



RIETI Discussion Paper Series 24-E-017

Postmaterialist Values Contribute to and Alleviate Global Well-being Disparities: Evidence from Gallup World Poll data

YOO, Sunbin

Kyushu University

KUMAGAI, Junya

Fukuoka University

COULIBALY, Thierry

Kyushu University

MANAGI, Shunsuke

RIETI



Research Institute of Economy, Trade & Industry, IAA

The Research Institute of Economy, Trade and Industry

<https://www.rieti.go.jp/en/>

Postmaterialist Values Contribute to and Alleviate Global Well-Being Disparities: Evidence from Gallup World Poll data^{*}

Sunbin Yoo¹, Junya Kumagai², Thierry Coulibaly¹, and Shunsuke Managi¹

¹Faculty of Engineering, Kyushu University

²Faculty of Economics, Fukuoka University

Abstract

Rural populations globally tend to report lower subjective well-being (SWB) than their urban counterparts. Although most solutions to this problem have focused on increasing material gains, our research, drawing from Gallup World Poll data and regression analysis with an instrumental variables approach, underscores the importance of postmaterialist values such as free choice, community attachment and education in explaining the disparity. Grounded in Inglehart's theory which traces human aspirations from survival to higher ambitions, and empirical findings on the impact of postmaterialism on well-being, we argue that embracing postmaterialist values is crucial to enhancing rural well-being and lessening the urban-rural divide in terms of SWB. Notably, this holds true not only for countries with high GDP but also for less affluent countries. By exploring a range of well-being indicators, including factors such as positive and negative experiences, and honing in on specific postmaterialist elements, our research provides compelling evidence for prioritizing these postmaterialist values in rural areas to effectively address SWB disparities.

Keywords: Life satisfaction; rural-urban disparity; postmaterialist values; Subjective well-being

JEL Classification: I31, O15, R23, Z13.

The RIETI Discussion Paper Series aims at widely disseminating research results in the form of professional papers, with the goal of stimulating lively discussion. The views expressed in the papers are solely those of the author(s), and neither represent those of the organization(s) to which the author(s) belong(s) nor the Research Institute of Economy, Trade and Industry.

^{*}This study is conducted as a part of the project “Institutional design to achieve well-being society” undertaken at the Research Institute of Economy, Trade and Industry (RIETI). I would like to thank participants of the Research Institute of Economy, Trade and Industry (RIETI) DP Seminar where the draft of this paper was presented for their helpful comments. The author is also grateful for helpful comments and suggestions by the members of this project.

1 Introduction

The disparity in subjective well-being (SWB) between urban and rural areas poses significant challenges across social, economic, and political spheres (Easterlin et al. (2011)). Fundamentally, this disparity results in a pronounced difference in quality of life, rooted in the unequal distribution of resources and opportunities. Urban areas, often viewed as centers of development, are replete with economic, social, and cultural resources. In contrast, rural regions frequently face developmental challenges marked by gaps in infrastructure, educational opportunities, and healthcare (Requena (2016); Easterlin et al. (2011)).

Our study delves into the urban-rural disparity in SWB, hypothesizing its roots in the unequal access to postmaterial values such as empowerment, personal growth, and societal trust. These elements are pivotal for achieving holistic well-being that transcends mere economic factors (Inglehart and Welzel (2005); Welzel and Inglehart (2010)). We propose that a lack of postmaterial values, leading to diminished self-actualization, significantly contributes to this disparity. In this context, our research builds upon and extends the insights of Lever et al. (2005), which emphasize the importance of postmaterial values in rural areas. Lever's work highlights how these values can alleviate the impacts of economic inequality, particularly through the strengthening of social ties.

Prior research has illuminated the critical role of postmaterial values in rural areas. The enhancement of these values in such settings could markedly reduce well-being disparities, yielding extensive societal benefits that span health, financial security, and self-efficacy (Dolan et al. (2008), Akaeda (2020)). Furthermore, the significance of social support and trust in rural communities for promoting social cohesion and diminishing happiness disparities is highlighted in various studies (Putnam et al. (1993), Delhey and Dragolov (2014), Yamamura et al. (2015)).

The shift from materialistic to postmaterial values reflects an evolving societal under-

standing of well-being, extending beyond material needs to encompass a broader spectrum essential for a fulfilling life (Diener et al. (2018)). Addressing this disparity is crucial for policy-making, especially as urban-focused development often overshadows rural needs, resulting in resource concentrations in cities and leaving rural areas disadvantaged (Alesina et al. (2004), Requena (2016), Xu et al. (2023)). This oversight contributes to a sustained decline in rural SWB, exacerbated during events like the COVID-19 pandemic (Mahmud and Riley (2021)). Moreover, challenges faced by rural migrants in urban centers, such as integration barriers and societal biases, complicate this disparity (Knight et al. (2009)).

Attaining a thorough understanding of the disparities in SWB between urban and rural areas requires a holistic approach that emphasizes the significance of postmaterial values. Effective strategies should aim at the equitable distribution of these postmaterial aspects, particularly focusing on enhancing community cohesion, health, and cultural and educational experiences, as well as empowering the voices within these communities.

We also delve into the various components of SWB. Diener and Emmons (1984) proposed that SWB comprises three distinct major components: life satisfaction, positive experiences, and negative experiences. Subsequent research has consistently supported this view, demonstrating that these components are independent and influenced by different factors. For example, according to Diener and Emmons (1984), extroversion, one of the personality traits, has been closely linked with positive experiences but shows a weaker association with negative experiences. Similarly, societal income has a more significant correlation with life satisfaction than with a reduction in negative experiences.

The growing recognition of the multidimensional nature of SWB in recent research underlines the importance of analyzing its various aspects. Previous studies have delineated life satisfaction, positive experiences, and negative experiences as individual

yet interrelated components of SWB (Powdthavee et al. (2017), Diener (2013), Jebb et al. (2018)). Our study is influenced by and expands upon this framework, aligning with the insights these studies provide. By examining these separate elements of SWB, our analysis offers a holistic perspective on SWB disparities, capturing not only the overall life satisfaction but also the range and intensity of emotional experiences that individuals encounter daily lives.

Methodologically, our study employs a rigorous quantitative analysis approach through a difference-in-coefficients approach, pinpointing the urban-rural SWB disparity. Our application of instrumental variables (IV) not only corroborates the hypothesized causative link between postmaterial values and SWB disparities but also enhances the robustness of our conclusions. Furthermore, we conduct a series of robustness checks, recalibrating and refining the constituents of postmaterialism to ensure that our findings are valid in various analytical contexts.

In sum, our research aims to illuminate the relationship between SWB disparity and postmaterial values and their importance in explaining the urban-rural divide in SWB at the global scale. By considering the interconnectedness of material wealth and postmaterial fulfillment, we offer insights to establish a holistic approach for elevating quality of life in communities everywhere, transcending geographic constraints.

Descriptive Evidence This study utilizes data from the Gallup World Poll, covering the period from 2006 to 2021 and encompassing over 160 countries. Gallup's classification of residence is derived from participants' responses to the question: "Where does the respondent live: (1) a rural area or farm; (2) a small town or village; (3) a suburb of a major city; (4) a major city; (5) refuse to answer." In our analysis, 'Rural' specifically denotes individuals in category (1), while 'Urban' encompasses respondents in categories (3) and (4). For a comprehensive explanation of the categorization methodology, please refer to

Section 4.

Referring to earlier studies (Easterlin et al. (2011), Ng and Diener (2014)) that utilized Gallup World Poll data to investigate both material and postmaterial values, we established several indicators for both materialism and postmaterialism, as illustrated in Table 1. We largely drew from past research that explored the relationship between SWB and postmaterial or material values and the types of variables they used, in ‘References’ column. The correlation matrix between each indicators are presented in Supplementary Materials Table S2.

Table 1: *Items included in Defining Materialism and Postmaterialism*

	Indicators	References
Materialism	Job Climate	Caroli and Godard (2016)
	Financial Stability	Brüggen et al. (2017)
	Financial Optimism	Strömbäck et al. (2017), Iannello et al. (2021)
Postmaterialism	Community Attachment	Wei et al. (2011)
	Freedom of Choice and Speech	Inglehart and Welzel (2005), Schyns (1998), Putnam (2000), Frey and Stutzer (2000), Barro (1999)
	Youth Development	Akaeda (2020)

Our focus starts from the ‘postmaterialism’ variable, encompassing factors such as community attachment, freedom of choice and speech, and youth development. From Table S2, these elements exhibit not only interconnectivity but also synergistic relationships. For example, an increase in community attachment is often linked with greater freedom of choice, illustrating their reciprocal influence. Employing the ‘postmaterialism’ variable allows us to grasp these dynamics, offering a holistic view of their collective effects. Then, we delve into the individual roles of these components in reducing the urban-rural SWB gap, shedding light on the distinct impacts of each factor.

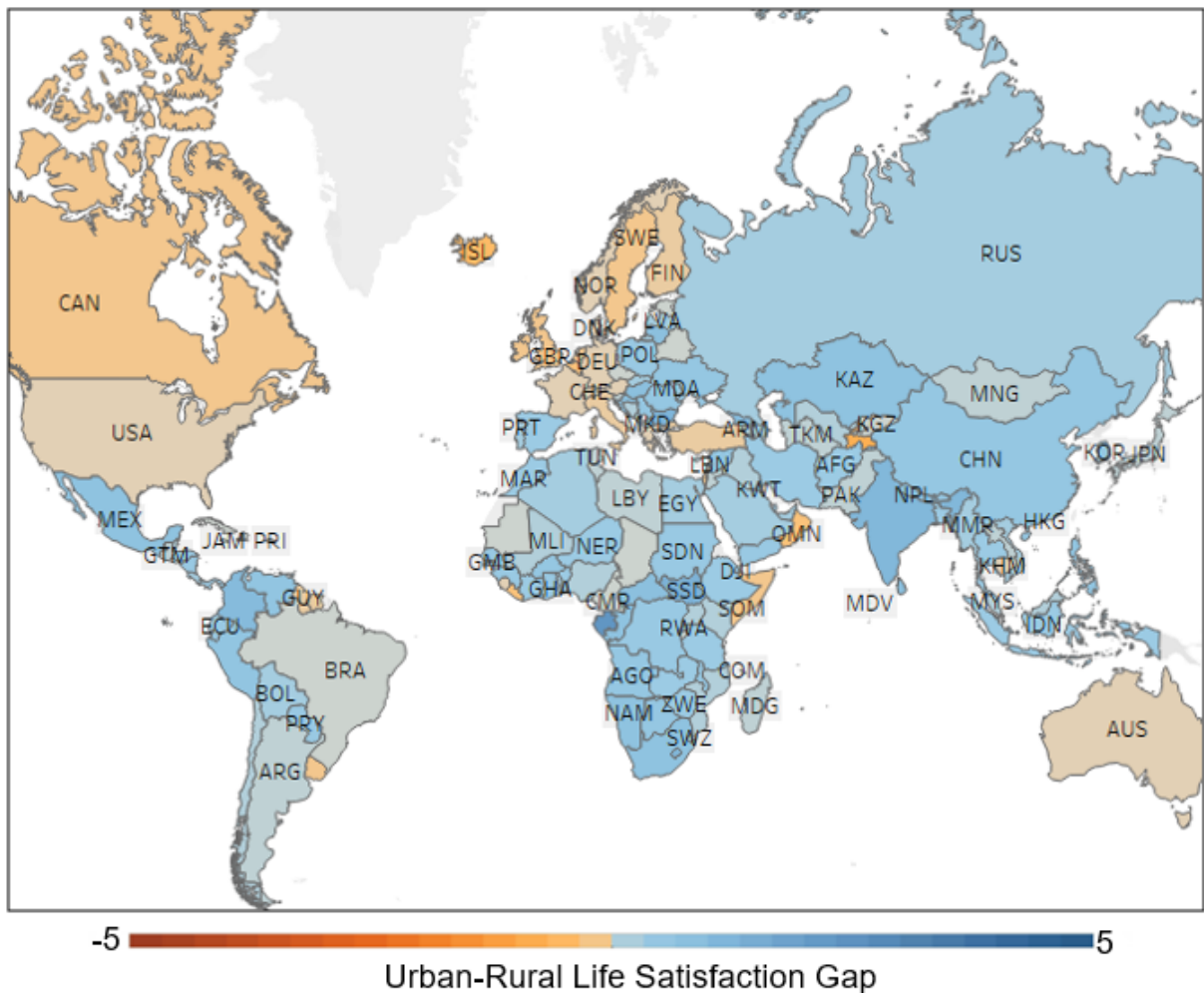
In our study, we perform a descriptive analysis to discern the differences in postmaterial and material values between urban and rural areas at a global scale. This process is visualized in Figure 1, where we depict postmaterial values on the upper side and mate-

rial values on the bottom. The figure employs a color gradient, transitioning from deep blue to indicate a notable urban advantage through neutral shades and culminating in orange to represent a rural advantage. Notably, Figure 1 displays a consistent trend of urban areas having a stronger association with both postmaterial and materialistic values, with the divide especially pronounced in regions such as Europe, parts of Asia, and America, as indicated by the deeper blue tones.

We also examine the global disparity in life satisfaction between urban and rural areas, as illustrated in Figure 2. Here, the blue color represents an urban advantage, while orange signifies a rural advantage. The overarching pattern observed is a higher level of life satisfaction in urban areas compared to that in rural areas across most nations. When combining these findings, there is a clear urban edge in terms of material wealth, postmaterial values, and overall life satisfaction. With these insights as a backdrop, our research quantitatively delves into whether augmenting postmaterial values (with consideration of materialist values) can effectively mitigate the SWB disparities observed globally.

Our Contribution This research contributes significantly to the existing body of knowledge on SWB disparities in three key ways. Firstly, it sheds light on the often-neglected aspects of SWB disparities, underscoring their extensive societal consequences. While preceding studies, such as those by Sechel (2021), have underlined the urgency of addressing SWB disparities to enhance happiness across a wider population, they have predominantly done so through the prism of materialism. In contrast, our study takes an innovative path by examining the influence of postmaterial values. This approach is geared towards understanding how the presence or lack of these values can alleviate SWB disparities.

Secondly, the research offers an essential empirical examination of factors contribut-



in rural settings. However, there is a noticeable gap in exploring how postmaterial values specifically affect SWB in these rural environments. This aspect of the study diverges from works like those by [Niva et al. \(2023\)](#), [Zhang et al. \(2020\)](#), and [Mazzone et al. \(2023\)](#), which have primarily focused on material disparities, by highlighting the potential impact of postmaterialism in shaping SWB in rural contexts.

In contrast, our study seeks to fill this gap by exploring the potential role of postmaterial values in enhancing SWB in rural areas. Drawing inspiration from [Stier et al. \(2021\)](#), which demonstrates how strong urban social networks can mitigate mental health challenges, a key component of SWB, we extend this inquiry to rural settings. We investigate

whether the integration and strengthening of postmaterial values in rural communities can similarly improve SWB. This investigation into the potential of postmaterialism in rural contexts represents a significant and novel contribution to the ongoing discourse of well-being disparities, broadening the scope beyond material considerations to include values that focus on personal growth, social connections, and community engagement.

Third, building on the work of [Easterlin et al. \(2011\)](#), we contribute new empirical evidence at a global scale. Prior studies, such as those by [Xu et al. \(2023\)](#), [Cai and Wang \(2018\)](#), [Huang et al. \(2023\)](#), and [Requena \(2016\)](#), provided valuable country-level insights but fell short of capturing global patterns. Our research addresses this gap by analyzing data from over 140 countries within a cohesive framework that synchronizes the time span and survey items. This comprehensive approach enables us to discern global trends in SWB disparities. We also investigate whether wealthier nations, which may have moved beyond basic material needs, are adopting postmaterial values and thereby reducing the urban-rural SWB disparity, a trend that might be less pronounced in less affluent countries. By exploring these intricate patterns, our study aims to enhance the understanding of urban-rural well-being disparities and their varying manifestations across different economic landscapes.

The study is organized as follows. Section [2](#) describes our descriptive findings and the empirical analysis. Section [3](#) presents the implications of our results, and their significance is interpreted within the broader context of SWB research. In Section [4](#), we detail our data collection techniques and methodological framework. Supplementary Materials are provided for readers seeking a more comprehensive understanding of our research, with extended datasets and additional supportive results provided.

2 Result

2.1 Empirical Results

Quantified evidence of urban-rural SWB disparity. In our empirical investigation, we delve into the significance of postmaterial values in elucidating the urban-rural disparity in SWB. Adding up to the full result, we employ economic stratification, anchored on GDP levels as of 2021—the terminal year of our dataset—as a pivotal reference point. This inquiry is designed to verify the alignment of our estimations with previous studies, notably those propounding a pronounced transition towards postmaterial necessities in affluent societies, as evidenced in the works of [Ng and Diener \(2014\)](#) and [Diener and Tov \(2007\)](#). These references underscore the evolving dynamics of societal values and their impact on well-being across different economic strata. Thus, we consider four groups in total: (1) Full sample, (2) Top 25% GDP countries, (3) Top 25 to 75% GDP countries, and (4) Bottom 25% GDP countries. Detailed maps and a comprehensive list of the countries in each GDP group are available in the Supplementary Materials Table S1.

The focal point of our analysis is the ‘Rural’ coefficient, which captures the intrinsic differences in SWB relative to urban areas. Specifically, after adjusting for individual characteristics and country-level GDP and fixed effects, a negative ‘Rural’ coefficient would indicate that, all other factors being equal, SWB in rural areas is inherently lower than in urban counterparts. This coefficient serves as a crucial metric in our study to quantify and understand the SWB disparity between urban and rural settings.

Figure 3 delineates the estimated coefficients for ‘Rural’, starting from the Full sample results and sequentially proceeding through GDP quartiles. The estimated ‘Rural’ coefficient is a byproduct of a regression model with all types of control variables such as country-level GDP and series of fixed effects are included. The full regression results are reported in the Supplementary Materials (Tables S3 to S6). To address endogeneity, the

IVs of historical GDP and religious origins, as IVs of postmaterialism and materialism, respectively, are included, inspired by [Tabellini \(2010\)](#) and [Riumallo-Herl et al. \(2014\)](#), and they are extensively described in [Section 4.2.2](#). Note that the coefficient estimates across varying samples are not directly comparable; thus, comparing coefficients for the Top 25% GDP and Top 25-75% GDP groups is not valid. Instead, within-group coefficient variations, thus across models in the same group, offer insight into the unique dynamics of each group.

Our analysis starts with the ‘Rural’ coefficient in Model 1 ([Figure 3](#)), which is indicative of SWB disparities between urban and rural locales. Model 1, regardless of the GDP groups, uniformly illustrates a pronounced SWB deficiency in rural areas, as indicated by the coefficient of -0.498 for the full sample, signifying a universally lower SWB in rural settings, regardless of GDP categorization.

For Models 1 and 2, we discover the significant role of postmaterial values in reducing (and contributing to) urban-rural SWB disparities. Model 2 indicates that a portion of the low rural SWB (difference in the ‘Rural’ coefficient between -0.498 for the full sample based on Model 1 and -0.336 for Model 2) could be attributed to a scarcity of postmaterial values, indicating that rural residents are approximately -0.162 $(-0.498 - (-0.336))$ points happier than urban residents due to the lack of postmaterial values. On the other hand, this result suggests that bolstering postmaterial values may substantially alleviate urban-rural SWB disparities. In contrast, when examining Models 1 and 3, which consider the correlation between materialistic values and urban-rural SWB disparity, a negligible shift is noted in the coefficient of the ‘Rural’ variable within the full sample (slightly shifting from -0.498 to -0.501). This marginal change points to a limited influence of materialistic values on the SWB divide.

A comprehensive analysis of Model 4, which integrates both material and postmaterial values with the control variables established in Model 1, indicates a substantial

decrease in SWB disparities. This finding suggests a couple of plausible scenarios: either the convergence in SWB is predominantly influenced by the impact of postmaterial values or it results from a synergistic interaction between postmaterial and material values, or possibly a combination of both.

Our analysis spanning various GDP categories consistently demonstrates that postmaterial values play a pivotal role in diminishing urban-rural SWB disparities. Most notably, the largest inherent SWB disparity is observed in the Top 25% GDP countries, where the rural coefficient stands at -0.558. This gap is slightly smaller in the top 25-75% GDP countries, at -0.438, and further diminishes in the bottom 25% GDP countries. Enhancing postmaterial values is particularly effective in narrowing the SWB disparity in more affluent societies, aligning with findings from studies like [Inglehart et al. \(2008\)](#), which highlight a shift towards postmaterialist needs in wealthier societies. This suggests that the influence of postmaterial values in reducing the SWB disparity surpasses the effects attributable solely to improvements in materialistic values. Interestingly, this trend holds true even in low-GDP nations, where the impact of postmaterial values on SWB is more pronounced than that of materialistic values.

Impact of Postmaterial Dimensions on Urban-Rural SWB Disparity In this section, we explore the specific impacts of postmaterial factors on bridging the SWB disparities between urban and rural populations. Our analysis, visually represented in Figure 4, includes five distinct model specifications. The baseline model, referred to as Model 1, focuses exclusively on the 'Rural' coefficient, without considering any postmaterial influences. Subsequent models add layers of complexity: the 'Youth Development' model adds the Youth Development index to the baseline model, the 'Freedom of Choice' model integrates the Freedom of Choice index into the baseline model, and so on. For a complete overview of the results, readers are directed to the Supplementary Materials (Tables

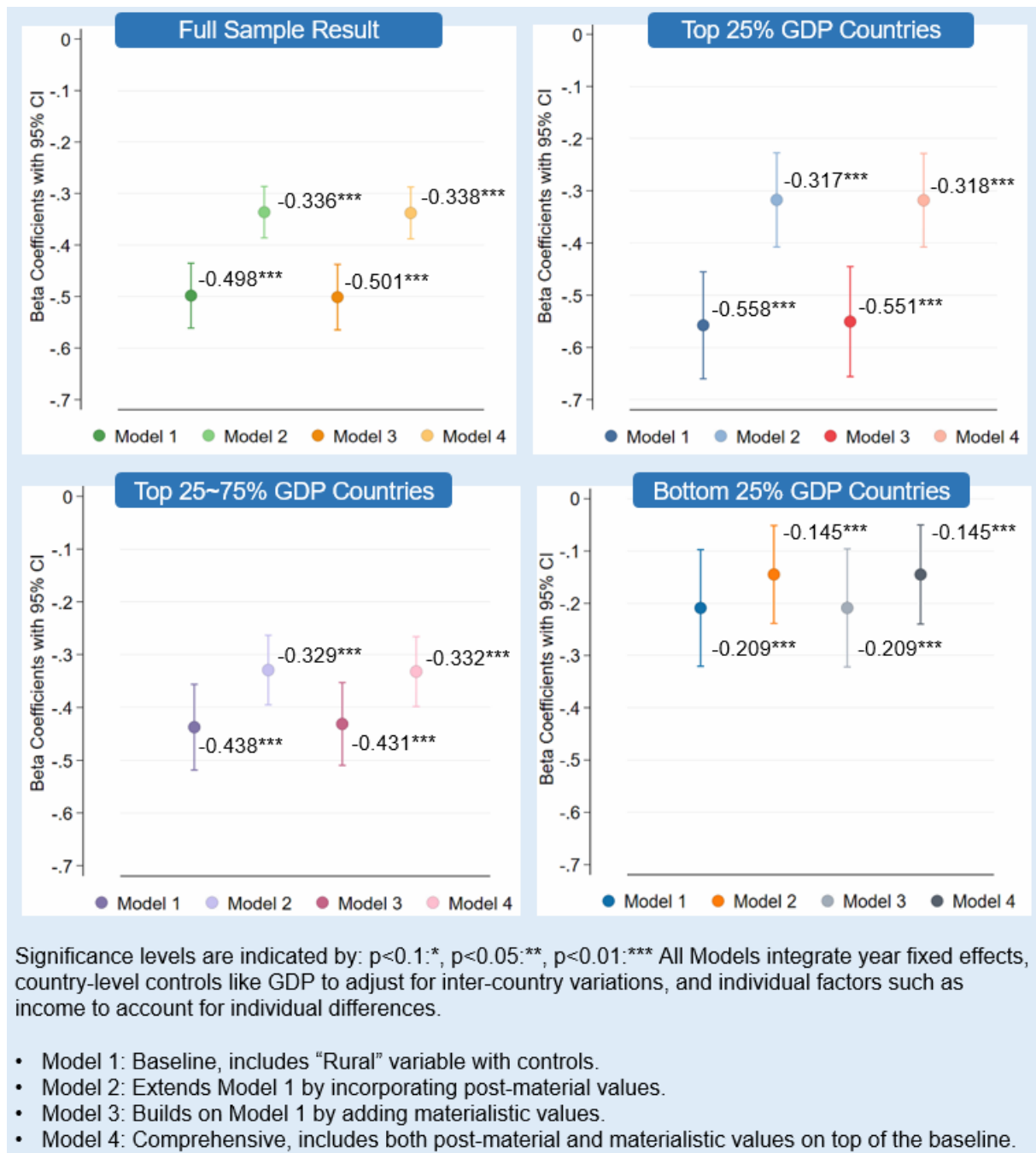


Figure 3: *Impact of Postmaterial values on and urban-rural SWB disparity*

S7 to S10).

Our findings underscore the critical role of community attachment in bridging the SWB disparity between urban and rural areas, a trend consistently observed across all

GDP groups. These results suggest that initiatives aimed at strengthening social bonds could be particularly effective in aligning life satisfaction levels between urban and rural communities. The broader implications of these findings, particularly how they can inform effective policy-making and community development strategies, are further elaborated in the discussion section. In addition to community attachment, factors such as youth development and freedom of choice significantly contribute to narrowing this disparity.

Alternative Dependent Variables In our robustness checks, we broaden our analysis by incorporating alternative dependent variables, specifically the Positive Experiences Index and the Negative Experiences Index, reflecting the emotional dimensions of SWB. These analyses are detailed in Figure 5. The ‘Positive Experience’ column presents the rural coefficient for adapted models (Model 1_PX to Model 4_PX), which are analogous to our primary models but focused on positive experiences. These models are categorized based on GDP groups: Top 25% (T25), Top-Mid 25-75% (T25-75), and Bottom 25% (B25). The ‘Negative Experiences’ column is similarly structured, with models Model 1_NX to Model 4_NX, focusing on negative experiences. The full results are presented in Supplementary Materials Tables S11 to S12.

Our analysis consistently demonstrates that the integration of postmaterial values leads to an enhancement in positive experiences and a reduction in negative experiences, with this trend particularly pronounced for Models 2 and 4. In some instances, the results indicate statistical insignificance, implying that postmaterial values can effectively neutralize SWB disparities. Notably, we observe that (1) SWB disparities, both positive and negative experiences, are a universal phenomenon, and (2) the incorporation of postmaterial values contributes to notable improvements in positive experiences and reductions in negative experiences.

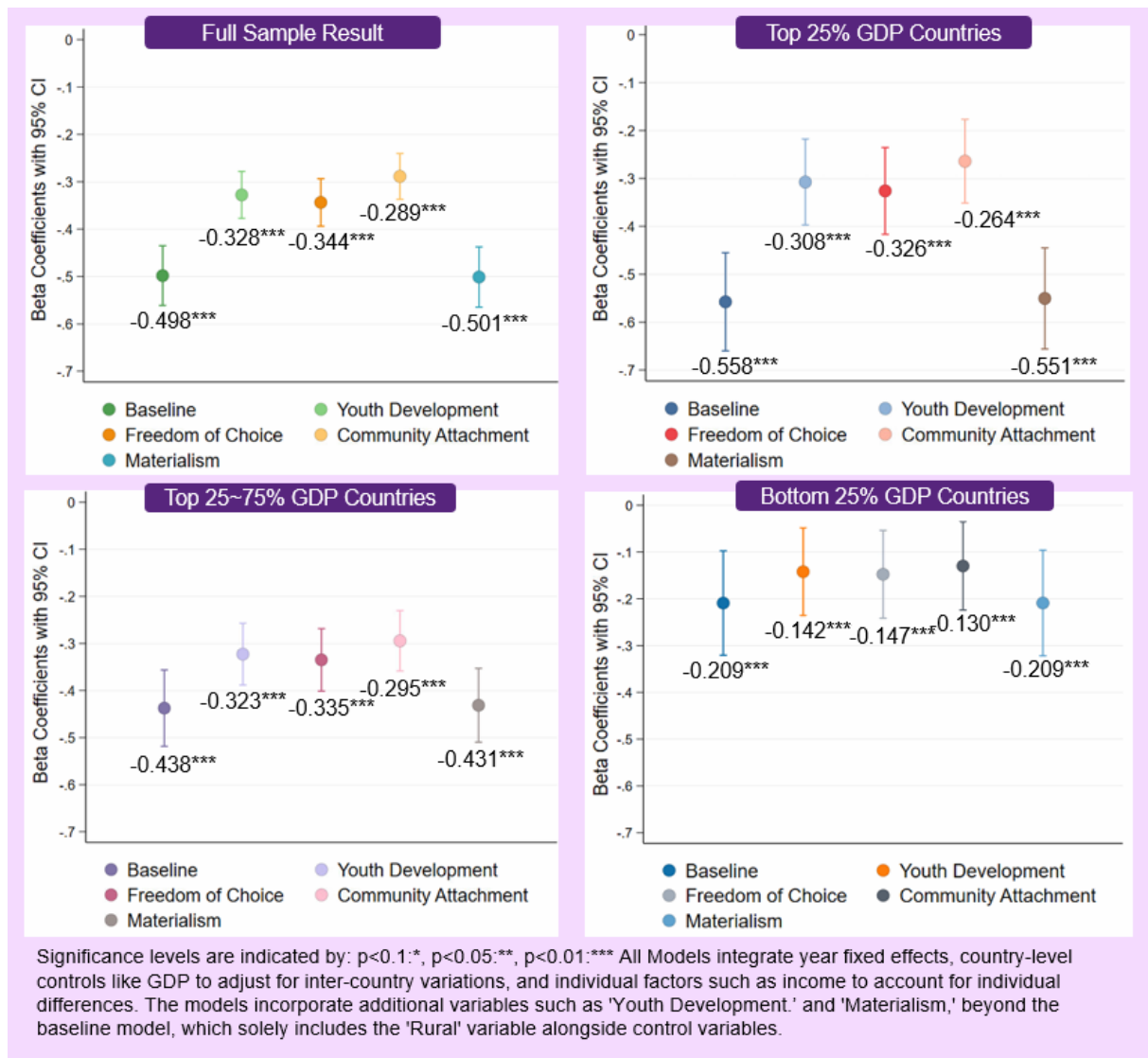


Figure 4: *Changing the components of postmaterial values and urban-rural SWB disparity*

The impact of postmaterial values on positive experiences is most prominent for the Top 25% GDP countries. In contrast, their influence on mitigating negative experiences is most significant for the Bottom 25% GDP countries. This pattern suggests a dual role of postmaterial values: they enhance positive emotional experiences in wealthier nations while playing a crucial role in lessening negative experiences in less affluent countries. This variation across different economic strata underscores the multifaceted nature of

SWB disparities and the need to consider diverse components of SWB when addressing these gaps. These robustness checks reinforce our initial findings, underscoring the vital role of postmaterial values in enhancing SWB across varied economic contexts.

This study uncovers that rural areas generally experience fewer negative experiences compared to urban areas. This observation is in line with the findings of [Glaeser et al. \(2016\)](#), which highlighted the considerable stress and negative experiences faced by urban residents due to factors like congestion and environmental challenges. Interestingly, despite these challenges, urban residents report higher life satisfaction, possibly driven by greater material wealth and the associated positive experiences. This dichotomy is further elucidated by [Frijters et al. \(2020\)](#), who assert that life satisfaction, as a holistic measure of SWB, encapsulates both positive and negative experiences. Our analysis corroborates this notion, revealing that even though rural areas have fewer negative experiences, urban life satisfaction remains higher, a paradox that resonates with the findings of [Glaeser et al. \(2016\)](#). From these findings, our study proposes two key implications. First, enhancing SWB in rural areas could potentially be achieved by further minimizing negative experiences, which are already lower than in urban settings, through the adoption of postmaterial values. Second, the ongoing disparity in SWB between urban and rural areas, marked by a lack of both positive experiences and life satisfaction, suggests that postmaterial values may offer a viable solution to bridge this gap. This approach could contribute significantly to addressing the imbalance in SWB between urban and rural environments.

A robustness check was conducted to explore the influences of individual postmaterial components on the disparity in SWB between rural and urban areas, accounting for different GDP quartiles. This analysis, presented in [Table 2](#), reveals the estimated 'rural' coefficients. For a more detailed exploration, including standard errors and coefficients for other variables, we direct readers to the Supplementary Materials. ([Table S13 to S20](#)).

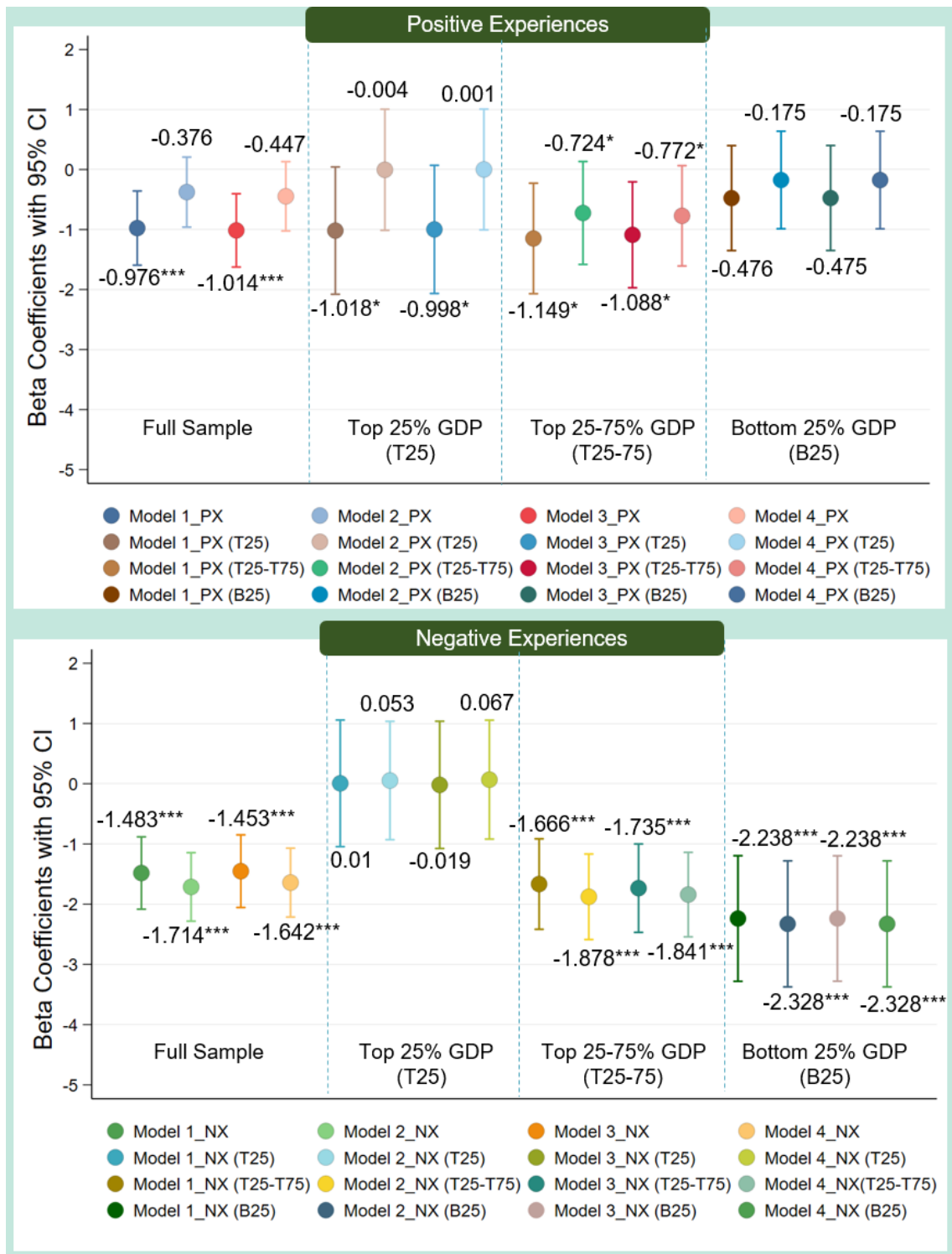


Figure 5: *Changing the dependent variables and urban-rural SWB disparity*

The consistent negative rural coefficients across all models, particularly evident in the ‘Baseline’ column, reinforce the findings obtained with the baseline model regarding a general deficit in rural SWB compared to that in urban areas. Importantly, community attachment emerges as a key factor in lessening SWB disparities, confirming the patterns observed in Figure 4 and highlighting its effectiveness in particularly reducing negative experiences. Furthermore, youth development and freedom of choice are also significant in reducing the SWB disparity, underlining their role in improving rural well-being.

Table 2: *Rural Coefficients Impact on Positive and Negative Experiences*

Variables	Full Sample	Top 25% GDP	Top 25-75% GDP	Bottom 25% GDP
Positive Experiences				
Baseline	−0.976***	−1.018*	−1.149**	−0.476
Youth Development	−0.352	0.029	−0.702	−0.164
Freedom of Choice	−0.398	−0.035	−0.744*	−0.184
Community Attachment	−0.257	0.157	−0.612	−0.129
Materialism	−1.014***	−0.998*	−1.088**	−0.475
Negative Experiences				
Baseline	−1.483***	0.006	−1.666***	−2.238**
Youth Development	−1.712***	0.078	−1.883***	−2.326**
Freedom of Choice	−1.714***	0.033	−1.872***	−2.329**
Community Attachment	−1.667***	0.260	−1.889**	−2.305***
Materialism	−1.453***	−0.019	−1.735***	−2.238***

Significance levels: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

3 Discussion

In sum, our research uncovers a consistent urban-rural SWB disparity. Delving into this issue, we find that postmaterial values play a crucial role in mediating this disparity. Enhancements in these values correlate with improvements in rural SWB, indicating that their absence may significantly contribute to rural well-being deficits. Moreover, our findings illustrate that postmaterial values have a more substantial impact on narrowing the SWB disparity than material wealth, especially in countries with high GDPs but

also those with lower GDPs. Community attachment, in particular, emerges as a key factor in fostering SWB across all economic groups, along with youth development and freedom of choice. These insights are reinforced by robustness checks using alternative well-being measures, which continue to highlight the importance of postmaterial values. Overall, our study suggests that policies aimed at improving well-being in rural areas should focus not only on economic factors but also on strengthening postmaterial values to bridge the rural-urban SWB disparity.

These results support three primary implications. First, from a global perspective, we concur with [Shiroka-Pula et al. \(2023\)](#), [Huang et al. \(2023\)](#), and [Graham and Pettinato \(2002\)](#), who suggested that urban populations express higher satisfaction with their lives than their rural counterparts. Particularly, our results contradict those of the multinational study of [Easterlin et al. \(2011\)](#), who argued that rural communities in developed countries are as satisfied with their lives as urban dwellers. Here, we show that there is persistently lower level of life satisfaction in rural areas, irrespective of the level of development in the country. We believe that our larger sample of more than 1,380,000 individuals encompassing over 160 countries and more updated observations running from 2006 to 2021 provide wider coverage of this issue relative to that in previous works. Our results are supported by the exhaustive work of [Glaeser \(2011\)](#), who argued that although populations may be dissatisfied with some aspects of cities, the way of life in cities leads, on average, to a higher SWB than that in rural areas. Therefore, policies that involve reducing population migration from rural to urban areas should integrate reduced SWB, which may concurrently occur.

Second, the results highlight three dimensions of postmaterialism that explain part of the urban-rural SWB disparity. Materialism has been the focus of previous research, such as [Easterlin et al. \(2011\)](#), [Lawless and Lucas \(2011\)](#), and [Berry and Okulicz-Kozaryn \(2011\)](#), in explaining differences in SWB among regions, and it has been the central goal

of modern economic growth. However, here, we show that it explains little of the SWB inequalities between urban and rural areas. Dimensions attached to postmaterialism were found to explain an important share of SWB disparities between urban and rural populations. This provides important implications for policy design concerning cost. On average, improving materialistic values such as job quality and financial stability requires large investments in features such as infrastructure to ensure that populations can enjoy their benefits, particularly in remote rural settings [Easterlin et al. \(2011\)](#). However, investment in dimensions such as youth development, freedom of choice, and community attachment, which are postmaterial dimensions, may be less costly to improve than increasing material dimensions of populations ([Braithwaite, 2017](#)). For instance, [Kanakis et al. \(2019\)](#) showed that increasing community engagement involves simple actions such as providing information about the community and the groups, services, and activities available to residents.

This is an important aspect to consider for reducing SWB disparities since the post-material dimensions used in our regressions displayed a significant relationship with enhanced SWB. Youth development was shown to improve SWB through aspects such as enhanced confidence ([Tomé et al. \(2021\)](#)) and youth resilience in the context of juvenile justice and mental health ([Sanders et al. \(2015\)](#) and [Beddington et al. \(2008\)](#)). Other studies empirically showed that community attachment was positively linked to SWB in Japan ([Tsurumi et al. \(2019\)](#)), India ([Coulibaly and Managi \(2022\)](#)), and the USA ([Davidson and Cotter \(1991\)](#)) and claimed that a greater sense of community enhances evaluative and hedonic SWB, as also noted by [Helliwell and Aknin \(2018\)](#). Finally, [de Boer \(2023\)](#) demonstrated the importance of accounting for freedom of choice in the individual decision process to maximize SWB, and [Ngamaba \(2017\)](#) empirically showed that freedom of choice contributes to cross-national growth in SWB. Therefore, policies can build on this strong body of literature to include these three dimensions when attempting to re-

duce urban-rural SWB disparities.

Third, we empirically confirm Inglehart (1971)'s theory of postmaterial values since (1) the difference in SWB between urban and rural populations is the highest in the Top 25% GDP countries and (2) the ability of postmaterial factors to close the disparity in rural-urban SWB is highest for the top 25% GDP countries. This suggests that as populations become wealthier, postmaterial dimensions play a larger role in SWB expression. Regarding the level of development of countries, the results imply that there is a greater need to invest in postmaterial dimensions in highly productive countries. As mentioned above, although investment in community attachment, freedom of choice, and youth development may not be rapidly economically beneficial (Braithwaite, 2017), it will reduce SWB disparities within countries.

Limitations of the study Finally, our analyses contain some shortcomings that are worth mentioning. First, it fails to include certain constraints in temporal analysis. Due to the absence of comprehensive data across all time points—specifically, the non-availability of certain countries and items in discrete time frames—, it was not feasible to conduct a thorough time-trend analysis to pinpoint the commencement of the observed trends since our results diverge from some previous findings. Second, our findings are limited to the binary categorizations of urban and rural areas and may lack generability for more fluid definitions of these concepts. Third, although rooted in previous studies' insights presented in Table 1, the analysis of the concepts of post-materialism and materialism may still be subject to debates across fields. These limits remain for future analyses to address, as our data limit us in this regard. The definition of the variables in the study leverages all information we believed were made available by Gallup World Poll's survey.

4 Methodology

4.1 Characteristics of the study population

We compiled data from the Gallup World Poll, spanning from 2006 to 2021, which encompasses a wide cross-section of individuals over 160 countries. Because some nations are only represented in a single period. For our analysis, we selected 149 countries, for analysis, giving preference to those with more frequent survey results and consistent data availability (refer to [Easterlin et al. \(2011\)](#) for a similar approach).

Classifying Rural Areas Gallup’s approach to residential classification is based on respondents’ answers to the question: “Where do you live: (1) a rural area or farm; (2) a small town or village; (3) a suburb of a major city; (4) a major city; (5) refuse to answer.” In our analysis, ‘Rural’ is defined as individuals in category (1), while ‘Urban’ encompasses categories (3) and (4). The ‘small town/village’ category is omitted from our study, as it typically represents a transitional zone between rural and urban settings. This categorization, inherently subjective due to the lack of a universally accepted definition of urban and rural areas, follows a similar approach as employed by [Easterlin et al. \(2011\)](#) using data from the same source, Gallup. Additionally, this method is in line with other surveys, such as the Eurobarometer and the European Quality-of-Life Survey (EQLS), which also categorize residential areas based on residents’ perceptions.

To reinforce our dataset, we noted that respondents who classified their living area as ‘rural area’ generally fell into the smallest size-of-place category, while those residing in ‘a major city’ were aligned with the largest city-size category. This observation confirms the reliability and consistency of Gallup’s self-classification system in capturing the general distinctions in the size of the place.

Acknowledging the inherent limitations of binary categorizations, future research would

significantly gain from employing more continuous definitions of the urban and rural spectrum. Such an approach promises a more nuanced and in-depth understanding of SWB disparities across diverse and often fluid socio-economic landscapes. By adopting this methodology, research could more accurately align with the dynamic and evolving nature of urban and rural environments. It would also better reflect the complex realities of societal development and population distribution, thereby offering a more holistic view of how these factors influence SWB.

Gallup Data Weights The Gallup dataset includes weights designed to enhance the national representativeness of the results. These weights consider factors such as sex and age and, where reliable comparative data exist, educational or socioeconomic status (Easterlin et al. (2011)). Even in the absence of a location-specific weight, the location distribution of weight data may diverge from that of unweighted data due to urban-rural variances in the weighted population parameters.

Life Satisfaction Participants in the survey were introduced to the metaphor of a ladder with rungs numbered from zero, symbolizing the lowest possible life condition, to ten, representing the highest. They were asked to envisage the top of the ladder as reflecting their ideal life and the bottom as its antithesis. By indicating their current position on this ladder, respondents conveyed a quantifiable measure of their life satisfaction. Higher rungs on this scale were indicative of greater contentment. Thus, responses were quantified on a scale ranging from 0 to 10.

Positive and Negative Experiences Positive experiences in our study were gauged through respondents' real-time emotional experiences, encompassing questions such as "Did you experience enjoyment a lot during the day yesterday? ", "Did you smile or laugh a lot yesterday? ", "Did you feel happy? ", and "Did you feel well-rested yesterday?". Re-

sponses were coded in binary form, with positive experiences marked as “1” and negative or absent experiences as “0”. Similarly, questions about real-time negative experiences included: "Did you feel worried a lot during the day yesterday? ", "Did you feel stressed? ", "Did you feel angry? ", and "Did you feel sad?". In this case, affirmations were coded as “1”, and negatives were labeled as “0”.

Following the guidance of [Stone and Mackie \(2013\)](#), we treated each measure of positive and negative emotional experiences distinctly rather than amalgamating them into a single composite construct. This approach yielded a nuanced understanding of the spectrum of emotions experienced by individuals and their respective impacts on overall well-being.

While the Gallup survey encompasses various metrics—encompassing positive and negative experiences, current life evaluations, and anticipatory life assessments, typically gauged on a 1-, 2-, or 3-point scale , we prioritized life satisfaction, given its ubiquity, with an extended scale of 0 to 10. Concurrently, the aforementioned metrics served as ancillary dependent variables in our robustness assessments.

Socioeconomic Variables To shed light on the socioeconomic disparities between urban and rural areas, our study delved into key indicators including sex, household composition, occupation, education, and income. A comprehensive overview of these sociodemographic variables is presented in [Table 3](#). This table offers an in-depth comparison, revealing distinct patterns and contrasts between urban and rural settings. The employment and education distribution trends in these areas are further detailed in [Tables 4](#) and [5](#), respectively. Our analysis identifies urban areas as being notably linked to higher annual incomes and a greater concentration of individuals with advanced academic qualifications compared to their rural counterparts. This urban advantage in economic and educational spheres is further highlighted by the tendency of urban residents

to hold full-time positions with institutional employers. Conversely, rural areas are characterized by lower income levels, larger household sizes, a higher tendency towards self-employment, and a considerable segment of the population possessing only elementary or limited educational backgrounds. These stark differences underscore the profound socioeconomic and educational challenges that are inherent to rural environments.

Table 3: *Mean demographic values in all, rural, and urban areas*

Variable	All	Rural	Urban
Annual Incomes	27,239.700 (967,925.700)	16,208.830 (1,351,975)	36,136.710 (1,056,968)
Age	40.501 (17.243)	39.806 (17.019)	40.615 (17.190)
Male dummy (=1 if male)	0.473 (0.499)	0.480 (0.500)	0.470 (0.499)
Married dummy (=1 if married)	0.515 (0.500)	0.574 (0.495)	0.484 (0.500)
Child dummy (=1 if has a child)	0.613 (0.692)	0.740 (0.704)	0.533 (0.662)
Household size	4.183 (2.729)	4.690 (2.968)	3.894 (2.439)
Plan to move (=1 if plan to move)	0.156 (0.363)	0.147 (0.354)	0.160 (0.367)

Standard deviations are given in parentheses.

The annual income is household based and converted to international dollars in fiscal year 2010.

Table 4: *Employment status in all, rural, and urban areas*

Status	All	Rural	Urban
Employed full time for an employer	28.10%	20.11%	33.22%
Employed full time for self	13.47%	19.49%	9.83%
Employed part time (do not want full time)	7.38%	8.65%	6.39%
Unemployed	6.49%	6.34%	6.82%
Employed part time (want full time)	7.68%	9.37%	6.45%
Out of the workforce	36.87%	36.04%	37.28%

Table 5: *Education levels in all, rural, and urban areas*

Level	All	Rural	Urban
Elementary or less	29.67%	44.87%	19.15%
Secondary - 3 years of tertiary/secondary education	52.03%	45.57%	55.37%
Four years or beyond	17.86%	9.17%	25.07%

4.2 Empirical Strategy

We examined the relationship among material values, postmaterial values and SWB using latent variable models. Our methodological framework was composed of two steps: (1) predicting latent variables and (2) estimating the effects of latent variables on urban-rural SWB disparity using a 2SLS model with fixed effects. Each of these steps is explained below.

4.2.1 Factor Analysis: Materialistic and Postmaterial Values

We employed factor analysis to estimate and predict the latent variables related to individual-level material and postmaterial values. Factor analysis allowed us to examine the psychometric factors that are correlated with the SWB index. Due to their advantages, latent variable models based on factor analysis have been utilized across various research fields spanning natural and social sciences (e.g., [François and Jay \(2020\)](#), [Lewandowsky et al. \(2013\)](#)).

We applied six indicator variables: three variables for material values (job climate, financial stability, and financial optimism) and three variables for postmaterial values (community attachment, freedom of choice, and youth development). Figure 6 illustrates the constructed model used for estimating material and postmaterial variables. A detailed description of the indicator variables is presented in the Supplementary Materials Tables S21 and S22.

Specifically, we established the following measurement equation:

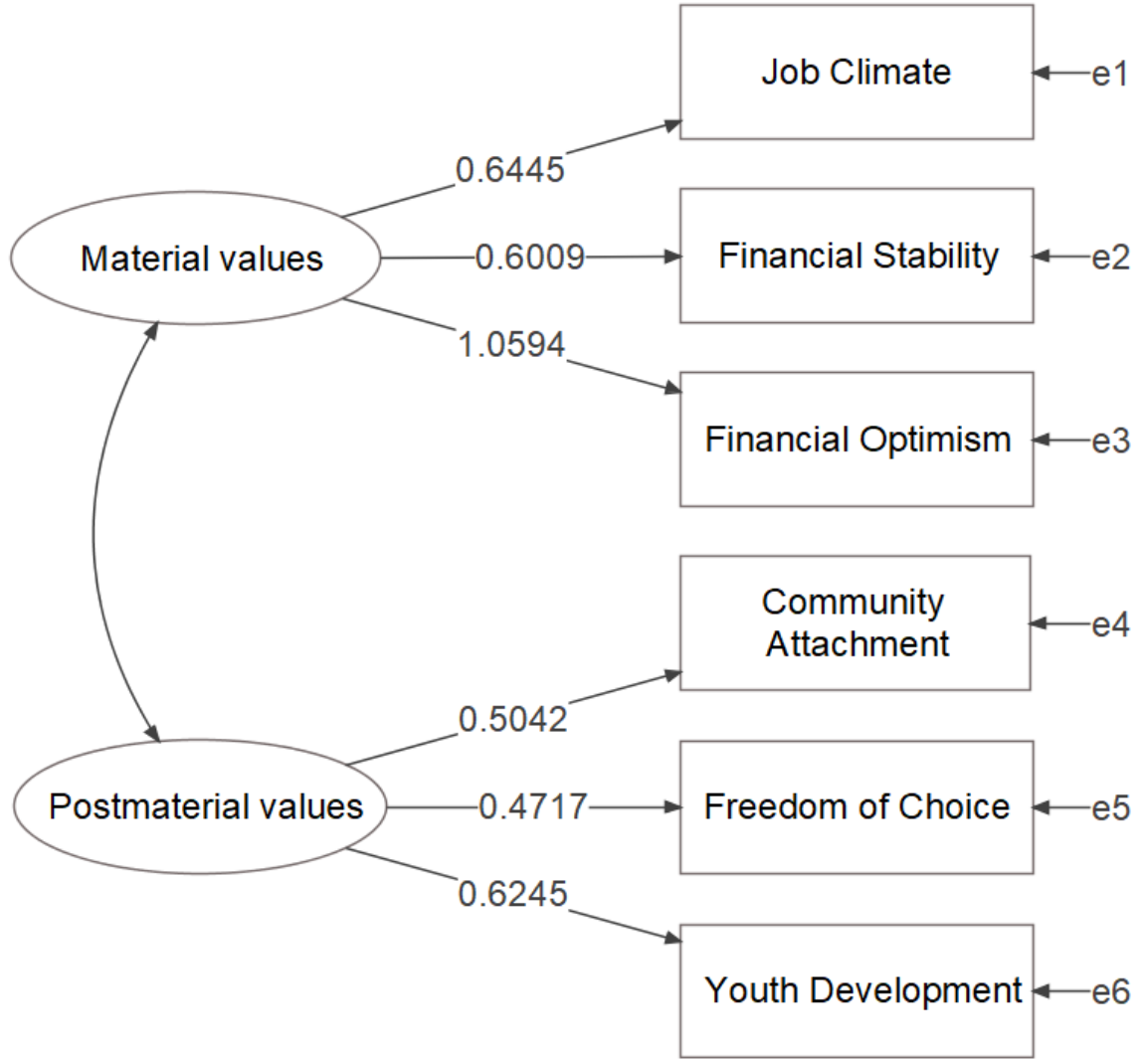


Figure 6: Path diagram of factor analysis. Only factor loadings higher than 0.3 are shown.

$$\mathbf{y}_i = \mathbf{A}\boldsymbol{\eta}_i + \mathbf{e}_i, \quad (1)$$

where \mathbf{y}_i is a vector comprising six indicator variables; $\boldsymbol{\eta}_i$ is a vector of two latent variables, material value and postmaterial value; and \mathbf{e}_i is a vector of error terms. The primary objective associated with this equation is to estimate \mathbf{A} , the factor loading matrix connecting the two latent variables considering the given indicators.

For estimating the equation above, let θ be the unknown parameters in the equation. Specifically, $\theta = (\alpha, \sigma_e^2)$, where α is a vector of all elements of A, and σ_e^2 is a vector of the variances of the error terms e_i . Assuming that the observed variables follow a multivariate normal distribution, we can estimate the parameters θ via the maximum likelihood method.

The estimated factor loadings are depicted in Figure 6, with loadings less than 0.3 omitted for clarity. A threshold of 0.3 is commonly used to determine whether the factor is strongly related to its associated indicator variables (Hair (2009)). For instance, Materialism exhibits loadings of 0.645, 0.601, and 1.059 on job climate, financial stability, and financial optimism, respectively. Conversely, the loadings from Materialism to community attachment, freedom of choice, and youth development are below 0.3, indicating a weaker connection between the Materialism factor and these three components. We predict individual-level material values and postmaterial values, which subsequently serve as the primary explanatory variables in the regression analysis. The predicted scores of the material and postmaterial values at the country level are described in Figure 7. It shows the average scores for both types of values at the country level. Overall, there is a positive correlation between the material and postmaterial scores.

4.2.2 Two-Stage Least Squared (2SLS) Regression

In this section, we outline our empirical strategy, which encompasses a series of regression analyses. The primary goal of these estimations is to discern the impact of material and postmaterial values on the disparity in SWB between urban and rural areas. To infer the corresponding causal relationships, we employ Two-Stage Least Squares (2SLS) models. In the first stage, we predict material and postmaterial values using instrumental variables (IVs) and exogenous variables. Subsequently, the second-stage estimation employs these predicted values to assess the causal effects of material and postmaterial

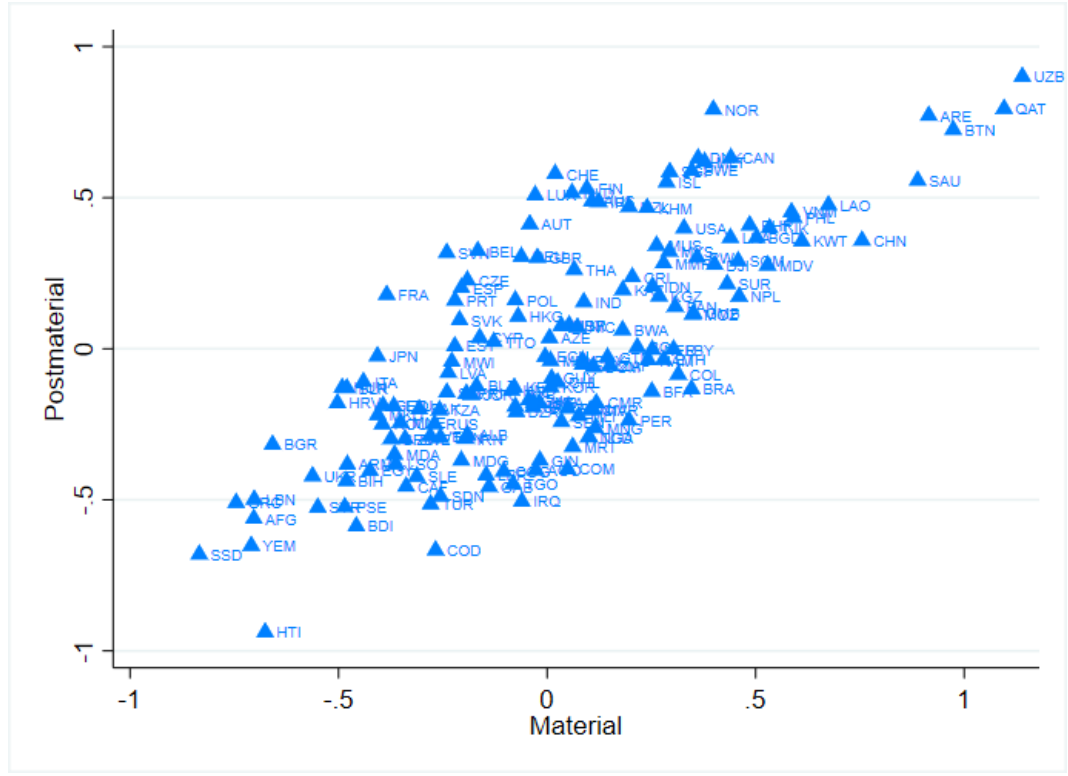


Figure 7: Relationship between postmaterial and material values

values on SWB. This two-step approach enables us to provide a more nuanced understanding of the factors influencing urban-rural SWB disparities. The specifications of the first-stage equations are as follows:

$$Postmaterial_i = \gamma_{p0} + \gamma_{p1}z_{pi} + \gamma_{p2}z_{pi}^2 + \gamma'_{pX}X_i + \nu_i, \quad (2)$$

$$Material_i = \gamma_{m0} + \gamma_{m1}z_{mi} + \gamma'_{mX}X_i + \phi_i, \quad (3)$$

where z_{pi} and z_{mi} are the IVs for postmaterial values and material values, respectively. X_i is a set of control variables, which includes individual income and its square term, log of age, a married dummy, a male dummy, the log of the number of children, education level (high school graduates dummy), the log of household size, employment dummy, religious status (Christian dummy), and a variable reflecting plans to move within the

next 12 months. Moreover, in our country-level economic analysis, we control for the log of GDP (2021). All regressions were weighted based on sample weights, which were calculated by Gallup.

While including control variables and fixed effects in our main specifications addresses some concerns, residual endogeneity issues persist. For instance, individuals who feel happy tend to live in areas that have an abundance of postmaterial elements such as educational facilities. To address these issues, we employ a set of IVs for material and postmaterial values.

As a material value IV, we use the religious origin of the country where a respondent lives. Religious origins have been frequently used in the field of happiness studies to address endogeneity (Riumallo-Herl et al. (2014), Chen and Williams (2016)). Following these works, we opted for the national religious origin. We assume that the religious origin of a country is associated with material values in that nation. Simultaneously, we posited that this factor lacks a direct relationship with the SWB of individuals. For postmaterial values, we use historical GDP (average level from 1960 to 1980). Past socioeconomic factors have also been utilized as IVs in SWB studies (Tabellini (2010)). It is assumed that while past economic conditions contribute to shaping postmaterial values at present, they do not directly influence the current level of people's SWB. By using these IVs in 2SLS, the estimated effects after taking endogeneity issues into account can be obtained.

Our main model for second-stage regression is specified as follows:

$$SWB_i = \beta_0 + \beta_1 Rural_i + \beta_2 \hat{Postmaterial}_i + \beta_3 \hat{Material}_i + \beta'_X X_i + \delta_t + \varepsilon_i, \quad (4)$$

where SWB_i is the SWB level of an individual i , $Rural_i$ is a dummy variable of whether the individual lives in a rural area, $\hat{Postmaterial}_i$ and $\hat{Material}_i$ are the postmaterial and

material values predicted in the first-stage regressions 2 and 3, X_i is the set of control variables, which are the same as those included in the first-stage equations, and δ_t is year fixed effects. As SWB indices, we consider life satisfaction, positive experiences and negative experiences. All regressions are weighted based on sample weights, and standard errors are clustered at the district level.

The central goal of this study is to unearth global trends of urban-rural SWB through cross-country comparisons, prompting our decision to exclude country-level fixed effects. Including country-level fixed effects are predominantly geared towards within-country individual comparisons. However, Deaton (2008) reveals that focusing solely on domestic fluctuations renders the impact on SWB less apparent, as SWB tends to show less variability within countries when compared with cross-country comparisons. Notably, while within-country variances in postmaterial values might be minimal, our international comparative analysis is poised to reveal notable differences. This exploration of disparities forms the crux of our study. Nonetheless, recognizing that SWB is influenced by temporal, economic, and regional factors, our model incorporates corresponding annual fixed effects, GDP, and regional fixed effects as control variables. This approach extends beyond mere cross-country variations to encompass comparisons with considering other nations within similar economic brackets or geographical regions, and time trends.

Our main focus is examining whether material and postmaterial values can mitigate urban-rural disparities in SWB. To do so, we conduct a difference-in-coefficients approach approach (MacKinnon et al. (2002)), with additional specifications as follows:

$$SWB_i = \beta_0 + \beta_1 Rural_i + \beta'_X X_i + \delta_t + \varepsilon_i, \quad (5)$$

$$SWB_i = \beta_0 + \beta_1 Rural_i + \beta_2 \hat{Postmaterial}_i + \beta'_X X_i + \delta_t + \varepsilon_i, \quad (6)$$

$$SWB_i = \beta_0 + \beta_1 Rural_i + \beta_3 \hat{Material}_i + \beta'_X X_i + \delta_t + \varepsilon_i. \quad (7)$$

By comparing β_1 in these equations (5)-(7) from the equation (4), we evaluate whether the urban-rural disparity in SWB (corresponding to β_1 in equation (5)) can be partially explained by material and postmaterial values. For instance, the difference between β_1 in equation (5) and β_1 in equation (6) can be recognized as a disparity in life evaluation that can be explained by postmaterial variables. Equation (4) is associated with Model 4 in Section 2, and equations (5), (6), and (7) correspond to Model 1, Model 2, and Model 3, respectively.

To scrutinize each component that constitutes a postmaterial value separately, we introduce additional specifications as follows:

$$SWB_i = \beta_0 + \beta_1 Rural_i + \beta_3 \hat{Youth}_i + \beta'_X X_i + \delta_t + \varepsilon_i, \quad (8)$$

$$SWB_i = \beta_0 + \beta_1 Rural_i + \beta_3 \hat{Freedom}_i + \beta'_X X_i + \delta_t + \varepsilon_i, \quad (9)$$

$$SWB_i = \beta_0 + \beta_1 Rural_i + \beta_3 \hat{Community}_i + \beta'_X X_i + \delta_t + \varepsilon_i. \quad (10)$$

where \hat{Youth}_i , $\hat{Freedom}_i$, and $\hat{Community}_i$ represent individual i 's youth development, freedom of choice, and community attachment indices, respectively. These specifications align with the model presented in Figure 4. By comparing β_1 for each of these models with specification (5), we can assess whether each component of postmaterial value contributes to the mitigation of urban-rural disparities in SWB.

References

- Akaeda, Naoki**, "Contextual social trust and well-being inequality: From the perspectives of education and income," *Journal of Happiness Studies*, 2020, 21 (8), 2957–2979.
- Alesina, Alberto, Rafael Di Tella, and Robert MacCulloch**, "Inequality and happiness: are Europeans and Americans different?," *Journal of public economics*, 2004, 88 (9-10), 2009–2042.
- Barro, Robert J**, "Determinants of democracy," *Journal of Political economy*, 1999, 107 (S6), S158–S183.
- Beddington, John, Cary L Cooper, John Field, Usha Goswami, Felicia A Huppert, Rachel Jenkins, Hannah S Jones, Tom BL Kirkwood, Barbara J Sahakian, and Sandy M Thomas**, "The mental wealth of nations," *Nature*, 2008, 455 (7216), 1057–1060.
- Berry, Brian JL and Adam Okulicz-Kozaryn**, "An urban-rural happiness gradient," *Urban geography*, 2011, 32 (6), 871–883.
- Braithwaite, John**, "Youth development circles," in "Restorative Justice," Routledge, 2017, pp. 455–468.
- Brüggen, Elisabeth C, Jens Hogleve, Maria Holmlund, Sertan Kabadayi, and Martin Löfgren**, "Financial well-being: A conceptualization and research agenda," *Journal of business research*, 2017, 79, 228–237.
- Cai, Shu and Jia Wang**, "Less advantaged, more optimistic? Subjective well-being among rural, migrant and urban populations in contemporary China," *China Economic Review*, 2018, 52, 95–110.
- Caroli, Eve and Mathilde Godard**, "Does job insecurity deteriorate health?," *Health economics*, 2016, 25 (2), 131–147.
- Chen, Yunsong and Mark Williams**, "Subjective well-being in the new China: religion, social capital, and social status," *The British Journal of Sociology*, 2016, 67 (4), 719–746.
- Coulibaly, Thierry Yerema and Shunsuke Managi**, "Populations in slums are happier than rural populations: The case of Mumbai," *Land Use Policy*, 2022, 122, 106341.
- Davidson, William B and Patrick R Cotter**, "The relationship between sense of community and subjective well-being: A first look," *Journal of community psychology*, 1991, 19 (3), 246–253.
- de Boer, Jelle**, "Life Satisfaction and Affect: Why Do these SWB Measures Correlate Differently with Material Goods and Freedom?," *Review of Philosophy and Psychology*, 2023, pp. 1–16.
- Deaton, Angus**, "Income, health, and well-being around the world: Evidence from the Gallup World Poll," *Journal of Economic perspectives*, 2008, 22 (2), 53–72.
- Delhey, Jan and Georgi Dragolov**, "Why inequality makes Europeans less happy: The role of distrust, status anxiety, and perceived conflict," *European sociological review*, 2014, 30 (2), 151–165.
- Diener, Ed**, "The remarkable changes in the science of subjective well-being," *Perspectives on Psychological Science*, 2013, 8 (6), 663–666.
- **and Robert A Emmons**, "The independence of positive and negative affect.," *Journal of personality and social psychology*, 1984, 47 (5), 1105.
- **and William Tov**, "Subjective well-being and peace," *Journal of Social Issues*, 2007, 63 (2), 421–440.
- **, Shigehiro Oishi, and Louis Tay**, "Advances in subjective well-being research," *Nature Human Behaviour*, 2018, 2 (4), 253–260.

- Dolan, Paul, Tessa Peasgood, and Mathew White**, “Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being,” *Journal of economic psychology*, 2008, 29 (1), 94–122.
- Easterlin, Richard A, Laura Angelescu, and Jacqueline S Zweig**, “The impact of modern economic growth on urban–rural differences in subjective well-being,” *World development*, 2011, 39 (12), 2187–2198.
- François, Olivier and Flora Jay**, “Factor analysis of ancient population genomic samples,” *Nature communications*, 2020, 11 (1), 4661.
- Frey, Bruno S and Alois Stutzer**, “Happiness, economy and institutions,” *The economic journal*, 2000, 110 (466), 918–938.
- Frijters, Paul, Andrew E Clark, Christian Krekel, and Richard Layard**, “A happy choice: wellbeing as the goal of government,” *Behavioural Public Policy*, 2020, 4 (2), 126–165.
- Glaeser, Edward**, *Triumph of the city: How urban spaces make us human*, Pan Macmillan, 2011.
- Glaeser, Edward L, Joshua D Gottlieb, and Oren Ziv**, “Unhappy cities,” *Journal of labor economics*, 2016, 34 (S2), S129–S182.
- Graham, Carol and Stefano Pettinato**, “Frustrated achievers: Winners, losers and subjective well-being in new market economies,” *Journal of Development Studies*, 2002, 38 (4), 100–140.
- Hair, Joseph F**, “Multivariate data analysis,” 2009.
- Helliwell, John F and Lara B Aknin**, “Expanding the social science of happiness,” *Nature human behaviour*, 2018, 2 (4), 248–252.
- Huang, Youqin, Daichun Yi, and William AV Clark**, “Subjective wellbeing in 21st century China: A multi-level multi-dimensional perspective on urban-rural disparities,” *Applied Geography*, 2023, 159, 103071.
- Iannello, Paola, Angela Sorgente, Margherita Lanz, and Alessandro Antonietti**, “Financial well-being and its relationship with subjective and psychological well-being among emerging adults: Testing the moderating effect of individual differences,” *Journal of Happiness Studies*, 2021, 22 (3), 1385–1411.
- Inglehart, Ronald**, “The silent revolution in Europe: Intergenerational change in post-industrial societies,” *American political science review*, 1971, 65 (4), 991–1017.
- **and Christian Welzel**, *Modernization, cultural change, and democracy: The human development sequence*, Vol. 333, Cambridge university press Cambridge, 2005.
- **, Roberto Foa, Christopher Peterson, and Christian Welzel**, “Development, freedom, and rising happiness: A global perspective (1981–2007),” *Perspectives on psychological science*, 2008, 3 (4), 264–285.
- Jebb, Andrew T, Louis Tay, Ed Diener, and Shigehiro Oishi**, “Happiness, income satiation and turning points around the world,” *Nature Human Behaviour*, 2018, 2 (1), 33–38.
- Kanakis, K, CJ McShane, ML Kilcullen, and AL Swinbourne**, ““It’s the people that keep me here”: Exploring the role of community attachment in increasing length of residency,” *Journal of rural studies*, 2019, 70, 19–25.
- Knight, John, SONG Lina, and Ramani Gunatilaka**, “Subjective well-being and its determinants in rural China,” *China economic review*, 2009, 20 (4), 635–649.
- Lawless, Nicole M and Richard E Lucas**, “Predictors of regional well-being: A county level analysis,” *Social Indicators Research*, 2011, 101, 341–357.

- Lever, Joaquina Palomar, Nuria Lanzagorta Pinol, and Jorge Hernandez Uralde**, "Poverty, psychological resources and subjective well-being," *Social Indicators Research*, 2005, 73, 375–408.
- Lewandowsky, Stephan, Gilles E Gignac, and Samuel Vaughan**, "The pivotal role of perceived scientific consensus in acceptance of science," *Nature climate change*, 2013, 3 (4), 399–404.
- MacKinnon, David P, Chondra M Lockwood, Jeanne M Hoffman, Stephen G West, and Virgil Sheets**, "A comparison of methods to test mediation and other intervening variable effects.," *Psychological methods*, 2002, 7 (1), 83.
- Mahmud, Mahreen and Emma Riley**, "Household response to an extreme shock: Evidence on the immediate impact of the Covid-19 lockdown on economic outcomes and well-being in rural Uganda," *World Development*, 2021, 140, 105318.
- Mazzone, Antonella, Enrica De Cian, Giacomo Falchetta, Anant Jani, Malcolm Mistry, and Radhika Khosla**, "Understanding systemic cooling poverty," *Nature Sustainability*, 2023, pp. 1–9.
- Ng, Weiting and Ed Diener**, "What matters to the rich and the poor? Subjective well-being, financial satisfaction, and postmaterialist needs across the world.," *Journal of personality and social psychology*, 2014, 107 (2), 326.
- Ngamaba, Kayonda Hubert**, "Determinants of subjective well-being in representative samples of nations," *The European Journal of Public Health*, 2017, 27 (2), 377–382.
- Niva, Venla, Alexander Horton, Vili Virkki, Matias Heino, Maria Kosonen, Marko Kallio, Pekka Kinunen, Guy J Abel, Raya Muttarak, Maija Taka et al.**, "World's human migration patterns in 2000–2019 unveiled by high-resolution data," *Nature Human Behaviour*, 2023, pp. 1–15.
- Powdthavee, Nattavudh, Richard V Burkhauser, and Jan-Emmanuel De Neve**, "Top incomes and human well-being: Evidence from the Gallup World Poll," *Journal of Economic Psychology*, 2017, 62, 246–257.
- Putnam, Robert D**, *Bowling alone: The collapse and revival of American community*, Simon and schuster, 2000.
- , **Robert Leonardi, and Raffaella Y Nanetti**, *Making democracy work: Civic traditions in modern Italy*, Princeton university press, 1993.
- Requena, Felix**, "Rural–urban living and level of economic development as factors in subjective well-being," *Social Indicators Research*, 2016, 128, 693–708.
- Riumallo-Herl, Carlos Javier, Ichiro Kawachi, and Mauricio Avendano**, "Social capital, mental health and biomarkers in Chile: Assessing the effects of social capital in a middle-income country," *Social science & medicine*, 2014, 105, 47–58.
- Sanders, Jackie, Robyn Munford, Tewaporn Thimasarn-Anwar, Linda Liebenberg, and Michael Ungar**, "The role of positive youth development practices in building resilience and enhancing wellbeing for at-risk youth," *Child abuse & neglect*, 2015, 42, 40–53.
- Schyns, Peggy**, "Crossnational differences in happiness: Economic and cultural factors explored," *Social Indicators Research*, 1998, 43, 3–26.
- Sechel, Cristina**, "The share of satisfied individuals: A headcount measure of aggregate subjective well-being," *Journal of Economic Behavior & Organization*, 2021, 186, 373–394.
- Shiroka-Pula, Justina, Will Bartlett, and Besnik A Krasniqi**, "Can the government make us happier? Institutional quality and subjective well-being across europe: A multilevel analysis using eurobarometer survey 2019," *Applied Research in Quality of Life*, 2023, 18 (2), 677–696.

- Stier, Andrew J, Kathryn E Schertz, Nak Won Rim, Carlos Cardenas-Iniguez, Benjamin B Lahey, Luís MA Bettencourt, and Marc G Berman**, “Evidence and theory for lower rates of depression in larger US urban areas,” *Proceedings of the National Academy of Sciences*, 2021, 118 (31), e2022472118.
- Stone, Arthur A and Christopher Ed Mackie**, *Subjective well-being: Measuring happiness, suffering, and other dimensions of experience.*, National Academies Press, 2013.
- Strömbäck, Camilla, Thérèse Lind, Kenny Skagerlund, Daniel Västfjäll, and Gustav Tinghög**, “Does self-control predict financial behavior and financial well-being?,” *Journal of behavioral and experimental finance*, 2017, 14, 30–38.
- Tabellini, Guido**, “Culture and institutions: economic development in the regions of Europe,” *Journal of the European Economic association*, 2010, 8 (4), 677–716.
- Tomé, Gina, Margarida Gaspar de Matos, Marta Reis, Diego Gomez-Baya, Filipa Coelho, and Nora Wium**, “Positive youth development and wellbeing: gender differences,” *Frontiers in psychology*, 2021, p. 2343.
- Tsurumi, Tetsuya, Atsushi Imauji, and Shunsuke Managi**, “Relative income, community attachment and subjective well-being: Evidence from Japan,” *Kyklos*, 2019, 72 (1), 152–182.
- Wei, Meifen, Kelly Yu-Hsin Liao, Tsun-Yao Ku, and Phillip A Shaffer**, “Attachment, self-compassion, empathy, and subjective well-being among college students and community adults,” *Journal of personality*, 2011, 79 (1), 191–221.
- Welzel, Christian and Ronald Inglehart**, “Agency, values, and well-being: A human development model,” *Social indicators research*, 2010, 97, 43–63.
- Xu, Haiping, Chuqiao Zhang, and Yawen Huang**, “Social trust, social capital, and subjective well-being of rural residents: Micro-empirical evidence based on the Chinese General Social Survey (CGSS),” *Humanities and Social Sciences Communications*, 2023, 10 (1), 1–13.
- Yamamura, Eiji, Yoshiro Tsutsui, Chisako Yamane, Shoko Yamane, and Nattavudh Powdthavee**, “Trust and happiness: Comparative study before and after the Great East Japan Earthquake,” *Social Indicators Research*, 2015, 123, 919–935.
- Zhang, Huiming, Kai Wu, Yueming Qiu, Gabriel Chan, Shouyang Wang, Dequn Zhou, and Xianqiang Ren**, “Solar photovoltaic interventions have reduced rural poverty in China,” *Nature communications*, 2020, 11 (1), 1969.

Supplementary Materials for:
Postmaterial Values Contribute to and Alleviate Global Well-Being
Disparities: Evidence from Gallup World Poll Data

January 26, 2024

S1 Global GDP Distribution

The global distribution of Gross Domestic Product (GDP) as of 2021 is visually depicted in Figure [S1](#), providing an insightful overview of the worldwide economic landscape. The map delineates countries based on their GDP, highlighting the top-25% GDP countries. This elite group includes economic powerhouses like the United States (USA), Germany (DEU), and Japan (JPN). The middle tier, encompassing the top 25-75% GDP countries, features nations such as Brazil (BRA), Russia (RUS), and South Africa (ZAF). The bottom-25% GDP category includes countries like Nigeria (NGA) and Vietnam (VNM). A comprehensive list of all countries categorized by their GDP tier is detailed in Table [S1](#).

S2 Correlation Analysis

We analyze the correlations between different aspects of materialism and postmaterialism. The resulting correlation matrix, as shown in Table [S2](#), illustrates the correlations between these components.

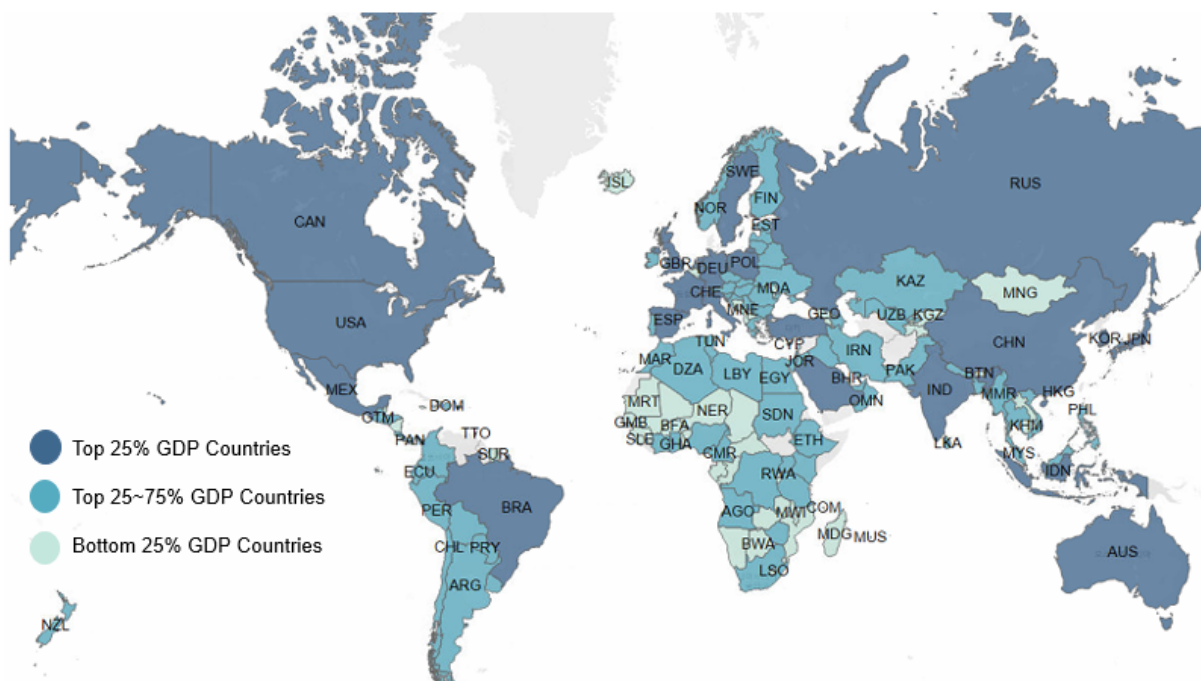


Figure S1: GDP Distribution

S3 Full Results

S1 Main Results

Table S3 presents a detailed overview of our key findings related to life satisfaction.

The estimation results for different GDP groups are presented in Tables S4, S5, and S6. These tables provide insights into the Top 25% GDP group, the Middle 25-75% GDP group, and the Bottom 25% GDP group. The findings in these tables are qualitatively similar to those presented in Table S3, indicating consistent patterns in life satisfaction across various economic strata.

S2 Impact of Postmaterial Dimensions on Urban-Rural life satisfaction disparity

Tables S7, S8, S9, and S10 presents ths results. The statistical significance of these findings is underscored by the χ^2 values displayed at the bottom of the tables. These values indicate a statistically significant difference between Models 2, 3, 4, and 5 and the base-line Model 1. This statistical significance suggests that the inclusion of specific variables

Table S1: *Distribution of countries by GDP percentage categories*

Top 25% GDP Countries		Top 25-75% GDP Countries				Bottom 25% GDP Countries	
Country	Percent	Country	Percent	Country	Percent	Country	Percent
Australia	2.84	Algeria	1.58	Nigeria	1.81	Albania	2.29
Belgium	3.12	Angola	0.26	Norway	0.54	Armenia	2.7
Brazil	3.5	Argentina	1.4	Oman	0.13	Belize	0.15
Canada	3.43	Austria	1.72	Pakistan	1.94	Benin	2.36
China	12.12	Azerbaijan	0.1	Panama	1.42	Bhutan	0.93
France	2.14	Bahrain	1.02	Paraguay	1.47	Bosnia Herzegovina	2.44
Germany	6.48	Bangladesh	1.93	Peru	1.15	Botswana	2.35
India	12.33	Belarus	1.19	Philippines	2	Burkina Faso	3.29
Indonesia	3.96	Belgium	1.58	Portugal	1.02	Burundi	1.21
Italy	3.39	Bolivia	1.46	Puerto Rico	0.06	Cambodia	2.56
Japan	3.4	Bulgaria	1.62	Qatar	0.11	Central African Republic	1.2
Mexico	3.38	Cameroon	1.53	Romania	1.31	Chad	3.27
Netherlands	3.11	Chile	1.6	Serbia	0.9	Comoros	2.13
Poland	2.93	Colombia	1.54	Singapore	1.32	Congo Brazzaville	2.99
Russia	6.96	Congo Kinshasa	1.03	Slovakia	1.54	Eswatini	0.94
Saudi Arabia	4.19	Costa Rica	1.51	Slovenia	0.94	Gabon	2.96
South Korea	3.3	Croatia	0.9	South Africa	1.76	Gambia	0.87
Spain	2.86	Cyprus	1.37	Sri Lanka	1.59	Georgia	2.81
Sweden	2.13	Czech Republic	1.29	Sudan	0.89	Guinea	3.28
Switzerland	1.99	Dominican Republic	1.45	Tanzania	0.55	Haiti	1.36
Turkey	3.8	Ecuador	1.26	Thailand	1.7	Iceland	1.1
United Kingdom	5.14	Egypt	2.56	Tunisia	1.9	Jamaica	0.15
United States	3.46	El Salvador	1.41	Uganda	1.43	Kyrgyzstan	3.33
Total	100	Estonia	0.9	Ukraine	1.46	Laos	1.93
		Ethiopia	1.4	United Arab Emirates	2.87	Lebanon	3.12
		Finland	1.08	Uruguay	1.46	Lesotho	1.12
		Ghana	1.54	Uzbekistan	1.49	Madagascar	2.77
		Greece	1.71	Vietnam	1.66	Malawi	2.09
		Guatemala	1.2	Zimbabwe	1.03	Mali	2.39
		Honduras	1.28			Malta	3.21
		Hong Kong	0.86			Mauritania	0.3
		Hungary	1			Mauritius	2.38
		Iran	1.19			Moldova	1.68
		Iraq	2.06			Mongolia	3.17
		Ireland	1.08			Montenegro	0.28
		Israel	0.94			Mozambique	1.36
		Ivory Coast	0.78			Namibia	1.8
		Jordan	1.99			Nicaragua	3.23
		Kazakhstan	1.07			Niger	3.04
		Kenya	1.05			North Macedonia	2.33
		Latvia	0.88			Palestine	1.73
		Libya	0.71			Rwanda	1.52
		Lithuania	0.82			Senegal	3.63
		Luxembourg	0.81			Sierra Leone	1.22
		Malaysia	1.41			Suriname	0.15
		Morocco	1.06			Tajikistan	4.01
		Myanmar	1.34			Togo	1.5
		Nepal	1.6			Trinidad and Tobago	0.14
		New Zealand	1.48	Total	100	Zambia	3.25
						Total	100

leads to a meaningful change in the rural coefficient, thereby affirming the impactful role of postmaterial values in addressing SWB disparities. Further exploration across different GDP groups reveals qualitatively similar outcomes, underscoring the consistency

Table S2: Correlation Matrix of Materialism and Postmaterialism Components

	Job Climate	Fin. Stability	Fin. Optimism	Comm. Attachment	Freedom Choice	Youth Dev.
Job Climate	1.000					
Fin. Stability	0.508	1.000				
Fin. Optimism	0.703	0.687	1.000			
Comm. Attachment	0.236	0.261	0.207	1.000		
Freedom Choice	0.192	0.231	0.208	0.206	1.000	
Youth Dev.	0.261	0.262	0.233	0.272	0.290	1.000

Table S3: *Effect of postmaterial values in the urban-rural life satisfaction disparity: Full Sample (N=1,380,845)*

DV	Model 1-4			
	Model 1	Model 2	Model 3	Model 4
	Life Satisfaction			
Rural	-0.498*** (0.0321)	-0.336*** (0.0254)	-0.501*** (0.0324)	-0.338*** (0.0256)
Postmaterial		4.225*** (0.205)		4.202*** (0.205)
Material			1.831*** (0.364)	0.406 (0.344)
Constant	4.909*** (0.192)	4.502*** (0.174)	2.689*** (0.507)	4.012*** (0.464)
R-sq	0.084	0.124	0.085	0.125

Note: Significance levels are indicated by: $p < 0.1$:*, $p < 0.05$:**, $p < 0.01$:***. Models 1-4 integrate year fixed effects, country-level controls like GDP to adjust for inter-country variations, and individual factors such as income to account for individual differences. In all models, standard errors are derived from district-level clustered VCE. Chi-squared tests indicate statistically significant differences between the 'Rural' coefficients of Model 1 and Model 2 ($\chi^2 = 2732.66$, p -value = 0.00), confirming the robustness of the observed disparities.

and robustness of these findings in various economic contexts.

Table S4: *Effect of postmaterial values in the urban-rural life satisfaction disparity: Top 25% GDP Group (N=357,120)*

DV	Model 1-4			
	Model 1	Model 2	Model 3	Model 4
	Life Satisfaction			
Rural	-0.558*** (0.0521)	-0.317*** (0.0459)	-0.551*** (0.0536)	-0.318*** (0.0456)
Postmaterial		3.894*** (0.238)		3.870*** (0.244)
Material			3.366*** (0.750)	0.392 (0.550)
Constant	9.137*** (0.505)	7.105*** (0.452)	4.983*** (1.050)	6.634*** (0.849)
R-sq	0.088	0.155	0.092	0.155

Note: Significance levels are indicated by: $p < 0.1$:*, $p < 0.05$:**, $p < 0.01$:***. Models 1-4 integrate year fixed effects, country-level controls like GDP to adjust for inter-country variations, and individual factors such as income to account for individual differences. In all models, standard errors are derived from district-level clustered VCE. Chi-squared tests indicate statistically significant differences between the 'Rural' coefficients of Model 1 and Model 2 ($\chi^2 = 4, 252.23, p\text{-value} = 0.00$), confirming the robustness of the observed disparities.

Table S5: *Effect of postmaterial values in the urban-rural life satisfaction disparity: Top 25-75% GDP group (N=720,721)*

DV	Model 1-4			
	Model 1	Model 2	Model 3	Model 4
	Life Satisfaction			
Rural	-0.438*** (0.0414)	-0.329*** (0.0336)	-0.431*** (0.0400)	-0.332*** (0.0337)
Postmaterial		4.031*** (0.296)		3.817*** (0.280)
Material			3.918*** (0.511)	1.866*** (0.524)
Constant	4.708*** (0.453)	4.939*** (0.387)	-0.245 (0.738)	2.568*** (0.787)
R-sq	0.068	0.100	0.074	0.101

Note: Significance levels are indicated by: $p < 0.1$:*, $p < 0.05$:**, $p < 0.01$:***. Models 1-4 integrate year fixed effects, country-level controls like GDP to adjust for inter-country variations, and individual factors such as income to account for individual differences. In all models, standard errors are derived from district-level clustered VCE. Chi-squared tests indicate statistically significant differences between the 'Rural' coefficients of Model 1 and Model 2 ($\chi^2 = 3, 058.76, p\text{-value} = 0.00$), confirming the robustness of the observed disparities.

Table S6: *Effect of postmaterial values in the urban-rural life satisfaction disparity: Bottom 25% GDP group (N=314,486)*

DV	Model 1-4			
	Model 1	Model 2	Model 3	Model 4
Life Satisfaction				
Rural	-0.209*** (0.0568)	-0.145*** (0.0477)	-0.209*** (0.0576)	-0.145*** (0.0483)
Postmaterial		6.324*** (0.910)		6.291*** (0.915)
Material			1.347*** (0.455)	1.147** (0.490)
Constant	4.604*** (0.529)	2.846*** (0.616)	2.957*** (0.835)	1.452 (0.905)
R-sq	0.060	0.073	0.060	0.073

Note: Significance levels are indicated by: $p < 0.1$:*, $p < 0.05$:**, $p < 0.01$:***. Models 1-4 integrate year fixed effects, country-level controls like GDP to adjust for inter-country variations, and individual factors such as income to account for individual differences. In all models, standard errors are derived from district-level clustered VCE. Chi-squared tests indicate statistically significant differences between the 'Rural' coefficients of Model 1 and Model 2 ($\chi^2 = 160.55$, $p - value = 0.00$), confirming the robustness of the observed disparities.

Table S7: *Impact of postmaterial dimensions on urban-rural life satisfaction disparity: Full sample (N=1,380,845)*

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
DV: Life Satisfaction					
Rural	-0.498*** (0.0321)	-0.328*** (0.0253)	-0.344*** (0.0256)	-0.289*** (0.0247)	-0.501*** (0.0324)
Education		0.0992*** (0.00463)			
Freedom of Choice			15.51*** (0.784)		
Community Attachment				0.159*** (0.00687)	
Materialism					1.831*** (0.364)
Constant	4.909*** (0.192)	-0.606* (0.313)	-3.929*** (0.485)	-7.611*** (0.558)	2.689*** (0.507)
R-sq	0.104	0.151	0.150	0.147	0.141
χ^2	Baseline	8,342.92	7,541.68	10,559.30	175.47
p-value	Baseline	0.000	0.000	0.000	0.000

S4 Alternative Dependent Variables

S1 Positive Experiences

Tables S11 and S12 provide a comprehensive presentation of our results, including a breakdown by GDP groups. These tables detail the outcomes when considering positive

Table S8: *Impact of postmaterial dimensions on urban-rural life satisfaction disparity: Top 25% GDP Group (N=357,120)*

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
DV: Life Satisfaction					
Rural	-0.558*** (0.0521)	-0.308*** (0.0456)	-0.326*** (0.0461)	-0.264*** (0.0444)	-0.551*** (0.0400)
Education		0.0915*** (0.00540)			
Freedom of Choice			14.288*** (0.899)		
Community Attachment				0.151*** (0.0075)	
Materialism					3.366*** (0.750)
Constant	9.137*** (0.505)	2.751*** (0.593)	-1.068 (0.817)	-4.877*** (0.796)	4.983*** (1.050)
R-sq	0.088	0.157	0.153	0.162	0.092
χ^2	Baseline	4.569.44	4,222.68	5,491.90	91.02
p-value	Baseline	0.000	0.000	0.000	0.000

Table S9: *Impact of postmaterial dimensions on urban-rural life satisfaction disparity: Top 25-75% GDP Group (N=720,721)*

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
DV: Life Satisfaction					
Rural	-0.438*** (0.0414)	-0.323*** (0.0334)	-0.335*** (0.0338)	-0.295*** (0.0327)	-0.431*** (0.0400)
Education		0.0948*** (0.00665)			
Freedom of Choice			14.76*** (1.141)		
Community Attachment				0.151*** (0.0104)	
Materialism					3.918*** (0.511)
Constant	4.708*** (0.453)	0.0952 (0.549)	-3.119*** (0.758)	-6.315*** (0.935)	-0.245 (0.738)
R-sq	0.068	0.101	0.099	0.105	0.074
χ^2	Baseline	3,242.24	2,897.31	4,167.70	88.90
p-value	Baseline	0.000	0.000	0.000	0.000

and negative experiences as alternative dependent variables, respectively, across different GDP tiers.

Table S10: *Impact of postmaterial dimensions on urban-rural life satisfaction disparity: Bottom 25% GDP Group (N=314,486)*

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
DV: Life Satisfaction					
Rural	-0.209*** (0.0568)	-0.142*** (0.0476)	-0.147*** (0.0478)	-0.130*** (0.0480)	-0.209*** (0.0576)
Youth Development		0.143*** (0.0201)			
Freedom of Choice			24.06*** (3.550)		
Community Attachment				0.189*** (0.0291)	
Materialism					1.347*** (0.455)
Constant	4.604*** (0.529)	-4.437*** (1.418)	-10.28*** (2.304)	-11.09*** (2.524)	2.957*** (0.835)
R-sq	0.060	0.073	0.072	0.072	0.060
χ^2	Baseline	167.72	153.84	199.06	0.44
p-value	Baseline	0.000	0.000	0.000	0.5081

S2 Negative Experiences

S3 Impact of Postmaterial Dimensions on Urban-Rrural life satisfaction disparity, Alternative Dependent variables

Tables [S13](#), [S14](#), [S15](#), and [S16](#) display the outcomes of our analysis, which incorporates individual dimensions of postmaterial values into the model, with positive experiences as the dependent variable. These tables offer results for the full sample set and are further segmented according to GDP groups. Conversely, Tables [S17](#), [S18](#), [S19](#), and [S20](#) provide the corresponding results for negative experiences.

Table S11: Impact of postmaterial value on positive experiences: Combined analysis across GDP groups

Variable	Model 1	Model 2	Model 3	Model 4
Full Sample (N=1,340,236)				
Rural	-0.976*** (0.315)	-0.376 (0.298)	-1.014*** (0.312)	-0.447 (0.295)
Postmaterial		16.39*** (1.707)		15.31*** (1.695)
Material			24.19*** (4.175)	19.35*** (4.178)
Constant	84.03*** (1.616)	82.78*** (1.538)	55.91*** (4.973)	60.37*** (5.009)
R-sq	0.027	0.031	0.028	0.032
Top 25% GDP Countries (N=341,231)				
Rural	-1.018* (0.540)	-0.00412 (0.514)	-0.998* (0.544)	0.00127 (0.512)
Postmaterial		17.59*** (2.058)		17.85*** (1.878)
Material			8.785 (10.39)	-4.287 (9.900)
Constant	73.32*** (5.329)	68.47*** (5.787)	63.79*** (15.07)	73.05*** (14.90)
R-sq	0.018	0.027	0.019	0.027
Top 25-75% GDP Countries (N=696,952)				
Rural	-1.149** (0.469)	-0.724* (0.437)	-1.088** (0.450)	-0.772* (0.426)
Postmaterial		16.60*** (2.794)		12.76*** (2.732)
Material			40.17*** (5.346)	33.65*** (5.428)
Constant	84.38*** (4.312)	85.69*** (4.405)	35.49*** (6.707)	44.46*** (7.301)
R-sq	0.037	0.040	0.041	0.043
Bottom 25% GDP Countries (N=312,558)				
Rural	-0.476 (0.446)	-0.175 (0.414)	-0.475 (0.446)	-0.175 (0.414)
Postmaterial		30.93*** (5.567)		30.75*** (5.586)
Material			7.053 (4.947)	6.053 (4.960)
Constant	108.3*** (5.089)	100.4*** (4.882)	99.99*** (6.285)	93.34*** (6.021)
R-sq	0.025	0.027	0.025	0.027

Note: Standard errors are presented in parentheses. Significance levels are denoted as follows: *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.1$. This table presents a combined analysis of the impact of postmaterial values on negative experiences across different GDP groups. The sample size for each group is specified. The models adjust for the same variables as previous versions, with the addition of negative experiences in all models. The chi-square (χ^2) and probability (Prob) values are specific to each group, indicating the model fit and significance, with Full sample: $\chi^2 = 660.49$, $p - value = 0.00$, Top 25% GDP countries: $\chi^2 = 1,328.32$, $p - value = 0.00$, Top 25-75% GDP countries: $\chi^2 = 1,075.61$, $p - value = 0.00$, and Bottom 25% GDP countries: $\chi^2 = 118.93$, $p - value = 0.00$.

Table S12: Impact of postmaterial value on negative experiences: Combined analysis across GDP groups

Variable	Model 1	Model 2	Model 3	Model 4
Full Sample (N=1,329,260)				
Rural	-1.483*** (0.306)	-1.714*** (0.290)	-1.453*** (0.308)	-1.642*** (0.292)
Postmaterial	-6.340*** (1.704)		-5.146*** (1.684)	
Material		-22.62*** (4.005)		-20.96*** (4.019)
Constant	-2.499 (1.853)	-1.852 (1.820)	25.07*** (5.262)	23.56*** (5.275)
R-sq	0.038	0.038	0.039	0.039
Top 25% GDP countries (N=340,308)				
Rural	0.00611 (0.535)	0.0531 (0.500)	-0.0191 (0.538)	0.0674 (0.503)
Postmaterial	0.814 (2.068)		1.544 (2.096)	
Material		-10.94* (6.042)		-12.08** (6.115)
Constant	21.15*** (5.070)	20.89*** (5.182)	32.11*** (8.861)	32.75*** (8.791)
R-sq	0.027	0.027	0.027	0.027
Top 25-75% GDP countries (N=687,888)				
Rural	-1.666*** (0.0846)	-1.878*** (0.0850)	-1.735*** (0.0845)	-1.841*** (0.0849)
Postmaterial	-8.346*** (0.354)		-4.375*** (0.365)	
Material		-36.17*** (0.750)		-33.86*** (0.774)
Constant	-7.864*** (0.679)	-8.682*** (0.679)	36.94*** (1.150)	33.65*** (1.182)
R-sq	0.037	0.038	0.040	0.040
Bottom 25% GDP countries (N=301,064)				
Rural	-2.238*** (0.531)	-2.328*** (0.533)	-2.238*** (0.531)	-2.328*** (0.533)
Postmaterial	-9.266 (12.08)		-9.291 (12.14)	
Material		0.526 (9.550)		0.831 (9.746)
Constant	-21.64*** (4.710)	-19.13*** (5.991)	-22.29* (12.67)	-20.14 (12.73)
R-sq	0.057	0.057	0.057	0.057

Note: Standard errors are presented in parentheses. Significance levels are denoted as follows: *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.1$. This table presents a combined analysis of the impact of postmaterial values on negative experiences across different GDP groups. The sample size for each group is specified. The models adjust for the same variables as previous versions, with the addition of negative experiences in all models. The chi-square (χ^2) and probability (Prob) values are specific to each group, indicating the model fit and significance, with Full sample: $\chi^2 = 2,383.84$, $p\text{-value} = 0.00$, Top 25% GDP countries: $\chi^2 = 9.71$, $p\text{-value} = 0.00$, Top 25-75% GDP countries: $\chi^2 = 309.90$, $p\text{-value} = 0.00$, and Bottom 25% GDP countries: $\chi^2 = 17.80$, $p\text{-value} = 0.00$).

Table S13: *Impact of Postmaterial dimensions on urban-rural positive experience disparity: Full sample (N=1,340,236)*

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
DV: Life satisfaction					
Rural	-0.976*** (0.315)	-0.352 (0.297)	-0.398 (0.298)	-0.257 (0.293)	-1.014*** (0.312)
Education		0.380*** (0.0399)			
Freedom of Choice			60.78*** (6.308)		
Community Attachment				0.572*** (0.0650)	
Materialism					24.19*** (4.175)
Constant	84.03*** (1.616)	63.30*** (2.255)	49.78*** (3.424)	38.59*** (4.914)	55.91*** (4.973)
R-sq	0.027	0.031	0.031	0.031	0.028
χ^2	Baseline	2,055.18	1,965.80	2,161.21	174.69
p-value	Baseline	0.000	0.000	0.000	0.000

Table S14: *Impact of Postmaterial dimensions on urban-rural positive experience disparity: Top 25% GDP group (N=341,231)*

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
DV: Life satisfaction					
Rural	-1.018* (0.540)	0.0290 (0.512)	-0.0345 (0.515)	0.157 (0.503)	-0.998* (0.544)
Education		0.410*** (0.0479)			
Freedom of Choice			64.96*** (7.620)		
Community Attachment				0.642*** (0.0769)	
Materialism					8.785 (10.39)
Constant	73.32*** (5.329)	47.36*** (7.082)	31.48*** (8.435)	12.74 (10.00)	63.79*** (15.07)
R-sq	0.018	0.027	0.027	0.027	0.019
χ^2	Baseline	1,359.81	1,310.16	1,407.34	27.63
p-value	Baseline	0.000	0.000	0.000	0.000

Table S15: Impact of Postmaterial dimensions on urban-rural positive experience disparity: Top 25-75% GDP group (N=696,952)

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
DV: Life satisfaction					
Rural	-1.149** (0.469)	-0.702 (0.436)	-0.744* (0.438)	-0.612 (0.428)	-1.088** (0.450)
Education	0.388*** (0.0651)				
Freedom of Choice		61.14*** (10.36)			
Community Attachment			0.593*** (0.107)		
Materialism				40.17*** (5.346)	
Constant	84.33*** (4.312)	65.97*** (4.735)	52.38*** (6.163)	40.55*** (8.087)	35.49*** (6.707)
R-sq	0.037	0.040	0.040	0.040	0.041
χ^2	Baseline	1,114.33	1,039.10	1,240.04	82.14
p-value	Baseline	0.000	0.000	0.000	0.000

Table S16: Impact of Postmaterial dimensions on urban-rural positive experience disparity: Bottom 25% GDP group (N=312,558)

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
DV: Life satisfaction					
Rural	-0.476 (0.446)	-0.164 (0.414)	-0.184 (0.415)	-0.129 (0.415)	-0.475 (0.446)
Education	0.690*** (0.134)				
Freedom of Choice		118.8*** (20.10)			
Community Attachment			0.861*** (0.248)		
Materialism				7.053 (4.947)	
Constant	108.3*** (5.089)	65.40*** (9.461)	35.61*** (12.95)	36.06* (21.55)	99.99*** (6.285)
R-sq	0.025	0.027	0.027	0.027	0.025
χ^2	Baseline	120.94	116.66	122.59	1.04
p-value	Baseline	0.000	0.000	0.000	0.3082

Table S17: *Impact of postmaterial dimensions on urban-rural negative experiences disparity: Full sample (N=1,329,260)*

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
DV: Life satisfaction					
Rural	-1.483*** (0.306)	-1.712*** (0.289)	-1.714*** (0.290)	-1.667*** (0.287)	-1.453*** (0.308)
Education		-0.140*** (0.0403)			
Freedom of Choice			-24.44*** (6.222)		
Community Attachment				-0.147** (0.0676)	
Materialism					-22.62*** (4.005)
Constant	-2.499 (1.853)	5.339** (2.540)	11.46*** (3.579)	9.059* (5.209)	25.07*** (5.262)
R-sq	0.038	0.038	0.038	0.038	0.039
χ^2	Baseline	376.94	473.93	180.31	124.33
p-value	Baseline	0.000	0.000	0.000	0.000

Table S18: *Impact of postmaterial dimensions on urban-rural negative experiences disparity: Top 25% GDP countries (N=340,308)*

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
DV: Life satisfaction					
Rural	0.00611 (0.535)	0.0784 (0.498)	0.0326 (0.502)	0.260 (0.488)	-0.0191 (0.538)
Education		0.0283 (0.0483)			
Freedom of Choice			1.751 (7.627)		
Community Attachment				0.139* (0.0772)	
Materialism					-10.94* (6.042)
Constant	21.15*** (5.070)	19.28*** (6.346)	20.06*** (7.432)	8.566 (9.194)	32.11*** (8.861)
R-sq	0.027	0.027	0.027	0.027	0.027
χ^2	Baseline	8.92	1,34	83.94	36.14
p-value	Baseline	0.003	0.246	0.000	0.0000

Table S19: *Impact of postmaterial dimensions on urban-rural negative experiences disparity: Top 25-75% GDP countries (N=687,888)*

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
DV: Life satisfaction					
Rural	-1.666*** (0.383)	-1.883*** (0.361)	-1.872*** (0.363)	-1.889*** (0.356)	-1.735*** (0.374)
Education		-0.190*** (0.0594)			
Freedom of Choice			-31.38*** (9.011)		
Community Attachment				-0.248** (0.103)	
Materialism					-36.17*** (5.012)
Constant	-7.864* (4.601)	1.010 (5.272)	8.400 (6.478)	10.34 (8.755)	36.94*** (7.375)
R-sq	0.037	0.038	0.038	0.037	0.040
χ^2	Baseline	301.49	316.02	227.65	121.57
p-value	Baseline	0.000	0.000	0.000	0.000

Table S20: *Impact of postmaterial dimensions on urban-rural negative experiences disparity: Bottom 25% GDP countries (N=311,569)*

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
DV: Life satisfaction					
Rural	-2.238*** (0.531)	-2.326*** (0.533)	-2.329*** (0.533)	-2.305*** (0.537)	-2.238*** (0.531)
Education	-0.196 (0.284)				
Freedom of Choice		-37.22 (44.16)			
Community Attachment			-0.166 (0.443)		
Materialism			-0.166 (0.443)		
Constant	-21.64*** (4.710)	-9.282 (19.13)	1.323 (28.26)	-7.875 (37.69)	-22.29* (12.67)
R-sq	0.057	0.057	0.057	0.057	0.057
χ^2	Baseline	15.94	19.46	6.81	0.10
p-value	Baseline	0.000	0.000	0.009	0.7481

Table S21: *Description of indicator variables for material values*

Indicator Variables	Question	Response
Job Climate	<ul style="list-style-type: none"> • Right now, do you think that economic conditions in the city or area where you live, as a whole, are getting better or worse? • 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? 	Positive answers are recoded as 1, and other answers are recorded as 0; then, the mean of the resulting values multiplied by 100 is used as an index score for each individual.
Financial Stability	<ul style="list-style-type: none"> • Which one of these phrases comes closest to your own feelings about your current household income: living comfortably on the present income, getting by on the present income, finding it difficult with the present income, or finding it very difficult with the present income? • Are you satisfied or dissatisfied with your standard of living and all the things you can buy and do? • Right now, do you feel your standard of living is getting better or getting worse? • 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? 	Positive answers are recoded as 1, and other answers are recorded as 0; then, the mean of the resulting values multiplied by 100 is used as an index score for each individual.
Financial Optimism	<ul style="list-style-type: none"> • Right now, do you feel your standard of living is getting better or getting worse? • 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? • 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. Based on your best guess, on which step do you think you will stand in the future, such as five years from now? 	Positive answers are recoded as 1, and other answers are recorded as 0; then, the mean of the resulting values multiplied by 100 is used as an index score for each individual.

Table S22: *Description of indicator variables for postmaterial values*

Indicator Variables	Question	Response
Community Attachment	<ul style="list-style-type: none"> • Are you satisfied or dissatisfied with the city or area where you live? • In the next 12 months, are you likely or unlikely to move away from the city or area where you live? • Would you recommend the city or area where you live to a friend or associate as a place to live, or not? 	Positive answers are recoded as 1, and other answers are recorded as 0; then, the mean of the resulting values multiplied by 100 is used as an index score for each individual.
Freedom of Choice	<ul style="list-style-type: none"> • In (this country), are you satisfied or dissatisfied with your freedom to choose what you do with your life? 	1 Satisfied; 2 Dissatisfied; 3 Do not know; 4 Refused
Youth Development	<ul style="list-style-type: none"> • In the city or area where you live, are you satisfied or dissatisfied with the educational system and the schools? • Do you believe that children in (country) are treated with respect and dignity, or not? • Do most children in (country) have the opportunity to learn and grow every day, or not? 	Positive answers are recoded as 1, and other answers are recorded as 0; then, the mean of the resulting values multiplied by 100 is used as an index score for each individual.