than economic growth in industrialized countries (D'Alisa et al., 2014).

Appendix 1

Table 4 Life satisfaction averages for the participants in different active policy-schemes one year after the start of the project

Policy	Total number respondents	LS means	Life satisfaction average (number of respondents)			
			Full-time employee	Part-time employee	Job Seeker	Other*
Unlimited MIS without active policies	207	6,46	6,53 (30)	6,58 (36)	6,65 (79)	5,89 (53)
Limited MIS** without active policies	146	6,23	6,47 (19)	7,33 (18)	6,06 (66)	5,87 (38)
Unlimited MIS with community participation	123	6,52	7,41 (17)	6,42 (19)	6,24 (50)	6,34 (32)
Limited MIS with community participation	113	6,12	6,33 (18)	7,46 (13)	5,69 (52)	6,03 (29)
Non-conditional MIS with employment training	56	7,04	7,40 (30)	7,71 (7)	5,50 (8)	6,63 (8)
Conditional*** MIS with employment training	46	7,07	7,38 (29)	7,33 (3)	6,38 (8)	6,00 (5)
Non-conditional MIS with social entrepreneurship	42	6,57	10,00 (2)	7,67 (6)	6,00 (24)	6,50 (8)
Conditional MIS with social entrepreneurship	39	6,21	8,33 (3)	6,22 (9)	5,83 (18)	6,88 (8)

Notes: *Other' economic situation includes students, retirees, pensioners, permanent sickness or disability to work, dedicated to care work, and other care-related responsibilities; ** (Un)limited MIS refers to the different modalities of (lower) higher deduction of monthly payment by earning an income beyond a threshold; ***Conditional-ity refers to the obligation to partake in one of the four active policies in order to receive the MIS; **** We excluded the active social policy on housing improvements due to low number of participants;

Table 5 A list of the variables used in the cross-sectional regressions and their mean values

Variable	Mean / Proportion		
	Year 0	Year 1	Year 2
Sample size	1209	731	662
Life satisfaction (0–10)	5,00	6,44	6,27
Household memebtrs	4,11	4,10	4,04
Age	41	42	42,2
Female	72%	73%	73%
Married	41%	46%	42%
Children	86%	86%	86%
Non-EU	43%	48%	45%
No education	15%	14%	14%
Primary school	49%	50%	50%
Average Income	€604	€1098	€1153
Lowest Income Bracket	€180 (33%)*	€592 (18%)	€641 (18%)
Extreme financial stress**	NA	30%	NA
Having difficulties in making ends meet	NA	NA	91%
Able to face a sudden 750 EUR expenditure	6%	9%	6%
Economic satisfaction (0–10)	NA	NA	5,61
# community groups one participates	0,71	0,81	0,79
Relatedness: high satisfaction with relations	NA	NA	25%
Belief community participation is important ***	NA	63%	58%
Social leisure (every day)	16%	2%	3%
Social leisure (once or twice a week)	12%	15%	16%
Presence of support networks	61%	66%	73%
General trust in others	40%	41%	26%
Bad health (self-perceived)	14%	18%	15%
Permanently inactive due to sickness	7%	9%	7%
Full-time employed	13%	19%	17%
Part-time employed	20%	14%	18%
Unemployed (looking a job)	42%	40%	44%
Possession of a washing machine	95%	96%	96%
Severe material deprivation****	23%	12%	13%
Food deprivation	18%	13%	16%
Bad housing conditions	45%	48%	43%
Capacity to take decisions (autonomy)	NA	80%	75%
No psycho-physical limitations to autonomy	64%	NA	NA
Feeling unable to cope with difficulties	NA	52%	58%
Feeling capable of taking decisions	NA	80%	75%

Table 5 (continued)

Variable	Mean / Proportion		
	Year 0	Year 1	Year 2
Household chores on a daily basis	64%	69%	69%
Electronic leisure on a daily basis	45%	66%	57%
Lack of sleep due to stress	NA	74%	74%
Extrovert personality	68%	65%	NA

*Lowest (distribution-wise) 33% percent of the people 'own' 10% of the income; ** Extreme financial stress here means a combination of the following five factors: (1) perception of financial uncertainty; (2) perceived risk with a financial situation; (3) perceived threat from financial uncertainty; (4) extend of worriedness about financial situation; (5) amount of time thinking about financial situation; *** Refers to the importance of community participation for making friends and getting to know people in the neighbourhood. **** Severe material deprivation means is not being able to afford any of the following: (1) an unexpected 750 EUR expense; (2) at least one week "out-of-home" vacations per year; (3) eating meat, chicken, fish or the equivalent vegetarian food at least every second day; and (4) keep the house adequately heated during cold times;

Table 6 A list of the variables used in the panel-data regressions and their mean values

Variable	Mean/Proportion		
	Before	1 year after	20 months after
Sample size	570	570	570
Life satisfaction	5,05	6,43	6,46
Household members	4,18	4,11	4,09
Age	40,9		
Female	75%		
Non-EU Ethno-cultural background	42%		
No education	13%		
Lowest income bracket (sample)	€182(34%)	€ 603(17%)	€ 676(16%)
Highest income bracket (sample)	€ 1410(4%)	€ 2441(5%)	€ 2049(5%)
Full-time employment	13%	20%	17%
Unemployed	45%	40%	45%
MIS Limited	NA		
Severe material deprivation*	21%	12%	12%
Food deprivation**	17%	13%	16%
Volunteering once or twice a month	14%	10%	9%
Low frequency of social leisure	54%	55%	55%
Average number of community groups one participates in (neighbours, sports, school, NGO, religious)	0,73	0,81	0,85
Availability of support networks	59%	67%	71%
Bad health (self-perceived)	14%	18%	15%
Possession of a washing machine	95%	97%	97%
Bad house conditions	46%	49%	47%
Extraverted personality	65%		
Low frequency of electronic leisure: ***	10%	2%	6%

*Severe material deprivation means is not being able to afford any of the following: (1) an unexpected 750 EUR expense; (2) at least one week "out-of-home" vacations per year; (3) eating meat, chicken, fish or the equivalent vegetarian food at least every second day; and (4) keep the house adequately heated during cold times ** At least one member of the household went to bed or spent 24 h without sufficient food;

*** Electronic leisure means 'screen time': watching TV, movies and playing video games;

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Declarations

Conflict of Interest The authors declare that they do not have any conflict of interests with respect to this publication and its data collection, processing and analysis.

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References

- Afscharian, D., Muliavka, V., Ostrowski, M. S., & Siegel, L. (2022). The state of the UBI debate: Mapping the arguments for and against UBI. *Basic Income Studies*, 17(2), 213–237.
- Alesina, A., Di Tella, R., & MacCulloch, R. (2004). Inequality and happiness: Are Europeans and Americans different? *Journal of Public Economics*, 88(9–10), 2009–2042.
- Andress, H. J., Golsch, K., & Schmidt, A. (2013). *Applied panel data analysis for economic and social surveys*. Springer.
- Arrondo, R., Cárcaba, A., & González, E. (2021). Drivers of subjective well-being in Spain: Are there gender differences? *Applied Research Quality Life* 16, 2131–2154.
- Balestra, P. (1992). Introduction to Linear Models for Panel Data. In L. Mátyás & P. Sevestre (Eds.), *The Econometrics of Panel Data. Advanced Studies in Theoretical and Applied Econometrics*, 28 (pp. 21–29). Kluwer Academic Publishers.
- Barca, S. (2020). *Forces of Reproduction: Notes for a counter-hegemonic anthropocene*. Cambridge University Press.
- Barca, S., & Leonardi, E. (2016). Four: Working-class communities and ecology: Reframing environmental justice around the Ilva steel plant in Taranto (Apulia, Italy). *Class, Inequality and Community Development*. Policy Press.
- Barca, S., D'Alisa, G., James, S., & López, N. (2020). *Renta de los cuidados ¡ya!* Icaria Editorial.
- Barcelona City Council (2019). *Report on the preliminary results of the B-MINCOME project (2017–2018)*. Barcelona City Council. Accessible at: ajuntament.barcelona.cat/bmincome/en. Accessed 5 May 2023
- Bartolini, S., & Sarracino, F. (2014). Happy for how long? How social capital and economic growth relate to happiness over time. *Ecological Economics*, 108, 242–256.
- Bertrand, M., Luttmer, E., & Mullainathan, S. (2000). Network effects and welfare cultures. *The Quarterly Journal of Economics*, 115, 1019–1056.
- Birnbaum, S., & De Wispelaere, J. (2016). Basic income in the capitalist economy: The mirage of “exit” from employment. *Basic Income Studies*, 11(1), 61–74.
- Blanchflower, D. G. (2009). International evidence on well-being. In A. B. Krueger (Ed.), *Measuring the subjective well-being of nations: National accounts of time use and well-being*. University of Chicago Press.
- Blanco, I., Marra, G., Fernández, C., Badosa, J., Riutort, S., Julià, A., Laín, B., & Torrens, L. (2021). *Resultados finales del proyecto piloto B-MINCOME (2017–2019) Informe de integración de*

- resultados*. Dirección de Innovación Social, Área de Derechos Sociales, Justicia Global, Feminismos y LGTBI, Ayuntamiento de Barcelona.
- Boyce, C. J., Wood, A. M., Banks, J., Clark, A. E., & Brown, G. D. A. (2013). Money, well-being, and loss aversion: Does an income loss have a greater effect on well-being than an equivalent income gain? *Psychological Science*, 24(12), 2557–2562.
- Calnitsky, D. (2016). More normal than welfare?: The mincome experiment, stigma, and community experience. *Canadian Review of Sociology*, 53(1), 26–71.
- Calnitsky, D., & Latner, P. J. (2017). Basic income in a small town: Understanding the elusive effects on work. *Social Problems*, 64(3), 373–397.
- Casassas, D. (2016). Economic sovereignty as the democratization of work: The role of basic income. *Basic Income Studies*, 11(1), 1–15.
- Chrisp, J., Smyth, L., Stansfield, C., Pearce, N., France, R., & Taylor, C. (2023). *Basic income experiments in OECD countries: A rapid evidence review*. EPPI Centre, UCL Social Research Institute and University College London.
- Clark, A. E., Frijters, P., & Shields, M. A. (2008). Relative income, happiness, and utility: An explanation for the Easterlin Paradox and other puzzles. *Journal of Economic Literature*, 46(1), 95–144.
- D’Alisa, G., DeMaria, F., & Kallis, G. (2014). *Degrowth a vocabulary for a new era*. Routledge.
- Davala, S., Jhabvala, R., Mehta, K., & Standing, G. (2015). *Basic income: A transformative policy for India*. Bloomsbury.
- De Wispelaere, J., & Stirton, L. (2011). The administrative efficiency of basic income. *Policy & Politics*, 39, 115–132.
- Di Tella, R., Haisken-De New, J., & MacCulloch, R. (2010). Happiness adaptation to income and to status in an individual panel. *Journal of Economic Behavior and Organization*, 76(3), 834–852. <https://doi.org/10.1016/j.jebo.2010.09.016>
- Easterlin, R., & O’Connor, K. (2020). The Easterlin Paradox, Discussion Paper Series, IZA DP No. 13923
- Easterlin, R. A., McVey, L. A., Switek, M., Sawangfa, O., & Zweig, J. S. (2010). The happiness-income paradox revisited. *Proceedings of the National Academy of Sciences*, 107(52), 22463–22468
- Elgarte, J. (2008). Basic income and the gendered division of labour. *Basic Income Studies*, 3(3), Article 4.
- Facundo, A., Chancel, L., Piketty, T., Saez, E., & Zucman, G. (2017). *World inequality report 2018*. 344.
- Ferrer-i-Carbonell, A., & Frijters, P. (2004). How important is methodology for the estimates of the determinants of happiness. *The Economic Journal*, 114(497), 641–659.
- Fitzpatrick, N., Parrique, T., & Cosme, I. (2022). Exploring degrowth policy proposals: A systematic mapping with thematic synthesis. *Journal of Cleaner Production*, 365. <https://doi.org/10.1016/j.jclepro.2022.132764>
- Forget, E., Marando, D., Surman, T., Urban, M. C., & Marando, D. (2016). *Pilot Lessons: How to design a basic income pilot for Ontario* (p. 126). Mowat Centre.
- Frankman, M. J. (2010). Making the Difference! The BIG in Namibia; Basic Income Grant Pilot Project Assessment Report, April 2009. *Canadian Journal of Development Studies / Revue Canadienne d’études Du Développement*, 29(3–4), 526–529
- Frijters, P., & Beaton, T. (2012). The mystery of the U-shaped relationship between happiness and age. *Journal of Economic Behavior & Organization*, 82(2012), 525–542
- Gourevitch, A. (2016). The limits of a basic income: Means and ends of workplace democracy. *Basic Income Studies*, 11(1), 17–28.
- Gui, B., & Sugden, R. (2005). *Economics and social interaction: Accounting for interpersonal relations*. Cambridge University Press.
- Haarmann, C., Haarmann, D., Jauch, H., Shindondola, H., Natrass, N., Samson, I., & Michael, N. (2009). *Making the difference! The BIG in Namibia. Basic Income Grant Pilot Project Assessment Report*.
- Henderson, T. (2017). Real freedom for all revisited - normative justifications of basic income. *Basic Income Studies*, 12(1), 1–9.
- Hickel, J. (2021). What does degrowth mean? A few points of clarification. *Globalizations*, 18, 7.
- Hickel, J., Dorninger, C., Wieland, H., & Suwandi, I. (2022). Imperialist appropriation in the world economy: Drain from the global South through unequal exchange, 1990–2015, *Global Environmental Change*, vol. 73.
- Hill-Dixon, A., Green, H., Davis, H., Boelman, V., & Sanchez, J. (2018). *Living in the precariat a portrait of life in Eix Besòs, Barcelona*. The Young Foundation (Issue December).

- Hill-Dixon, A., Davis, H., Patel, G., & Boelman, V. (2020). *The voices of basic minimum income. Executive summary*. The Young Foundation (Issue February).
- Jenkins, D. (2015). Distribution and disruption. *Basic Income Studies*, 10(2), 257–279.
- Kallis, G., Paulson, S., D'Alisa, G., & Demaria, F. (2020). *The case for Degrowth*. Polity Press.
- Kangas, O., Jauhainen, S., Simanainen, M., & Ylikännö, M. (2020). *Suomen perustulokokeilun arviointi*. Sosiaali- ja terveystieteiden tutkimuskeskus. Helsinki 2020.
- Koistinen, P., & Perkiö, J. (2014). Good and bad times of social innovations: The case of universal basic income in Finland. *Basic Income Studies*, 9(1–2), 25–57.
- Laín, B., & Torrens, L. (2019). The minimum living wage initiative of Barcelona. *Transfer. European Review of Labour and Research*, 25(3), 386–391.
- Laín, B., Riutort, S., & Julià, A. (2019). The B-MINCOME project. Municipal innovation on guaranteed minimum incomes and active social policies. Barcelona Societat. *Journal on Social Knowledge and Analysis*, 23, 147–168.
- Laín, B., & Julià, A. (2022). Why do poor people not take up benefits? Evidences from the Barcelona's B-MINCOME experiment. *Journal of Social Policy*. <https://doi.org/10.1017/S0047279422000575>
- MacNeill, T., & Vibert, A. (2019). Universal basic income and the natural environment: Theory and policy. *Basic Income Studies*, 14(1), 20180026.
- Mani, A., Mullanathan, S., Shafir, E., & Zhao, J. (2013). Poverty impedes cognitive function. *Science*, 341, 976–980.
- Manjarin, E., & Szlinder, M. (2016). A marxist argumentative scheme on basic income and wage share in an anti-capitalist agenda. *Basic Income Studies*, 11(1), 49–59.
- Merrill, R., Neves, C., & Laín, B. (2021). *The political philosophy and epistemology of basic income experiments*. Palgrave Macmillan.
- Mies, M. (2014). *Patriarchy and accumulation on a world scale: Women in the International Division of Labour*. Zed Books.
- Millar, J., & Glendinning, C. (1989). Gender and poverty. *Journal of Social Policy*, 18, 363–381.
- Muffels, R., & Gielen, E. (2019). Job search, employment capabilities and well-being of people on Welfare in the dutch 'Participation income' experiments. In L. Delsen (Ed.), *Empirical research on an unconditional Basic Income in Europe. Contributions to Economics*. Springer.
- Mullanathan, S., & Shafir, E. (2014). *Scarcity: The true cost of not having enough*. Penguin books.
- Nettle, D., Johnson, E., Johnson, M., & Saxe, R. (2021). Why has the COVID-19 pandemic increased support for Universal Basic Income? *Humanities and Social Sciences Communications*, 8(79). <https://doi.org/10.1057/s41599-021-00760-7>
- Nooteboom, B. (2013). Basic income as a basis for small business. In K. Widerquist, J. A. Noguera, Y. Vanderborght, & J. De Wispelaere (Eds.), *Basic income: An anthology of contemporary research* (pp. 210–215). Wiley/Blackwell.
- O'Reilly, J. (2008). Can a Basic Income Lead to a More Gender Equal Society? *Basic Income Studies*, 3(3). <https://doi.org/10.2202/1932-0183.1135>
- Oishi, S., Kesebir, S., & Diener, E. (2011). Income inequality and happiness. *Psychological Science*, 22(9), 1095–1100.
- Pateman, C. (2003). *Freedom and Democratization: Why Basic Income is to be Preferred to Basic Capital*. In K. Dowding, J. De Wispelaere, & S. White (Eds.), *The Ethics of Stakeholding* (pp. 130–148). Palgrave Macmillan.
- Piketty, T. (2014). *Capital in the twenty-first century*. The Belknap Press of Harvard University Press.
- Pinto, G., & Howard, M. (2018). *Green European Journal A Fair Share: Reclaiming the Commons with Basic Income*.
- Riutort, S., Laín, B., & Julià, A. (2023). Basic income at municipal level: insights from the Barcelona B-MINCOME pilot. *Basic Income Studies*, 2023.
- Robeyns, I. (2008). Debate: should feminists endorse basic income? *Basic Income Studies*, 3. <https://doi.org/10.2202/1932-0183.1138>
- Robeyns, I. (2010). Feminism, basic income and the welfare state. In C. Bauhardt, & G. Çağlar (Eds.), *Gender and Economics*. VS Verlag für Sozialwissenschaften.
- Rodríguez, C. (2016). Basic income and time use democratization. *Basic Income Studies*, 11(1), 39–48.
- Rodríguez-Pose, A., & von Berlepsch, V. (2012). *Social capital and individual happiness in Europe, no 25, Bruges European Economic Research Papers*. European Economic Studies Department, College of Europe.
- Ryan, R., & Deci, E. (2001). On happiness and human potentials: A review of Research on Hedonic and Eudaimonic Well-Being. *Annual Review of Psychology*, 52, 141–166.

- Salehi-Isfahani, D., & Mostafavi-Dehzoeei, M. H. (2018). Cash transfers and labor supply: Evidence from a large-scale program in Iran. *Journal of Development Economics*, 135, 349–367.
- Sheldon, K. M., & Hoon, T. H. (2013). The multiple determination of well-being: Independent effects of positive traits, needs, goals, selves, social supports, and cultural contexts. In A. D. Fave (Ed.), *The exploration of happiness* (pp. 141–160). Springer.
- Standing, G. (2015). Why basic income's emancipatory value exceeds its monetary value. *Basic Income Studies*, 10(2), 193–223.
- Standing, G. (2021). Basic income pilots: Uses, limitations and design principles. *Basic Income Studies*, 16(1), 75–99.
- Stevenson, B., & Wolfers, J. (2013). Subjective well-being and income: Is there any evidence of satiation? *American Economic Review*, 103(3), 598–604.
- Suplicy, E. M. (2007). Basic income and employment in Brazil. *Basic Income Studies*, 2(1), June 2007.
- Todeschini, F., & Sabes-Figuera, R. (2019). *Barcelona city council welfare programme. Final report: Impact evaluation of GMI on household outcomes*. Retrieved from https://ajuntament.barcelona.cat/dretssocials/sites/default/files/arxiu-sdocuments/bmincome_d731.pdf. Accessed 5 May 2023
- Van der Veen, R. J., & Van Parijs, P. (2006). A capitalist road to communism. *Basic Income Studies*, 1(1), 1–23.
- Van Parijs, P. (2004). Basic income: A simple and powerful idea for the twenty-first century. *Politics and Society*, 32(1), 7–39.
- Van Parijs, P. (2009). Political ecology: From autonomous sphere to basic income. *Basic Income Studies*, 4(2), 1–9.
- Van Parijs, P. (2013). The universal basic income: Why utopian thinking matters, and how sociologists can contribute to it. *Politics and Society*, 41(2), 171–182.
- Van Praag, B. M. S., & Ferrer-i-Carbonell, A. (2011). Happiness economics: A new road to measuring and comparing happiness. *Foundations and Trends in Microeconomics*, 6(1), 1–97.
- Verlaet, T., de Kruijk, M., Rosenkranz, S., Groot, L., & Sanders, M. (2020). *Study what works. Summary of the final report*. Utrecht University.
- Widerquist, K. (2005). A failure to communicate: What (if anything) can we learn from the negative income tax experiments? *The Journal of Socio-Economics*, 34, 49–81.
- Widerquist, K. (2013). *Independence, propertylessness and basic income*. Palgrave Macmillan.
- Widerquist, K. (2018). *A critical analysis of Basic Income experiments for researchers. Policymakers and Citizens*. Palgrave Macmillan.

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