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Vision 2030 and Subjective Well-Being in Saudi Arabia

Martijn J. Burger [1,2,3,*] and Efstratia Arampatzi [1]

[1] Erasmus Happiness Economics Research Organisation, Erasmus University Rotterdam, 3062 PA Rotterdam, The Netherlands
[2] Faculty of Management, Open University of the Netherlands, 6419 AT Heerlen, The Netherlands
[3] C.WAISS and School of Economics, University of Johannesburg, Johannesburg 2006, South Africa
* Correspondence: mburger@ese.eur.nl

Abstract

Saudi Vision 2030 seeks to improve social sustainability in the Kingdom through comprehensive economic and social reforms. This study investigates whether these reforms are associated with changes in subjective well-being (SWB), commonly understood as individuals' experienced quality of life. Using Gallup World Poll data from 2013 to 2023 on Cantril ladder scores and affect balance in Saudi Arabia, we find increases in SWB following the implementation of Vision 2030 reforms, particularly for the affective component of SWB. While positive changes in SWB are observed across the entire population, the gains in affective well-being are especially pronounced among women. Blinder–Oaxaca decompositions show that improvements are associated with enhanced community basics, followed by greater income sufficiency, improved perceptions of social life, and an increased sense of personal freedom.

Keywords: subjective well-being; reforms; Saudi Arabia; Vision 2030; social sustainability

1. Introduction

Saudi Arabia's economy is heavily dependent on its petroleum sector. Oil contributed approximately 40% to Saudi Arabia's GDP and accounted for 70% of fiscal revenue [1]. Recognizing that oil reserves are finite, Saudi Arabia launched Vision 2030 to drive economic and social transformation. The initiative focuses on reducing reliance on oil, diversifying the economy, and strengthening the private sector [2,3] to make the country more attractive for both domestic and international investment [4]. Beyond economic reforms, Vision 2030 aims to create a vibrant society where citizens and residents enjoy life through enhanced public services, better healthcare, education, and entertainment options. Social reforms that have been undertaken include the curtailing of the Mutawa (religious police), elimination of regulatory restrictions on women's employment, lifting the ban on women's driving, modernization of the education system and infrastructure, and the re-opening of theatres and cinemas [5]. At the same time, new rules have been issued that limit specific jobs to citizens and increase the quota of Saudis that companies must employ [6]. Overall, this economic and social revolution aims to modernize Saudi society to improve the well-being of its people and stabilize the political system.

These reforms mark a new social contract in which citizens can enjoy more economic and social liberties that should result in more economic growth and financial and political stability [5]. Although Saudi Arabia only modestly reduced its dependence on oil over the past years, the country improved on several socio-economic conditions, including a

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decreasing unemployment rate and an increasing private sector's contribution to GDP, female labor force participation, entertainment possibilities, and home ownership [7].

However, did these reforms also enhance social sustainability or the ability of a country to maintain and improve the well-being of its people over time [8], as measured by increases in subjective well-being (SWB)? On the one hand, increasing freedom, improving service quality, and expanding economic opportunities—key goals of the reforms—could be expected to boost SWB [9]. On the other hand, reforms do not always lead to higher SWB, as seen in cases such as mainland China [10] and post-communist Russia [11]. Policy initiatives can fail or produce negative side effects, such as rising taxes, growing inequality, and increased uncertainty, which may lead to disappointment and a decline in SWB. In this regard, Saudi Arabia faced considerable challenges in implementing the reforms over the past years, most notably due to low oil prices and the COVID-19 pandemic [12–14].

In this study, we therefore gauge SWB in the years around the start of the national reforms in Saudi Arabia and study the underlying reasons for changes in SWB. SWB can be perceived as a measure of social sustainability, measuring the lived experience of improvements in social sustainability. We do not only study the association between the implementation of Vision 2030 and SWB, but also look at the extent to which the reforms are associated with changes in SWB for different groups in Saudi society. Finally, we examine the underlying drivers for changes in SWB.

Our study contributes to the existing literature in several ways. First, to the best of our knowledge, we provide a first exploration on the relationship between Vision 2030 in Saudi Arabia and changes in SWB. We show that SWB increased after the start of the reforms and that this increase can be attributed to factors that the reforms target. Previous research conceptually linked the Vision 2030 program to well-being [15] and sustainability indicators [16], but has not provided a dynamic assessment how Saudi Arabia has been faring since the implementation of Vision 2030. Second, our study adds to the emerging literature on SWB and national policy reforms, e.g., [10,11,17,18]. Although our study does not officially constitute a policy evaluation of a specific policy, e.g., [19,20], it shows how policy reform programs can be linked to changes in SWB through different channels. Third, our study adds to the body of knowledge on SWB in GCC countries in general and Saudi Arabia in particular, a region that received only limited research attention (e.g., [21–23]) in the SWB literature.

The remainder of this paper is organized as follows: We provide more background on Vision 2030 in Section 2. The data and methodology are introduced in Section 3. Descriptive statistics and an empirical analysis are provided in Section 4, followed by a discussion in Section 5 and conclusions and policy implications in Section 6.

2. Background

2.1. Subjective Well-Being (SWB)

SWB can be defined as appreciation of one's personal condition or one's subjective enjoyment of life as a whole [24,25]. Veenhoven [25] argues that individuals rely on two sources of information when assessing their SWB: their emotional experiences and their cognitive evaluations. People can compare their present life to the ideal and worst possible life they can envision as well as reflect on how they generally feel. These two dimensions of SWB are not always aligned. For example, achieving career success might enhance how we evaluate our lives overall, yet the associated stress could lead to a more negative emotional experience during daily activities. Conversely, one might enjoy positive emotions throughout the day while still feeling dissatisfied with life achievements [26,27]. Hence, emotional experiences and cognitive experiences can also be shaped by different living conditions. Diener et al. [28], for instance, found that national income levels are more

strongly linked to cognitive evaluations than to emotional states. On the other hand, emotional experiences show a stronger connection than cognitive evaluations to fulfilling psychological needs such as receiving social support.

2.2. SWB, Policy, and Reforms

In recent years, a growing body of research in well-being economics examined whether economic and social policies are conducive to SWB. Odermatt and Stutzer [19] report that smoking bans across Europe have little effect on overall SWB, except among smokers who wish to quit, for whom the bans are beneficial, while Dillenseger et al. [20] find that parental leave policies significantly improve the SWB of Dutch parents. Morgan and O'Connor [29] find that countries with stronger unemployment support policies were better able to protect SWB during the 2008 financial crisis, while stricter employment protection laws often worsened outcomes, possibly due to increased perceived job insecurity. In addition, studies consistently show that institutional quality and effective policymaking are linked to higher SWB (e.g., [30–32]).

At the same time, the literature on national economic and social reforms and SWB is more limited. Andrijić and Barbić [18] study the impact of IMF-led economic reform programs on SWB across 154 countries in the period 2005–2018. They obtain that such reforms are associated with both short- and long-term increases in SWB. Bjørnskov [17] finds that countries with more liberalized economic institutions experienced smaller declines in SWB during economic crisis, indicating that market-friendly reforms may help mitigate the negative impact on SWB of such downturns. At the same time, literature on SWB in transition countries show a different picture, where structural reforms resulted initially in declines in SWB [9,10,33], although recently these countries have been catching up [34]. In this regard, the effect of reforms typically depends on the type of measures taken and the quality of implementation.

Despite increasing interest in national reforms and SWB, there remains a significant gap in understanding how large-scale reform initiatives influence SWB over time. Moreover, while the body of literature on national policy reforms and SWB is growing, it largely concentrated on specific reforms within Western contexts, offering limited insights into broader initiatives such as Vision 2030. Research on this topic within GCC countries is particularly scarce, underscoring the need to explore how sweeping policy changes affect SWB in rapidly transforming, non-Western societies. This study seeks to fill that gap by providing a dynamic analysis of the relationship between Saudi Arabia's Vision 2030 reforms and SWB in the medium run.

2.3. Saudi Vision 2030 and SWB

Saudi Vision 2030 is a strategic framework that was launched by Crown Prince Mohammed bin Salman to transform Saudi Arabia from an oil-dependent economy into a diversified and competitive economy. Vision 2030 consists of three interconnected pillars: 'A Vibrant Society', 'A Thriving Economy', and 'An Ambitious Nation' [35]. The Thriving Economy focuses on diversification of the economy, moving beyond an oil-based economy through domestic and foreign investment in sectors such as tourism, entertainment, logistics, and renewable energy. Policies are also targeted at aligning education with labor market needs and increasing the workforce participation of women and youth in particular. The 'Vibrant Society' pillar focuses on social transformations focusing on policies regarding community engagement, cultural heritage, sports, entertainment, and healthcare. The pillar stresses strong Islamic values and national identity through cultural preservation and Hajj and Umrah sector enhancement. There is also attention to promoting women's rights and visibility in public life. The 'Ambitious Nation' pillar focuses on quality of

governance, including transparency and civic engagement as well as digitalization of government services.

As Vision 2030 is a reform program that addresses various aspects of the Saudi economy and society, it is expected to influence SWB through multiple channels. Although the strategic framework is not explicitly framed in terms of SWB metrics, many of its goals and reforms target key determinants of well-being. Based on the policies and initiatives implemented under Vision 2030, five main channels can be identified: (1) economic security and income growth, (2) social inclusion and empowerment, (3) access to culture and recreation, (4) improved community basics, and (5) national pride. First, policies promoting economic diversification, entrepreneurship, and job creation, particularly outside the government and natural resource sectors, can improve SWB primarily by enhancing economic stability and income security, both well-established predictors of well-being [36]. Second, reforms supporting women's rights (e.g., the right to drive and increased labor force participation) and youth empowerment (e.g., access to new entertainment and sports opportunities) are likely to strengthen feelings of inclusion and autonomy, which are positively associated with SWB being basic psychological needs [37]. Third, and related to the previous point, increased access to arts, music, and sports, which is enabled by entertainment liberalization and tourism developments, is correlated with SWB [38,39]. Fourth, healthcare reforms improved the quality and efficiency of medical services [40], while smart city planning in Saudi Arabia focused on improving livability in neighborhoods [41], affordable housing [42], and enhancing public services [43], factors that satisfy basic human needs, improve daily comfort, and reduce stress [44]. Fifth, major national projects, such as The Line, NEOM, and the development of a new urban center in Riyadh [45], may foster national pride, which is positively linked to SWB, especially in collectivist cultures where harmony and shared achievement are central to well-being [46].

Although Vision 2030 has been conceptually associated with SWB, to the best of our knowledge, no empirical studies examined how SWB in Saudi Arabia evolved since the implementation of the initiative. Our research contributes to the existing literature by assessing the relationship between Vision 2030 reforms and SWB. Given that Vision 2030 represents a multidimensional, large-scale reform agenda rather than a single policy change, evaluating its impact presents inherent complexity. This study addresses that challenge by identifying the channels through which changes in SWB occurred in the years following the reforms. By offering a detailed analysis of the key social, economic, and institutional dimensions targeted by Vision 2030, our research provides a distinctive contribution to the literature on policy reform and well-being.

2.4. Heterogeneous Effects of Vision 2030

While the Saudi Vision aims to enhance quality-of-life and well-being of the entire nation across three pillars, its impact is expected to be not equally distributed across all population groups. Variations in access to opportunities, resources and social acceptance, geographical barriers, and pre-existing economic inequalities either enhanced or limited the opportunity of different societal groups to benefit from the reforms [5].

The recent reforms yielded substantial transformations, particularly for women, who gained new legal rights, enhanced access to the labor market, and expanded employment opportunities [47]. In addition, policies actively promoted women's participation in entrepreneurship, political engagement, and public life. Along these lines, we would expect that the SWB of women increased more than the SWB of men in recent years.

Likewise, it is expected that young people, who are central to the labor market objectives outlined in the national Vision, benefited more through educational reforms. They are also specifically targeted by employment initiatives and digital transformation strategies,

reflecting their strong representation in the technology and innovation sectors. Beyond education and employment, youth have been at the forefront of Saudi Arabia's cultural opening. Particularly, the expansion of the entertainment sector (e.g., through concerts, cinemas, sports events, and cultural festivals) created new spaces for self-expression and community engagement [48].

Finally, it can be expected that urban populations benefited more from better access to public transportation, green spaces, cultural amenities, and healthcare services. Although Vision 2030 aims to reduce regional disparities in Saudi Arabia, the needs of the rural population or lower income groups would be not always adequately addressed. For example, substantial regional differences in access to piped water and a sewer system are still existent in Saudi Arabia [49].

Given the diverse and multifaceted nature of the Vision 2030 agenda—shaping SWB through multiple channels and affecting various segments of the population in different ways—changes in SWB are unlikely to be uniform across groups. This study explores how different demographic subgroups experienced the reforms, providing a comprehensive analysis along key demographic dimensions. In doing so, it contributes to the literature by highlighting the distributional effects of large-scale reform programs on SWB.

3. Materials and Methods

3.1. Data

We utilize the Gallup World Poll (GWP) to examine the relationship between Saudi Vision 2030 and SWB in the country. The GWP in Saudi Arabia includes approximately 1000 randomly selected respondents (men and women aged 15 and older) surveyed by telephone each year. Although the GWP contains data on Saudi Arabia prior to 2013, those surveys included only Saudis and Arab expatriates; at least one-fifth of the adult population was excluded. Starting in 2013, non-Arab expatriates were also included in the sample. From 2013 to 2017, this inclusion was limited to expatriates who could complete the interview in English. In subsequent years, it became possible to respond in Urdu (from 2018) and Hindi (from 2020). Overall, our dataset includes 11,053 observations for the period 2013–2023. In our analyses, we account for the changing socio-demographic composition of the sample over time.

Following Veenhoven [25], we use two indicators present in the Gallup World Poll: affect balance and life evaluation. Life evaluation is measured using the Cantril ladder question: 'Please imagine a ladder, with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time'. Affect balance is based on the difference between a positive affect and negative affect index, where respondents were asked to reflect on the experience of several emotions felt yesterday. To facilitate comparison with the Cantril ladder, the affect balance score was rescaled to a score from 0 to 10. More details on the construction of the variable can be found in Appendix A.

Given our interest in explaining the SWB developments in Saudi Arabia after the start of the transformation program, we include as independent variables economic factors that are well-known to affect the level and change in SWB. These are the per capita household income, measured as reported household income divided by household size, and the employment status of respondents. In addition, we include two subjective economic indices indicating the respondent's experience with the following: (i) financial sufficiency, (ii) financial satisfaction, and (iii) job climate. Since the reforms are also expected to affect SWB through improvements in other life domains, we also include variables measuring satisfaction with community basics (transportation, education systems, quality of water

and air, healthcare, and housing affordability) and satisfaction with freedom, social life, and civic engagement.

Finally, we control for a range of personal characteristics since the population that is surveyed may vary from year to year. A description of all variables included in our analyses can be found in Appendix A.

3.2. Methodology

We start our empirical exploration by gauging the development of Saudi SWB using a simple reduced-form model to examine the relationship between the start of Vision 2030 and SWB:

$$SWB = \Theta\ Vision2030 + \Sigma\ Control + \varepsilon \quad (1)$$

where *SWB* is the reported Cantril ladder or affect balance score, *Vision2030* is a dummy variable that takes the value 1 in case the respondent filled out the questionnaire after 2017, *Control* is a vector of the personal characteristics of the respondent, and ε is the residual error. In our initial regressions, we control for gender, age, education level, marital status, household size, education level, rurality of residence, and region of residence. The choice of these control variables is based on the fact that we would like to account for sample structure and changing demographics over time but not include variables that potentially mediate the relationship between Vision 2030 and SWB. In other words, we control here for variables that are antecedents of Vision 2030 (through sample selection) and SWB [50]. In this regard, there is an extensive literature that linked SWB to gender [51], age [52], marital status [53], household size [54], education level [55], and geography [56].

To examine what drives differences in SWB between the period before the reforms (2013–2017) and after the start of the reforms (2018–2023), we follow the strategy of Burger et al. [57] and make use of the Blinder–Oaxaca decomposition [58–60], which has frequently been used in the study of SWB differentials (e.g., [57,61–63]). Please note that there is a considerable amount of time between the completion dates of the surveys held in 2017 (1 May 2017) and 2018 (1 October 2018), and the population only experienced the first substantial reforms after the 2017 survey. Particularly, the decree allowing women to drive, announced in June 2017 and effective in June 2018, can be marked as the starting point.

The Blinder–Oaxaca decomposition divides the differential of the SWB outcome into two parts: the first part shows the explained differences in SWB scores between the two periods (Q), while the second one refers to the unexplained part (U):

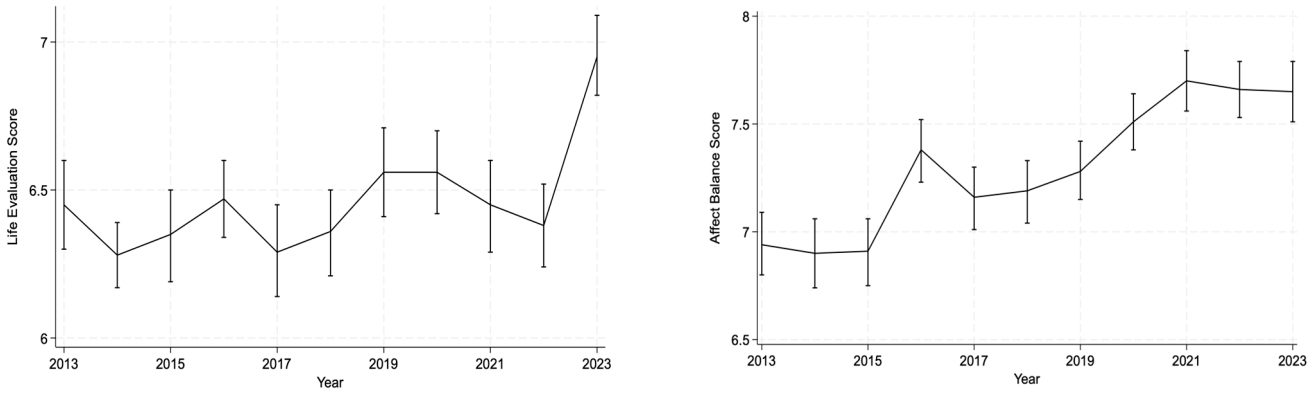
$$\Delta SWB = [E(XA) - E(XB)]'\ \beta^* + [E(XA)'\ (\beta A - \beta^*) - E(XB)'\ (\beta B - \beta^*)] \quad (2)$$

where ΔSWB is the difference in SWB between the two time periods, A (2018–2023) and B (2013–2017), βA and βB are vectors of coefficients estimated using weighted least squares for the respective periods (using sampling weights), and β^* is a non-discriminatory vector of coefficients, estimated with a pooled regression and used to determine the deviation in the relative importance of each domain in the model between the two time periods. The explained part ($Q = [E(XA) - E(XB)]'\beta^*$)—or the "endowments effect"—shows how much of the overall differential in average SWB can be attributed to differences in the level of the explanatory variables (X) between the two periods. Hence, this "endowment effect" reflects the differences in objective and subjective circumstances between the reform period A and pre-reform period B. The unexplained part ($U = [E(XA)'\ (\beta A - \beta^*) - E(XB)'\ (\beta B - \beta^*)]$) captures omitted variables as well as changes in the estimated coefficients between period A and B.

4. Results

4.1. Change in SWB

Figure 1 and Table 1 illustrate the trends in SWB from 2013 to 2023. On average, life evaluation scores were 0.16 points higher in the years following the start of the reforms, while affect balance scores increased by 0.44 points. Our results hold when controlling for changes in the demographic composition of the survey population (columns 1 and 2 in Table 1). The rise in affect balance scores occurred gradually over time, whereas life evaluation scores spiked in 2023. Excluding 2023, the increase in life evaluation would only have been 0.07 points and statistically insignificant. The stronger increase in affect balance after the implementation of the reforms may be because income correlates more strongly with the Cantril ladder score than with affect balance [64]. In this regard, Saudi Arabia experienced slow economic growth in the late 2010s and early 2020s, partly due to COVID-19 and low oil prices [13]. Please note that we also see an increase in affect balance in the 2015–2016 period, which can potentially be related to an announcement effect of Vision 2030 in September 2015. However, in this research, we are particularly interested in the association between the implementation of Vision 2030 and SWB and therefore compare the period 2013–2017 with the period 2018–2023.



(**A**) Cantril ladder (**B**) Affect balance

Figure 1. Development of SWB in Saudi Arabia over time. Source: Gallup World Poll, 2013–2023. Notes: 95% confidence intervals shown. Sampling weights used. Panels (**A**,**B**) show the average Cantril ladder score and affect balance score, respectively. N = 11,053.

Exploration using regression analyses shows that the differences in changes across groups is limited, both regarding the Cantril ladder and affect balance scores (see Table 1; columns 3–10). Comparing group differences using the Wald test, we only find a significant difference between men and women for the development of the affect balance score that is significant at the 5% level. Where the average score on affect balance for men increased from a 7.28 to a 7.40, the average affect balance for women increased from a 7.03 to a 7.63. In the next subsections, we further explore these findings.

A concern with the above regressions is that SWB levels in Saudi Arabia might also have been influenced by global events, most notably COVID-19 and oil price shocks. As a robustness check, presented in Table 2, we control for these events. With regard to COVID-19, we introduce a dummy variable that takes value 1 if the survey was held in 2020 or 2021. In addition, we re-estimate our baseline model using a dummy variable that takes value 1 if the survey was held in a period with an oil price slump. These are the periods of mid-2014 to 2016 and the 2019–2021 period. In the first period, the Organization of the Petroleum Exporting Countries (OPEC) flooded the market with oil to pressure US shale producers, leading to a significant drop in prices [65]. The period 2019–2021 was first

marred by slow economic growth and a US shale oil production boom [66]. Subsequently, a price war between Saudi Arabia and Russia was triggered by a disagreement over oil production cuts during the COVID-19 pandemic [67]. Including the COVID-19 and oil price slump dummies, our main conclusions, however, do not change.

Table 1. Association between Vision 2030 and SWB.

	Model 1 (Cantril Ladder)	Model 2 (Affect Balance)	Model 3 (Cantril Ladder)	Model 4 (Affect Balance)	Model 5 (Cantril Ladder)	Model 6 (Affect Balance)	Model 7 (Cantril Ladder)	Model 8 (Affect Balance)	Model 9 (Cantril Ladder)	Model 10 (Affect Balance)
Vision 2030	0.15 ***	0.39 ***	0.17 ***	0.20 ***	0.22 ***	0.36 ***	−0.06	0.25 *	0.11	0.38 ***
	(0.01)	(0.05)	(0.06)	(0.06)	(0.08)	(0.08)	(0.15)	(0.15)	(0.10)	(0.09)
Female	0.35 ***	−0.01	0.38 ***	−0.27 ***	0.35 ***	−0.01	0.35 ***	−0.02	0.35 ***	−0.01
	(0.04)	(0.05)	(0.07)	(0.07)	(0.04)	(0.09)	(0.04)	(0.05)	(0.04)	(0.05)
Female * Vision 2030			−0.05	0.45 ***						
			(0.09)	(0.09)						
Youth	−0.14 ***	−0.11 **	−0.14 ***	−0.11 **	−0.08	−0.12	−0.14 ***	−0.11 **	−0.14 ***	−0.11 **
	(0.05)	(0.05)	(0.05)	(0.05)	(0.07)	(0.08)	(0.05)	(0.05)	(0.05)	(0.05)
Youth * Vision 2030					−0.10	0.03				
					(0.09)	(0.09)				
Urban	0.21 **	0.27 ***	0.21 **	0.26 ***	0.21 **	0.27 ***	0.11	0.21 **	0.21 **	0.27 ***
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.10)	(0.10)	(0.08)	(0.08)
Urban * Vision 2030							0.23	0.15		
							(0.16)	(0.15)		
Born in country	0.40 ***	0.45 ***	0.40 ***	0.48 ***	0.40 ***	0.45 ***	0.40 ***	0.45 ***	0.38 ***	0.45 ***
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.07)	(0.08)
Born in country * Vision 2030									0.05	0.00
									(0.11)	(0.11)
Observations	11,053	11,053	11,053	11,053	11,053	11,053	11,053	11,053	11,053	11,053
Other control variables	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses; *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.10$. Other control variables include marital status, household size, education level, and region of residence.

Table 2. Association between Vision 2030 and SWB. Controlling for global shocks.

	Model 11 (Cantril Ladder)	Model 12 (Affect Balance)	Model 13 (Cantril Ladder)	Model 14 (Affect Balance)	Model 15 (Cantril Ladder)	Model 16 (Affect Balance)
Vision 2030	0.17 ***	0.35 ***	0.13 ***	0.37 ***	0.16 ***	0.32 ***
	(0.01)	(0.05)	(0.04)	(0.05)	(0.05)	(0.05)
COVID-19 period	−0.09	0.09			−0.08	0.16 **
	(0.06)	(0.06)			(0.07)	(0.07)
Low oil price period			−0.04	−0.03	−0.01	−0.09 *
			(0.04)	(0.04)	(0.05)	(0.05)
Observations	11,053	11,053	11,053	11,053	11,053	11,053
Control variables	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses; *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.10$. Control variables include gender, age, urban location, nationality, marital status, household size, education level, and region of residence.

4.2. Blinder–Oaxaca Decompositions

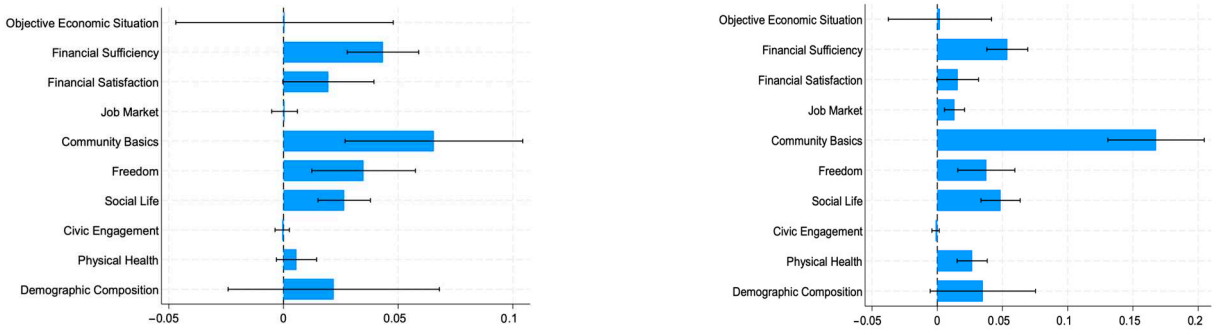
We use the Blinder–Oaxaca decomposition, shown in equation (1), to understand the main factors behind the increases in SWB. Table 3 shows the diagnostics of the decomposition analyses. The first part of Table 3 shows that in line with the descriptive statistics—the Cantril ladder differential between the two periods is 0.16 points (on a 0 to 10 scale), while the affect balance differential is 0.44 points. The second part of Table 3 shows that for both SWB measures, almost all change can be explained by changes in (perceived) circumstances or change in the explained component. Turning to the main results, Figure 2 presents the absolute point contributions to changes in SWB between the pre-reform period (2013–2017) and the reform period (2018–2023). Alternatively, the figure indicates how much of the difference in average SWB—0.16 points in case of the Cantril ladder and 0.44 points in case of the affect balance score—can be attributed to changes in the explanatory variables between the two periods. Panel A shows that the increase in the Cantril ladder score is primarily driven by improvements in community basics, with smaller contributions from enhanced financial sufficiency, perceived freedom, and social life. A similar pattern is

evident in Panel B for the affect balance score. However, in this case, improvements in physical health and housing affordability also contribute significantly. In contrast, changes in objective economic conditions, financial satisfaction, and perceived job climate play only a minor role in explaining the overall increase in SWB.

Table 3. Blinder–Oaxaca decomposition—Cantril ladder and affect balance.

	Cantril Ladder	Affect Balance
Differential		
During Vision 2030 reforms (2018–2023)	6.53	7.49
Pre-Vision 2030 period (2013–2017)	6.37	7.06
Difference	0.16 ***	0.44 ***
	(0.06)	(0.05)
Decomposition		
Explained	0.22 **	0.40 ***
	(0.04)	(0.04)
Unexplained	−0.06 **	0.04
	(0.06)	(0.10)
Observations	11,053	11,053

Robust standard errors in parentheses; *** $p < 0.01$, ** $p < 0.05$.



(**A**) Cantril ladder (**B**) Affect balance

Figure 2. Blinder–Oaxaca decompositions. Note: N = 11,053. For graphical representation, some variables have been grouped. Objective economic situation: income, relative income, and employment status; demographic composition: age, gender, marital status, household size, education level, migrant status, and place of residence. An overview of variables can be found in Appendix A. Please note that bars represent absolute point contributions (on a 0–10 scale) derived from the explained part of the Blinder–Oaxaca decomposition. Positive values reflect domains that contributed positively to the SWB change. Horizontal bars represent 95% confidence intervals.

The fact that community basics explain a large part in the rise in SWB is not surprising, as shown in Table 4: satisfaction with community basics increased from 64.4 to 80.3 on a 0–100 scale. Further investigation on the increase in affect balance and Cantril ladder scores shows that particularly improvements in housing affordability, satisfaction with public road infrastructure, and satisfaction with quality of air are associated with increases in SWB in Saudi Arabia. The percentage of people that were satisfied with good and affordable housing in the city they live in increased from 44% in the period 2013–2017 to 69% in the period 2018–2023, while the number of people satisfied with the road infrastructure increased from 54% to 75%. Despite slow economic growth, the percentage of respondents experiencing financial struggles with housing decreased from 28% to 20%, while the reforms also have a positive impact on perceived freedom and social life. Between 2013 and 2017, 16.5% of people were dissatisfied with their freedom to choose what to do with their lives. This share decreased to an average of 7.7% in the 2018–2023 period. Finally, satisfaction with social support increased by 5 percentage points.

Table 4. Change in averages of selected variables in the sample over time.

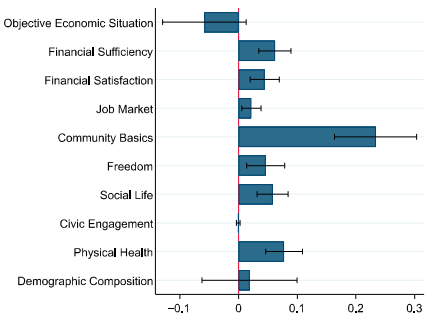
	Mean 2013–2017	Mean 2018–2023	Significance
% unemployed	12.5	9.7	***
Per capita income (ln)	9.2	9.4	***
Income sufficiency index (0–100)	72.2	79.9	***
Financial satisfaction index (0–100)	56.8	58.0	
Job climate index (0–100)	65.7	69.2	***
Community basics index (0–100)	64.4	80.3	***
% dissatisfied with freedom	16.5	7.7	***
Social life index (0–100)	81.9	86.1	***
Civic engagement index (0–100)	38.4	36.8	**
Age	33.8	34.7	**
% female	42.0	39.4	***
% single	36.8	30.7	***
% not born in country	24.4	23.1	
% health problems	13.7	10.1	***
% tertiary educated	21.7	34.4	***

*** $p < 0.01$, ** $p < 0.05$; significance levels estimated using robust standard errors.

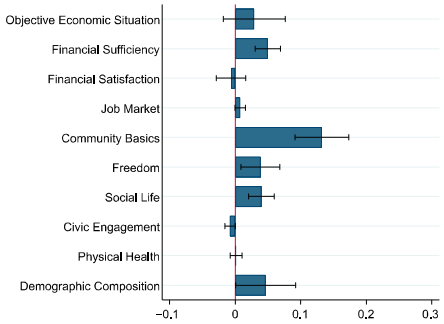
4.3. Heterogeneous Drivers

Although the relationship between Vision 2030 and SWB only slightly differs across groups, reasons for SWB increase might still vary across groups. For this reason, we ran Blinder–Oaxaca decompositions for different groups in our sample. Some general patterns could be observed. First, differences are more pronounced with regard to the drivers of the affect balance scores than with regard to the Cantril ladder scores. This is not surprising since the average increase in affect balance scores was also larger than the average increase in Cantril ladder scores. Second, part of the differences between groups are driven by changes in the demographic composition of some groups in the sample over time. This can be explained by the fact that the Gallup World Poll in Saudi Arabia has become more inclusive over time, in more recent years also including non-Arabic populations. Third, improvements in community basics appear to be important for all groups.

At the same time, there are some small to moderate differences in the relative importance of drivers across groups. Figures 3–6 show the Blinder–Oaxaca estimates for the affect balance estimations for different subgroups; the Cantril ladder estimates are available upon request. First, for women and youth, increases in financial satisfaction seem to drive increases in affect balance scores more than for men, older people, people in rural areas, and Saudi nationals (see Figures 3–6). These findings could also be generally observed for the estimations using the Cantril ladder as dependent variable. Second, for women and older people, improvements in physical health appear to be a more important driver of the increase in affect balance than for younger people (Figures 3 and 4). Third, for youth and Saudi nationals, increases in perceived freedom are significantly associated with increases in SWB, but particularly with regard to Cantril ladder scores for the younger part of the population.

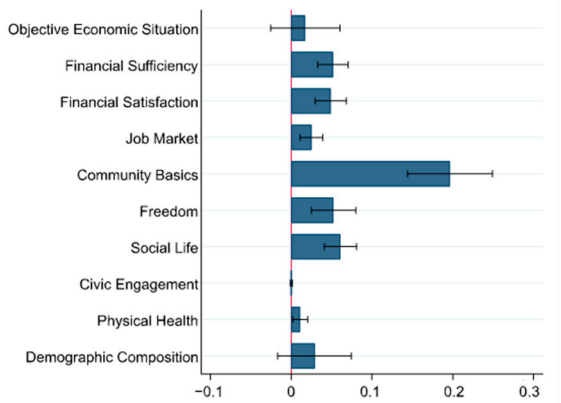


(**A**) Affect balance, female (n = 4731)

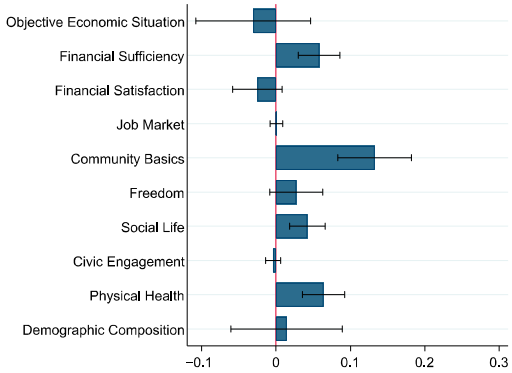


(**B**) Affect balance, male (n = 6322)

Figure 3. Blinder–Oaxaca decompositions by gender. For graphical representation, some variables have been grouped. Objective economic situation: income, relative income, and employment status; demographic composition: age, gender, marital status, household size, education level, migrant status, and place of residence. An overview of variables can be found in Appendix A. Please note that bars represent absolute point contributions (on a 0–10 scale) derived from the explained part of the Blinder–Oaxaca decomposition. Positive values reflect domains that contributed positively to the SWB change. Horizontal bars represent 95% confidence intervals.

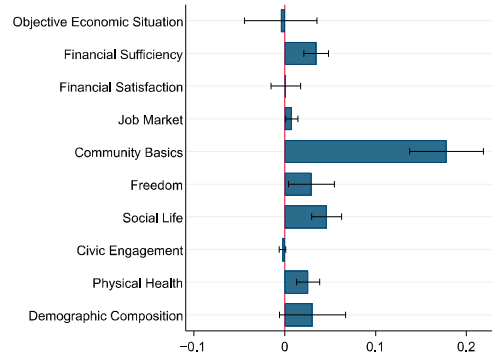


(**A**) Affect balance, younger than 35 (n = 7435)

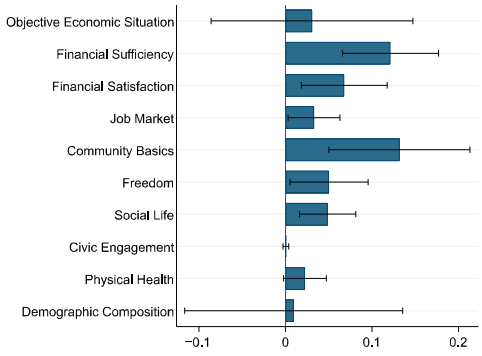


(**B**) Affect balance, 35 years and older (n = 3518)

Figure 4. Blinder–Oaxaca decompositions by age group. For a description of categories, see Figure 3.



(**A**) Affect balance, living in urban area (n = 9070)



(**B**) Affect balance, living in rural area (n = 1983)

Figure 5. Blinder–Oaxaca decompositions by place of residence. For a description of categories, see Figure 3.

(**A**) Affect balance, born in Saudi Arabia (n = 6941) (**B**) Affect balance, born in another country (n = 4112)

Figure 6. Blinder–Oaxaca decompositions by place of birth. For a description of categories, see Figure 3.

5. Discussion and Limitations

5.1. Discussion

In this study, we examined the relationship between policy reforms and SWB in Saudi Arabia. The study advances the literature on SWB and national policy reforms in several ways. First, it addresses a gap in the literature by providing one of the first empirical analyses of how large-scale, multidimensional reform programs can affect SWB. Second, it expands the geographic scope of existing research, which largely focused on Western contexts and singular policy reforms, by offering insights from a rapidly transforming non-Western society in the underexplored GCC region. Third, the study goes beyond aggregate effects of policy programs by identifying the specific social, economic, and institutional channels through which Vision 2030 influenced SWB. Fourth, the study contributes to the understanding of distributional impacts by analyzing how different demographic groups experienced these reforms, thereby examining the heterogeneous effects of large-scale policy interventions on SWB.

Overall, our results show an increase in SWB after the implementation of Vision 2030 in Saudi Arabia, most notably in the affect balance scores of the female population. The stronger increase in the affect balance score compared to the Cantril ladder can be explained by the fact that (1) the initial years of Saudi Vision 2030 were marked by slow economic growth, and (2) income is stronger related to the more cognitive evaluations of SWB [64]. The observed increase in SWB is associated with improvements in community basics, greater affordability of basic needs, improved social life, and an enhanced sense of freedom. In this regard, our findings align with the observation that the 'Saudi Arabia's social reforms have outpaced the economic ones' ([68], p. 54). Indeed, while reforms made visible progress, actual implementation varies across policy domains and regions (e.g., [68–70]). At the same time, it cannot be expected that large transformations happen overnight. In some policy areas, it takes time before reforms can be implemented [69]. For example, although strong progress has been made with the empowerment of women, as evidenced by improved access to education and increased workforce participation (also in leadership roles), there is still cultural resistance [70], where conservative religious figures expressed concern about social liberalization, seeing it as contrary to Islamic values.

Although there are also criticisms of Vision 2030, mostly related to the lack of diversification and the supposed gap between the official narrative and public freedoms [71], SWB increased in Saudi Arabia in recent years and this change can be explained by several factors that were targeted by Vision 2030. Although no prior studies explored the relationship between Vision 2030 and SWB, our findings are broadly consistent with a recent survey conducted by the Saudi Center for Opinion Polling [72]. The survey was administered to a

random sample of 2822 adult Saudis using random digit dialing, achieving approximately 96% mobile phone coverage nationwide. Specifically, respondents were asked to reflect on perceived changes during the first five years of the reform program.

The poll provides a nuanced picture that is in line with our finding that increases in SWB are particularly related to social reforms and improved community basics: while 93% of respondents believe that national conditions improved, only 57% report a corresponding improvement in their personal situation. Perceived progress is most pronounced in domains such as women's employment (94%), government performance (90%), and entertainment (89%), while people believe that progress with male employment (39%), personal financial condition (30%), and home ownership opportunities (44%) are trailing behind. These findings are also in line with the objective reality that social liberalization was accompanied by modest economic growth in the late 2010s and early 2020s [13]. Where participation of women in the workforce, quality of life, and leisure opportunities expanded significantly, diversification of the economy and foreign investments in the economy were lagging behind.

5.2. Limitations

There are several limitations to our study. First, our results should be cautiously interpreted as they represent conditional associations rather than causal relationships. Moreover, our data only allow for a medium-run assessment. In this regard, it cannot be expected that the reforms happen overnight, and time is needed for some interventions (e.g., economic diversification, female empowerment) to reach their full potential. Likewise, our study is unable to look in detail at regional disparities in SWB within Saudi Arabia.

Second, although our sample is reasonably representative for the Saudi population, it is likely that some groups are underrepresented. Although GWP intends to include both Saudi nationals and migrants in its sampling frame, it is likely that low-education migrants are underrepresented due to limited phone access, inaccessible housing, fear of surveys, and language mismatches (i.e., the survey not available in a language they understand). In addition, we acknowledge limitations of relatively small sample sizes in capturing the subgroup dynamic.

The third and the most significant limitation of this study is that, due to a lack of more granular data, the impact of Vision 2030 was estimated using a dummy variable, using the official implementation date of Vision 2030 as the starting point of the program. Despite our results when controlling for COVID-19 and oil-related shocks, Vision 2030 represents a complex, multi-dimensional initiative that unfolds progressively across a wide range of policy areas. Moreover, many reforms, such as the decree allowing women to drive, were announced and implemented at different times. Although our binary approach offers a useful starting point for detecting general trends, future research should employ reform-specific timelines to more accurately identify and attribute policy effects.

A final and related limitation of this study is that it does not allow for an examination of the effects of specific initiatives under Saudi Vision 2030. As stated, Vision 2030 is a multi-faceted program and a greater differentiation between types of reforms (e.g., legal, educational, and infrastructural) could also help us to find out what works for whom under which circumstances. In this regard, future field experiments and policy evaluation studies in Saudi Arabia could address these issues and further investigate the impact of these reforms steering Saudi Arabia to a more socially sustainable society. Qualitative research could in this regard also help to better understand changes in SWB and what is important for people's SWB, e.g., [73].

6. Conclusions and Policy Implications

In this article, we examined SWB in Saudi Arabia following the most recent reforms under Saudi Vision 2030. SWB reflects on how people experience their life and is therefore a good outcome measure to gauge developments in social sustainability or the ability of a society to maintain and improve the well-being of its people. Despite the challenges Saudi Arabia faced in implementing Vision 2030—related to the COVID-19 and low oil prices—we found an increase in SWB after the implementation of these reforms, particularly with regard to the affective component of SWB. Although, on average, the entire population experienced improvements in SWB, the increase in affective well-being is particularly notable among women. Overall, these positive shifts in SWB could be linked primarily to better access to essential community services, followed by greater financial sufficiency, more favorable views of social life, and a heightened sense of personal freedom.

Our study has some policy implications. First, given that the largest contribution to the increase in SWB stemmed from improvements in community basics, it is important to sustain and expand investment in public infrastructure and urban planning. Furthermore, greater personal freedom and the empowerment of women, through enhanced access to employment, mobility, and social life, appear to have significantly contributed to higher SWB. To further promote SWB, it is crucial to continue expanding civil liberties and implementing legal and social reforms that advance women empowerment. Targeted initiatives, such as childcare support and female entrepreneurship programs, can play an important role in this regard.

Second, SWB improved despite the COVID-19 pandemic and modest economic growth. This suggests that Saudi Arabia's experience demonstrates how social reforms can buffer the SWB effects of limited economic growth. Nevertheless, the long-term sustainability of SWB improvements likely depends on continued economic modernization and diversification efforts that reduce dependence on oil. While economic growth was not the primary driver of SWB gains in the early phase of Vision 2030, it remains a pivotal foundation for sustaining SWB over time and funding reforms in the social domain. Hence, Vision 2030 underscores the critical role of social reforms while also highlighting the limitations of SWB improvements in the absence of robust economic growth, which is also evidenced by limited improvements in the Cantril ladder scores over time.

Third, and related to the previous point, it is important that future economic growth does not come at the expense of other key determinants of SWB. Evidence suggests that despite decades of substantial economic growth, SWB stagnated or only marginally increased in wealthier nations [74]. One explanation is that economic growth can be accompanied by declines in non-income drivers of happiness, such as interpersonal relationships and environmental conditions in the case of China [75,76]. Policymakers should therefore integrate SWB indicators into economic policy planning to ensure that the benefits of growth translate into meaningful improvements in SWB. It is essential to recognize that economic growth is not neutral: its impact depends on how it is achieved and how its benefits are distributed [77]. This should be further examined in future research.

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Institutional Review Board Statement: Not applicable due to use of pre-existing secondary data. Specifically, the research involves data collected by Gallup in their annual World Poll, which was conducted in accordance with the ethical standards established by Gallup.

Informed Consent Statement: Informed consent was gained from all participants in the Gallup World Poll.

Data Availability Statement: The Gallup World Poll used in this study can be purchased from Gallup. For more information, see https://www.gallup.com/analytics/318875/global-research.aspx (accessed on 1 June 2025). Variables calculated using the Gallup World Poll are provided in Appendix A.

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Abbreviation

The following abbreviations are used in this manuscript:

SWB	Subjective well-being
GCC	Gulf Cooperation Council
GWP	Gallup World Poll
OPEC	Organization of the Petroleum Exporting Countries

Appendix A

Table A1. Variables included in the analyses.

Variable	Question	Scale
Cantril ladder	Please imagine a ladder, with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time	0–10
Affect balance	Average score of 10 items: Did you feel well-rested yesterday? (yes = 1) Were you treated with respect all day yesterday? (yes = 1) Did you smile or laugh a lot yesterday? (yes = 1) Did you learn or do something interesting yesterday? (yes = 1) Did you experience the following feelings during a lot of the day yesterday? How about enjoyment? (yes = 1) Did you experience the following feelings during a lot of the day yesterday? How about physical pain? (yes = 1) How about worry? (yes = 1)How about sadness? (yes = 1) How about stress? (yes = 1) How about anger? (yes = 1)	0–10
Objective economic situation		
Employment status	What is your current employment status?	1 = employed full-time 2 = self-employed 3 = part-time employed 4 = unemployed, 5 = out of workforce.
Per capita income	Per capita income (reported annual household income divided by household size)	International dollars
Relative income	Income quintile	1 = lowest 20% 5 = highest 20%

Table A1. *Cont.*

Variable	Question	Scale
Income Sufficiency		
Income sufficiency index	Index with 2 equally weighted items. Have there been times in the past 12 months when you did not have enough money to: 1. buy food that you or your family needed? 2. provide adequate shelter or housing for you and your family?	1 = yes; 0 = no
Financial Satisfaction		
Financial satisfaction index	Index with 4 equally weighted items: 1. Which one of these phrases comes closest to your own feelings about your household's income these days? (a) living comfortably on present income, (b) getting by on present income, (c) finding it difficult on present income, (d) finding it very difficult on present income. 2. Are you satisfied or dissatisfied with your standard of living, all the things you can buy and do? 3. Right now, do you feel your standard of living is getting better or getting worse? 4. Right now, do you think that economic conditions in the city or area where you live, as a whole, are getting better or getting worse?	1 = living comfortably 0 = other 1 = satisfied; 0 = dissatisfied 1 = getting better 0 = other 1 = getting better 0 = other
Job Climate		
Job climate index	Index with 4 equally weighted items: 1. Right now, do you think that economic conditions in the city or area where you live, as a whole, are getting better or getting worse? 2. Thinking about the job situation in the city or area where you live today, would you say that it is now a good time or a bad time to find a job?	1 = getting better 0 = other 1 = good time 0 = other
Community Basics		
Community basics index	Index with 6 equally weighted items. In your city or area where you live, are you satisfied or dissatisfied with the: 1. Public transportation systems? 2. Roads and highways? 3. Quality of air? 4. Quality of water? 5. Quality of healthcare? 6. Quality of educational system or the schools? 7. Availability of good and affordable housing?	1 = satisfied; 0 = dissatisfied
Freedom		
Satisfied with freedom	In Saudi Arabia are you satisfied or dissatisfied with your freedom to choose what you do with your life?	1 = satisfied; 0 = dissatisfied
Social Life		
Social life index	Index with 2 equally weighted items: 1. If you were in trouble, do you have relatives or friends you can count on to help you whenever you need them, or not? 2. In your city or area where you live, are you satisfied or dissatisfied with the opportunities to meet people and make friends?	1 = yes; 0 = no 1 = satisfied; 0 = dissatisfied
Civic Engagement		
Civic engagement index	Index with 3 equally weighted items. Have you done any of the following in the past month? How about: 1. Donated money to a charity? 2. Volunteered your time to an organization?	1 = yes; 0 = no
Physical Health		
Has health problems	Do you have any health problems that prevent you from doing any of the things people your age normally can do?	1 = yes; 0 = no

Table A1. *Cont.*

Variable	Question	Scale
Demographic Composition		
Age		Age in years
Gender		Male/female
Marital status	Marital status:	1 = Single/Never married 2 = Married 3 = Separated 4 = Divorced 5 = Widowed, 6 = Do not know/refused
Household size	Number of household members	
Immigrant	Were you born in this country, or not?	1 = no; 0 = yes
Region	The respondent's region.	1 = Central 2 = Western 3 = Eastern 4 = Southern 5 = Northern
Lives in a rural area	The respondent's self-reported type of settlement.	1 = Rural area or farm 2 = Small town or village 3 = Large city 4 = Suburb of a large city
Education level	What is your highest completed level of education? Elementary: completed elementary education or less (up to 8 years of basic education); Secondary: completed secondary education and up to 3 years tertiary education (nine to 15 years of education); or Tertiary: completed 4 years of education beyond "high school" and/or received a 4-year college degree.	1 = elementary 2 = secondary 3 = tertiary

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