

Assessment of the Subjective Well-Being during the COVID-19 Pandemic in Timor-Leste: Evidence from a Nationwide Household Survey

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Abstract

This paper presents descriptive statistical analyses from the survey data about the subjective well-being among the population in Timor-Leste during the COVID-19 pandemic. Based on the findings of the joint UN-Government nationwide survey (Socio-Economic Impact Assessment) conducted with 4292 individuals through a nationally representative face-to-face interviews between July and September 2021, the paper explores the levels of subjective well-being by different socio-economic determinants. The paper finds the implications of COVID-19 on subjective well-being in Timor-Leste were mixed. Since the COVID-19 State of Emergency declared in March 2020, overall life satisfaction was relatively high among all respondents yet satisfaction with health and feeling part of the community was lower. Majority of the respondents felt positive affect yet there were significant differences in terms of happiness based on various socio-economic background of the respondents. These data and analyses are valuable for three reasons. First, there is a lack of nationally representative survey data on social well-being including subjective well-being in Timor-Leste. Hence, the results provide important insights into the experiences and perspectives of different population groups in Timor-Leste in the global South during the COVID-19 pandemic. Second, the data allows policy-makers, development partners, and other actors to address the challenges that different socio-economic groups in Timor-Leste experience in relation to their quality of life. Third, the paper discusses the potential values and limitations of quantitative measures of subjective well-being in the context of a developing and young state.

Keywords

subjective well-being, COVID-19 pandemic, Timor-Leste, life satisfaction, happiness, affect, feeling

COVID-19 presented tremendous challenges not only in terms of public health and economy but also in terms of people's subjective well-being. There has been significant interest and public discussion about the impact of COVID-19 movement restrictions and lockdowns on subjective well-being among the population (Long 2021; Cheng, Kim, and

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Koh 2020; Martínez, Valencia, and Trofimof 2020; Metin, Çetinkaya, and Erbiçer 2021; OECD 2021, Zyl 2021).

The researches to date on subjective well-being tend to focus on world's richest countries. Like in many other developing countries, there is no dedicated General Social Survey in Timor-Leste even before the COVID-19 pandemic hit the world. The availability of data in general and on social aspects such as social relationships, values, and trust has been traditionally scarce. To better understand the socio-economic impact of COVID-19 on the population, a nationwide Socio-Economic Impact Assessment survey was conducted in Timor-Leste between July and September 2021 (hereinafter SEIA 2.0).

This paper aims to provide basic descriptive statistics of subjective well-being using the SEIA 2.0 dataset and to discuss the usefulness of the subjective well-being framework in a post-conflict developing country context, in the case of Timor-Leste.

Context

As population displacement, violence, and war ceased, post-conflict societies including Timor-Leste were eager to quickly launch the processes of social reconciliation and economic reconstruction. In newly independent countries like Timor-Leste, major political, economic, and social changes occur over a relatively short period of time. These reforms and changes comprise establishing basic economic and administrative systems, developing core state functions, mobilizing effective service delivery, and supporting private sector development (Richter 2009). As Collier et al. (2003) highlighted, "such reforms, if successful, contribute to peace-building by breaking the vicious circle of poverty and conflict."

Over the last two decades, Timor-Leste, as a young small island developing state (SIDS), has made remarkable progress in human and economic development. With a population of approximately 1.3 million people, Timor-Leste has young population - approximately 44 percent of the population is aged below

18 while youth aged 15-24 comprise 21.8 percent (Directorate General of Statistic 2021). Around 23 percent of the population lives in the capital, Dili.

The Timor-Leste Human Development Index value increased from 0.505 to 0.626 between 2000 and 2018, with life expectancy growing by 20.8 years and expected years of schooling by 2.6 years. Because of these gains, the country has achieved a medium human development status, in position 131 out of 189 countries (UNDP 2019). The country's economy has been one of the fastest growing in the world since its independence in 2002, with GDP per capita increasing from \$453 in 2004 to \$1,381 in 2020 (World Bank 2021).

However, poverty remains high in the country. As of 2014, the headcount poverty rate based on the national poverty line was 42 percent (MoF and World Bank 2014) whereas the headcount poverty rate based on the \$1.90 international poverty line was 22 percent in 2014 but increased to 27 percent in 2020 according to the World Bank estimates (World Bank Group 2021). The Human Development Report 2018 indicates nearly 46 percent of the population (594 thousand people) are multidimensionally poor, while an additional 26 percent are classified as vulnerable to multidimensional poverty (338 thousand people), making Timor-Leste the country with the highest multidimensional poverty rate among South-East Asian countries (UNDP, 2018). There are significant discrepancies in the poverty rate between income groups, geographic locations, and demographic groups; 47.3 percent of the poor population are children aged under 15 and the poverty rate is higher in rural areas (47.1 percent) compared to urban areas (28.3 percent) (World Bank 2019).

COVID-19 in Timor-Leste. The nature of COVID-19 presented novel challenges for Timor-Leste. Restricting inter-municipality travel and the face-to-face interactions necessary for the large informal sector hit uniquely hard in a country with limited access to technological supports and relative

geographic isolation. Like in many other SIDS, the impact of COVID-19 has also been compounded with climate change effects where the country was hit by large-scale floods in April 2021.

The Government of Timor-Leste (GoTL) declared a State of Emergency (SoE) on March 28, 2020. Accordingly, the GoTL imposed various actions such as domestic and international travel restrictions, closure of schools, and physical distancing. The type of containment measures has varied through time depending on the epidemiological and political situation and imposed differently by geographical regions (United Nations Timor-Leste and the Government of Timor-Leste 2021). Timor-Leste has contained the spread of COVID-19 relatively well. As of January 7, 2021, there have been 19,820 confirmed cases of COVID-19 with 1 active case, reaching 532 positive cases at the peak and a total of 122 deaths (World Health Organization 2021). Rapid containment measures undertaken by the GoTL and the country's relative geographic isolation have contributed to maintaining this low level. The country's dependence on agricultural production, high levels of persistent multidimensional poverty, unemployment and chronic malnutrition, lack of basic infrastructure, dependence on exports, and unequal access to essential services mean the ongoing socio-economic impact of the pandemic could be severe.

Therefore, examining the levels of subjective well-being in the case of Timor-Leste in times of COVID-19 pandemic could help understanding the impact of overall post-conflict reconstruction and potential inequalities in subjective well-being.

Research Questions

1. What are the levels of subjective well-being among the population in Timor-Leste during COVID-19?
2. Are there any differences based on subjective well-being depending on respondents' gender, age, educational level, employment type, residence/geo-
3. How do the emerging patterns in subjective well-being compare to the findings of national subjective well-being surveys conducted in Western context? The paper compares the results against the summary of analyses presented in Ruut Veenhoven's "Sociological Theories of Subjective Well-being" (2008).
4. What are the values of the subjective well-being framework in understanding subjective well-being among the people in Timor-Leste?

Theoretical Framework

The last few decades have seen an ever-growing trend towards the use of well-being research to inform decision making and evaluating policy successes. Today, there is a wide consensus among academics and the international development community that well-being represents a new development paradigm giving opportunities to go beyond economic growth and pursue a more human-centered approach (Stiglitz, Sen, and Fitoussi 2009; Royal Government of Bhutan 2018; United Nations 2015; OECD 2013). There is also a wide recognition that well-being is a complex and multi-dimensional concept (Atkinson 2013).

This paper relies on the subjective well-being concept defined as "a subjective measurement that combines the presence of positive emotions and absence of negative emotions with overall satisfaction with life" (Diener 1994). The conceptual framework used in the SEIA 2.0 study covered two main concepts of subjective well-being, namely, life evaluation and affect. As the study covered a wide range of topics and was primarily interested in the impact of COVID-19 on people's subjective life evaluation and feelings, the concept of *eudaimonia* was not included in the study.

Life satisfaction. The concept of life satisfaction and affect used in the study primarily relied on the OECD Guidelines on

Measuring Subjective Well-being (OECD 2013). Life evaluation was measured both in terms of “life as a whole” or overall life satisfaction and in terms of evaluations of particular aspects of their lives across five domains — health satisfaction, financial satisfaction, living environment satisfaction, employment satisfaction and satisfaction with belonging in community. These five aspects or domains were chosen based on the overall SEIA 2.0 purpose of identifying potential impact of COVID-19 restrictions on key aspects of people’s life in Timor-Leste.

Affect. According to Kahneman and Krueger (2006), measures of affect refer to particular feelings or emotional states, and they are typically measured with reference to a particular point in time capture how people experience life rather than how they remember it. Relying on the Guidelines, the study used both positive affect (happiness and feeling calm) and negative affect (feeling sad, feeling tired, and feeling worried or stressed¹). The affect component includes happiness and hence happiness is considered as part of overall subjective well-being rather than being equated with it (OECD 2013).

In the context of COVID-19, the prevalence of fear, uncertainty, and economic loss might have negative impacts on life satisfaction and affect of different population groups. As such, this paper attempts to explore differences on how diverse population groups experience the COVID-19 pandemic and the effects of COVID-19 may have differentiated consequences in the population as women, less educated and poorer population may have less access to opportunities and resources to cope with the magnitude of the pandemic.

METHODS

Data

This paper uses the data collected by the SEIA 2.0 survey which was designed and conducted by the United Nations Timor-Leste and the General Directorate of Statistics of the Ministry of Finance, Timor-Leste. The

data for the study was collected between July 2, 2021 and September 3, 2021 from all 13 municipalities from 4,292 completed interviews with households (of which 16.8 percent are female headed). Despite significant challenges in collecting data due to COVID-19 movement restrictions, data was collected using Computer Assisted Personal Interviewing method.

The sampling design of the SEIA 2.0 aimed at results that are representative at the national level. To do so, a listing of buildings by enumeration areas was used as sample frame. The study used two-stage cluster sample. Strata in which samples were drawn independently from one another consisted of the 13 municipalities and of urban and rural areas, resulting in 26 strata. In the first sampling stage, primary sampling units consisted of *aldeias* (*sub-village*) for Dili and enumeration areas for other municipalities. The primary sampling units were selected with probability proportionate to size. In the second sampling stage, 20 households were randomly selected from each of the sampled primary sampling units, using systematic sampling. A total sample size of 5,000 households was drawn to produce statistically representative results at national level, with a 95-percent confidence level. Based on the persons listed in the module about the household composition, the questionnaire application randomly selected either the head of the household or the spouse of the household head as household respondent for further questioning. This random assignment guaranteed that men and women have an equal chance of providing the information collected by the survey. For the analysis, sample weights were calculated to address the unequal household selection probabilities, non-response and under-coverage. Separate weights were calculated for household-level data and respondent-level data.

Variables

Table 2 describes the different socio-economic characteristics as independent variables. These variables include gender,

Table 1. Descriptive Statistics (weighted) of the Data

		Number of observations = 4,278
Gender		Percent
	Male	50.0
	Female	50.0
Residence		Percent
	Dili	29.3
	Municipalities outside Dili	70.7
Age		Percent
	15-24	32.5
	25-39	29.4
	40-64	27.4
	65+	10.7
Marital status		Percent
	Single	29.7
	Married	61.9
	Divorced/widowed	8.4
Education		Percent
	Pre-secondary and below	61.8
	Secondary and technical	30.9
	Tertiary and above	7.3
Wealth index of household		Percent
	Poorest quintile	20.0
	Q2	19.9
	Q3	20.0
	Q4	20.1
	Richest quintile	20.0
Employment status		Percent
	Government employee	2.4
	Non-government employee	2.4
	Self-employed with employee	1.4
	Self-employed without employee	9.1
	Family worker	32.8
	Not employed	51.9

age, educational attainment, marital status and employment status of the respondent. Key household characteristics such as the household wealth and the residence/location of the household and respondent were used to understand the varying levels of subjective well-being among different

population groups. Furthermore, to examine how different population groups experience the COVID-19 pandemic and the major floods that occurred during the pandemic, households were classified based on specific economic hardship, experience of health and flood difficulties since the COVID-19 SoE.

Table 2. Socio-Economic Characteristics and COVID-19 Related Hardship Variables

Socio-Economic Characteristics		
Variables	Description / Question	Scale
1.1 Gender	Male / Female (other option was included but only 8 respondents selected it).	<ul style="list-style-type: none"> • Male • Female
1.2 Age	Broad age groups	<ul style="list-style-type: none"> • 15-24 • 25-39 • 40-64 • 64 and above
1.3 Educational attainment	What is the highest educational level that <Name> has completed? Then 10 answer options were provided including Don't know answer option. Then the answers were recoded into three broad categories for the analysis.	<ul style="list-style-type: none"> • Pre-secondary and below • Secondary and technical • Tertiary and above
1.4 Marital status	Never married, married, widowed, divorced, separated	<ul style="list-style-type: none"> • Single • Married • Divorced/widowed/ separated
1.5 Employment type	Self-employed means that income is derived from the profit of the work. For employees, the income is independent from the profit of the work. A contributing family worker is a person who is not paid for helping in the family business or farm.	<ul style="list-style-type: none"> • Government employee • Non-government employee • Self-employed with employee • Self-employed without employee • Family worker • Not employed
1.6 Wealth quintiles	The SEIA 2.0 team calculated the wealth index. Scores were given to individual households based on ownership of selected assets and characteristics of the dwelling ¹ . Then, quintiles were calculated for these household scores and each household was given a code according to the quintile to which it belonged.	Five wealth quintiles ranging from the poorest/lowest quintile to the richest/highest quintile.
1.7 Residence or geographic location	was asked by each municipality then recoded those residing in Dili and those residing outside of Dili due to pronounced geographic differences between the capital and other municipalities.	<ul style="list-style-type: none"> • Dili • Other municipalities (Outside of Dili)

Hardship during COVID-19

Variables	Description / Question	Scale
2.1 Livelihood coping mechanisms	Coping mechanisms used by households because of a lack of food or a lack of money to buy food. Eight questions ² were asked from respondents reflecting different levels of severity of coping strategies used.	Households' coping mechanisms used are classified based on their severity: <ul style="list-style-type: none"> • Stress • Crisis • Emergency
2.2 Food insecurity severity	Measures to identify the proportion of the population facing food insecurity at different levels of severity are obtained using the Food Insecurity Experience Scale (FIES), which is an experience-based metric of severity of food insecurity that relies on people's direct responses to eight questions ³ regarding their access to adequate food. Eight questions were asked from respondents - each FIES question refers to a different experience and is linked to a different level of severity of food insecurity.	Households' food insecurity level is classified: <ul style="list-style-type: none"> • Mild • Moderate • Severe
2.3 Households' flood status	Has any part of this dwelling been damaged by the Easter flood?	<ul style="list-style-type: none"> • Yes • No
2.4 Households reporting a member who experienced health problem during COVID-19	Have you or any member of your household needed any medical treatment or consultation since the start of Corona State of Emergency?	<ul style="list-style-type: none"> • Yes • No

Note:

1. Floor material, roof material and wall material of the dwelling, number of sleeping rooms, household and personal amenities (Television, Refrigerator, Computer, Fan, Chair, Sofa, Cupboard, Bed, Sewing machine, Loom for weaving tais, Electricity, Computer/laptop, Mobile phone, Bicycle, Motorcycle / scooter, Animal-drawn cart, Car or truck, Boat with motor, Bank account), Land ownership, Hectares of land, Ownership of livestock, Toilet facility, Water source, Water collection point, Protection of water source.
2. Because of a lack of food or a lack of money to buy food, did your household in the last one month do the following? Selling household assets or goods, Spending savings, Selling more livestock than usual, Borrowing money, Selling productive assets, Reducing expenses on education and health, Begging, Selling house or land.
3. Was there a time during this last one month when you or others in your household were unable to [...] because of a lack of money or other resources? Worried about not having enough food to eat, Unable to eat healthy and nutritious food; Ate only a few kinds of foods; Had to skip a meal; Ate less than you thought you should; Ran out of food; Were hungry but did not eat; Went without eating for a whole day. Detailed methodology on the FIES can be found here: <https://www.fao.org/3/bl354e/bl354e.pdf>

Table 3. Measurement of Subjective Well-Being

Life Satisfaction and Domain Satisfaction			
	Dimension and Sub-Dimension	Question/ Description	Scale
3.1	Satisfaction with health	Overall, how satisfied are you with your health as a whole these days?	5-point Likert scale (very satisfied 1 to very dissatisfied 5)
3.2	Satisfaction with being part of community	Overall, how satisfied are you with feeling part of the community as a whole these days?	Don't know / Can't answer option (99) ¹
3.3	Satisfaction with financial situation	Overall, how satisfied are you with your financial situation as a whole these days?	
3.4	Satisfaction with the quality of living environment	Overall, how satisfied are you with the quality of your living environment as a whole these days?	
3.5	Satisfaction with employment position	Overall, how satisfied are you with your employment position these days?	
3.6	Overall life satisfaction	Overall, how satisfied are you with life as a whole these days?	
Affect			
4.1	Feeling calm	How calm or agitated did you feel yesterday?	4-point Likert Scale
4.2	Feeling worried/stressed	How worried or stressed did you feel yesterday?	and Don't know / Can't answer option (99)
4.3	Feeling sad	How sad did you feel yesterday?	
4.4	Feeling happy	How happy did you feel yesterday?	
4.5	Feeling tired	How tired did you feel yesterday?	

Note: As individuals can be less than certain about some aspect of life or their emotional state, all questions included don't know and can't answer option to reduce bias.

RESULTS

Life satisfaction

First, we looked at domain satisfaction of the respondents. As Table 4 shows, among the five life domains included in the study, the respondents were least satisfied with their health conditions (50.0 percent) and with feeling part of their community (50.4 percent). Of all the respondents, 73.2 percent were satisfied with their financial situation, 76.0 percent with their employment situation while 84.8 percent were satisfied with their living environment. Overall life satisfaction was high, 84.0 percent of the respondents said they were satisfied or very satisfied with

their life as a whole these days.

Looking at overall life satisfaction and domain satisfaction by various socio-economic groups (Table 4):

- Women were slightly more satisfied than men in terms of overall life satisfaction (difference of 3.4 percent) and all other domains (ranging from 1.6 percent to 2.7 percent), except in satisfaction with finance, the proportion between men and women were the same.
- Married people were more satisfied than single and divorced or widowed people across all domains except in satisfaction with finance, the proportion is similar to that of the single individuals (difference

Table 4. Life Satisfaction by Socio-Economic Groups

Groups		Overall	Health	Community	Finance	Environment	Employment
Gender	Male	82.5%	49.0%	49.6%	73.2%	83.6%	74.6%
	Female	85.6%	51.1%	51.2%	73.2%	86.0%	77.3%
Marital status	Single	81.5%	43.5%	43.7%	73.6%	81.4%	72.3%
	Married	85.8%	53.2%	53.5%	73.5%	87.2%	78.2%
	Divorced/ Widowed	79.7%	49.9%	51.6%	69.6%	79.3%	72.6%
Age group	15-24	81.0%	45.5%	45.3%	72.4%	81.8%	71.9%
	25-39	85.9%	54.1%	53.7%	73.7%	87.5%	77.6%
	40-64	85.7%	53.9%	54.7%	73.7%	86.2%	78.6%
	65+	83.6%	42.9%	45.7%	73.0%	83.1%	77.3%
Education	Lower	81.9%	51.7%	52.0%	70.7%	82.7%	73.6%
	Secondary	86.8%	47.1%	47.9%	76.1%	87.9%	78.5%
	Tertiary	89.7%	48.4%	47.4%	81.8%	89.8%	85.5%
Employment	Government employee	91.9%	61.7%	59.4%	85.4%	91.3%	88.2%
	Non-government employee	80.8%	56.9%	55.4%	70.9%	78.1%	64.5%
	Self-employed with employee	80.5%	40.1%	40.1%	68.5%	80.4%	72.6%
	Self-employed no employee	89.5%	64.9%	65.9%	76.6%	90.8%	85.3%
	Family worker	85.1%	51.7%	53.0%	72.4%	84.5%	76.0%
	Not employed	82.2%	45.8%	45.7%	72.7%	84.1%	74.3%
Wealth index quintiles	Poorest	76.9%	56.2%	55.2%	70.6%	78.2%	69.5%
	Q2	81.4%	49.4%	51.1%	66.5%	83.5%	73.2%
	Q3	82.2%	47.8%	47.0%	71.9%	82.6%	73.9%
	Q4	89.5%	45.0%	46.7%	75.6%	90.1%	79.7%
	Richest	94.1%	52.3%	52.6%	86.3%	92.9%	88.1%
Residence	Dili	92.0%	58.4%	59.0%	78.4%	91.3%	81.2%
	Outside Dili	82.3%	48.2%	48.5%	72.1%	83.4%	74.9%
All respondents		84.0%	50.0%	50.4%	73.2%	84.8%	76.0%

Note: The table shows the percentage of respondents who gave a 1 (very satisfied) or 2 (satisfied) out of 5.

of only 0.1 percent). Singles were least satisfied with their health and feeling part of community and across other domains as well.

- Those aged 25-39 and 40-64 were more satisfied than youth and older persons. Older persons were least satisfied with their health and most satisfied with their living environment. Youth (aged 14-24) were the least satisfied group overall. They reported being least satisfied with their health and being part of community.

Although not directly comparable due to different samples, this is not consistent with a previous study conducted among youth in Timor-Leste in 2016 where 94.9 percent of the youth interviewed indicated having achieved “sufficiency in physical health” (UNDP 2018). Perhaps this could indicate the negative impact of COVID-19 on people’s perception about their physical health. Furthermore, they were the group that is least satisfied with their employment situation compared to

- other age groups.
- People with higher education were significantly more satisfied than those with lower and secondary education in terms of overall life satisfaction, financial situation, and employment situation.
 - Government employees were the most satisfied group in their overall life, finance, and employment situation. Although nearly 60 percent of government employees indicated being satisfied with their health and feeling part of community, this was higher than the average rate of 50 percent.
 - As shown in Table 4, respondents from the richest wealth quintile were significantly more satisfied (94.1 percent) than those in the poorest wealth quintile (76.9 percent). There is a positive correlation between the wealth index of the respondent's household and the level of overall life satisfaction, level of satisfaction with finance, with living environment and with employment situation. In other words, the richest wealth quintile had the highest proportion of respondents indicating higher levels of satisfaction across these domains. Conversely, more respondents in the poorest wealth quintile were satisfied with their health and feeling part of community than the other wealth groups although the difference was marginal.
 - Respondents in Dili were better off across all domains and in terms of overall life satisfaction than those residing outside of Dili.

Affect

We looked at overall affect results which show respondents reported more positive affect than life satisfaction. Key differences noted through the analyses of different socio-economic groups suggest the following (Table 5):

- For most of affect measures, there is no significant difference between male and female respondents. As for happiness, women tend to be slightly happier than men.
- Single respondents tend to be slightly sadder and, at the same time, happier than married and divorced/widowed ones the day before the interview.
- Middle aged respondents tend to be slightly less happy and less calm.
- Higher educated people feel less calm and more tired than other groups. Less educated people feel more worried.
- Non-government employees felt significantly less calm, less happy, more sad, but less worried than other employment groups.
- The richest wealth group tend to feel slightly less calm, more worried, sadder and more tired but at the same time feel slightly happier.
- People residing outside of Dili feel calmer and happier but at the same time feel more worried and tired.

As these affect measures refer to a single day before the interview, the variations in affect cannot be fully measured. Surveys from elsewhere suggest significant variation based on seasons, political and economic events or other major life events on affect (OECD 2013; Aldar et al. 2017).

COVID-19 and hardship on life satisfaction and affect

To look at life satisfaction and affect among the respondents during the COVID-19 pandemic, we looked at whether there was a difference in subjective well-being based on specific indicators of hardship rather than looking at differences based on socio-economic groups. Given the survey was conducted after the Easter Floods, between the two lockdowns, it would be interesting to explore if there are any differences based on these hardships experienced during the July-September period.

First, we looked at which percentage of respondents from households experiencing severe food insecurity felt happy the day before the interview and their overall life satisfaction (Table 6). In total, 26.5 percent of respondents from severe food insecurity felt unhappy while 16.5 percent felt happy.

Table 5. Affect by Socio-Economic Groups

	Groups	Calm	Worried	Sad	Happy	Tired
Gender	Male	86.2%	96.4%	96.7%	77.1%	88.9%
	Female	85.5%	95.8%	96.3%	79.1%	88.6%
Marital status	Single	86.9%	96.6%	97.5%	79.7%	88.7%
	Married	85.3%	95.9%	96.2%	77.5%	88.8%
	Divorced/widowed	85.9%	96.4%	94.5%	76.9%	88.6%
Age group	15-24	87.4%	96.4%	97.5%	81.4%	89.6%
	25-39	84.2%	95.7%	96.3%	76.3%	88.8%
	40-64	86.0%	96.0%	95.7%	75.0%	87.5%
	65+	85.3%	96.9%	95.8%	81.0%	89.0%
Education	Lower	86.4%	97.2%	96.2%	77.4%	88.8%
	Secondary	86.2%	94.0%	96.8%	79.8%	88.1%
	Tertiary	79.5%	95.8%	97.4%	77.0%	91.1%
Employment	Government employee	87.9%	95.9%	96.2%	85.8%	90.0%
	Non-government employee	79.4%	94.6%	99.0%	67.3%	87.5%
	Self-employed with employee	86.5%	96.7%	95.2%	79.1%	87.3%
	Self-employed no employee	87.9%	97.8%	95.0%	76.7%	89.6%
	Family worker	86.9%	96.1%	96.5%	78.7%	87.8%
	Not employed	85.0%	95.9%	96.7%	78.1%	89.2%
Wealth index quintiles	Poorest	86.1%	96.5%	95.2%	73.3%	88.1%
	Q2	84.9%	96.6%	96.2%	78.0%	89.4%
	Q3	87.1%	94.6%	97.3%	78.2%	84.2%
	Q4	85.8%	96.0%	96.0%	80.2%	92.3%
	Richest	84.9%	97.4%	98.0%	82.3%	91.0%
Residence	Dili	83.1%	94.0%	96.2%	74.2%	81.4%
	Outside Dili	86.4%	96.6%	96.5%	79.0%	90.4%
	All respondents	85.8%	96.1%	96.5%	78.1%	88.7%

Note: The table show the percentage of respondents who feel positive such as very calm or calm, very happy or happy, not worried/stressed at all or worried slightly, not sad at all or slightly sad and not tired at all or slightly tired.

Table 6. Happiness and Overall Satisfaction of the Respondents from Households with Severe Food Insecurity

	Happiness		Overall Life Satisfaction	
	Happy	Unhappy	Satisfied	Unsatisfied
Respondents from households with severe food insecurity	16.5%	26.5%	18.0%	21.9%
95% confidence interval	15.4%-17.6%	24.3%-28.8%	17.0%-19.1%	19.3%-24.6%

Table 7. Life Satisfaction by Groups Experiencing Hardship

Groups		Overall	Health	Community	Finance	Environment	Employment
Flood Affected	Not affected	82.7%	48.3%	48.4%	72.4%	84.0%	75.0%
	Affected	91.5%	63.1%	64.2%	81.4%	90.0%	82.3%
Medical Need	Yes	86.3%	53.9%	54.4%	75.3%	87.6%	78.2%
	No	80.5%	44.3%	44.4%	70.0%	80.7%	72.8%
Coping Mechanism	No coping	85.8%	43.9%	45.2%	78.0%	85.8%	80.7%
	Stress	87.1%	52.0%	52.3%	74.0%	85.8%	78.6%
	Crisis	82.4%	54.7%	53.8%	67.6%	83.9%	71.7%
	Emergency	63.6%	69.0%	70.2%	63.3%	77.0%	47.4%
All respondents		85.8%	50.0%	50.4%	73.2%	84.8%	76.0%

Table 8. Affect by Different Groups Experiencing Hardship

Groups		Calm	Worried	Sad	Happy	Tired
Flood affected	Not affected	88.1%	96.0%	96.6%	80.0%	89.4%
	Affected	78.6%	96.9%	96.3%	65.9%	84.3%
Medical need	Yes	83.7%	96.7%	96.1%	76.9%	91.1%
	No	89.0%	96.7%	97.0%	79.9%	85.2%
Coping mechanism	No coping	89.9%	96.5%	97.2%	83.5%	90.2%
	Stress	88.2%	95.7%	96.5%	79.1%	88.6%
	Crisis	80.4%	95.6%	95.7%	73.0%	87.4%
	Emergency	76.2%	98.4%	94.8%	57.7%	83.9%
All respondents		85.8%	96.1%	96.5%	78.1%	88.7%

Similarly, more respondents from this group were unsatisfied (21.9 percent) than satisfied (18.0 percent).

Second, we explored the potential differences in overall life satisfaction based on households' experience in terms of flood, needing medical services in times of the pandemic, and in terms of various coping strategies used to overcome financial difficulties.

Prior to the analyses, the hypothesis was that the respondents from flood affected, needed medical services and employing more severe coping mechanisms households would report lower levels of overall satisfaction. What stands out in Table 7 is that such correlation was not observed and on the contrary, more respondents from households affected by flood and needed medical services reported being satisfied across all domains.

Also shown in Table 7, in terms of livelihood coping mechanisms used, respondents from households that employed emergency coping mechanisms (begging and selling land or house) were the least satisfied group in terms of overall life satisfaction (63.6 percent satisfied versus 85.8 percent of the group that did not use any coping mechanism), employment (47.4 percent versus 80.7 percent of no coping mechanism used), environment (77.0 percent versus 85.8 percent), and finance (63.3 percent versus 78.0 percent). Conversely, they were more satisfied in their health and sense of community belonging than the other households who used less severe coping strategies.

As Table 8 indicates there is a clear difference based on hardship in terms of affect.

- Flood affected people tend to be less calm, more worried, less happy but less tired than others.
- People from households that had at least one member who needed medical attention and services feel less calm, less happy, and more tired.
- People who took emergency coping mechanisms to overcome hard times tend to be considerably less calm, more worried, and less happy, but they feel less tired and less sad.
- Respondents from households that did not use any livelihood coping mechanisms to overcome hardship were the most calm, happiest group yet more of them reported feeling tired.

DISCUSSION

First, the reported overall life satisfaction among the study respondents was relatively high, namely 84.0 percent indicating satisfied or very satisfied with their lives. Respondents were most satisfied with their living environment followed by their employment and financial situation while only half of the respondents indicated they were satisfied with their health and feeling part of their community. On the one hand, these findings suggest the potential value of the subjective well-being framework to distinguish between different domains of life rather than a single and all-encompassing life satisfaction measure. On the other hand, the relatively high proportion of individuals indicating overall life satisfaction might be the result of the 5-point Likert scale rather than the 10-point Cantril Scales often used in subjective well-being surveys. It should be noted during the SEIA 2.0 pre-test and pilot surveys, it was observed that it was not easy for the respondent to use a 10-point scale and 5-point scale was easier to understand. This could be related to the relatively lower literacy rate of 68.1 percent among the population and inequalities in literacy rate — where women, people in rural areas and older generations significantly lag behind in literacy and potentially in numeracy.

Second, the results also show significant difference between life satisfaction measures and affect measures with more respondents indicating more positive affect. The mean proportion of the respondents indicating satisfied across five domains was 66.9 percent and the overall life satisfaction was 84.0 percent while 89.1 percent of all respondents indicated higher levels of positive affect and lower levels of negative affect.

Third, the SEIA 2.0 survey data collected on subjective well-being in Timor-Leste reveals interesting patterns and differences by socio-economic groups.

- **Gender.** The differences in happiness across gender are typically small everywhere (Veenhoven 2008).
- **Age.** The fact that economically active groups (those aged 25-64) reported higher levels of life satisfaction is in contrast to the “U-shaped pattern of people feeling best in their early 20s and after age 50” mentioned in Veenhoven’s comparison of national surveys on subjective well-being (2008).
- **Marital status.** This is similar to Diener’s review of national subjective well-being surveys where “the married appear to be happier than singles” (Diener 2000 cited in Veenhoven 2008: 47). This could be explained in part due the negative stereotype of the society towards singles (Veenhoven 2008).
- **Educational level.** This is in line with the hypothesis that “subjective well-being must be higher among people who do well on socially valued standards” mentioned by Veenhoven (2008). However, Veenhoven (2008: 50) mentions this is not the case often and there is little correlation between educational level and subjective well-being. On the contrary, the case of Timor-Leste indicates there is strong correlation between educational level and subjective well-being.
- **Employment status.** This could be linked to the certainty of their employment situation with stable source of income and the relative socially valued position

compared to others in vulnerable employment such as contributing family workers, self-employed individuals without employees and those not in employment. Those not in employment were least satisfied in their overall life satisfaction, health and feeling part of the community compared to respondents in other types of employment.

- **Wealth index.** There was a positive correlation between the wealth index of the respondent's household and the level of overall life satisfaction, level of satisfaction with finance, with living environment and with employment situation. In a similar study conducted in Mongolia between 2016-2017 found positive correlation between household income and satisfaction across different domains (Aldar et.al. 2017). According to Veenhoven's analysis, income differences and the subjective well-being of those at bottom of the income distribution are of particular interest for sociologists and economists noting the "adverse effects of income inequality on well-being and warns of a growing split in society between haves and have-nots" (Veenhoven 2008: 52). He further notes that income inequality does not seem to have strong negative impact on subjective well-being in modern societies perhaps once individuals meet their basic needs such as food or respect, the effect of inequality is less (Veenhoven 2008: 52).
- **Residence/Geographic location.** Respondents in Dili were better off across all domains and in terms of overall life satisfaction than those residing outside of Dili.

Fourth, the effect of government policies to mitigate socio-economic hardship caused by the COVID-19 pandemic might have contributed to the subjective well-being indicators to remain relatively high in Timor-Leste. The GoTL implemented a package of highly visible economic recovery measures in 2021, such as food baskets (Cesta Basica) and cash handouts (Uma Kain), covering over

95 percent of the population, which may have inadvertently increased the perception of the rural and poorest population groups on the overall satisfaction of basic services. These government measures may have served as the lifeline for many poorest households when markets closed and short-term employment opportunities dried up during the various states of emergencies and health fencing.

Fifth, the effects of livelihoods and other hardship during the COVID-19 pandemic have severely affected people's affect. The more people experience livelihood difficulties and had to employ livelihood coping mechanisms, the more they felt sad, less happy and calm. The effect is also notable on overall life satisfaction and employment situation. This suggests the significance of livelihood support measures in the context of a country where poverty remains high on people's subjective well-being.

Sixth, methodological issues in subjective well-being measures are highlighted. While the literature review mentioned in Richter (2009) suggests "individuals are able to understand and answer consistently questions about own situation, and provide responses that are comparable, it is generally difficult to verify these assumptions." Furthermore, as Camfield noted the various conceptual and methodological issues "entailed in using subjective measures of well-being, especially outside the Euro-American context in which they were developed" (Camfield 2004). Despite the extensive use of subjective well-being frameworks, little attention has been paid to its use and conditions in developing and transitional societies. Therefore, the case of Timor-Leste appears particularly interesting.

Social desirability might be high in responding to subjective questions on life satisfaction and affect. This SEIA is amongst the first nationally representative surveys on the subjective perceptions of well-being in Timor-Leste context. The average respondents may not be used to surveyors asking questions on well-being and satisfaction (unlike, for example, respondents from Euro-American context). As highlighted in Veenhoven (2008:

44), “when people appear to feel subjectively good in conditions deemed to be objectively bad, the discrepancy is easily disposed of as ‘desirability bias’ or ‘false consciousness’.”

In-depth explorations of well-being and life’s satisfaction through methodologies such as micro-narratives with targeted segments of the population may complement large surveys. Timorese individuals are used to lengthy participatory discussions and surveys, and the most revealing/truthful answers may be forthcoming after the respondents has had a chance to warm up and feel more relaxed around a facilitators/surveyor.

CONCLUSIONS

These data and analyses are valuable for three reasons. First, there is a lack of nationally representative survey data on social well-being including subjective well-being in Timor-Leste. Hence, the results presented in this paper provide important insights into the experiences and perspectives of different population groups in Timor-Leste in the global South during the COVID-19 pandemic. Second, the data allows policy-makers, development partners and other actors to address the challenges that different socio-economic groups in Timor-Leste experience in relation to their quality of life. Third, the paper discusses the potential values and limitations of quantitative measures of subjective well-being in the context of a developing and young state and in particular, a post-conflict and SIDS country.

Recommendations

1. A more complete survey on subjective well-being should be conducted — including eudemonia.
2. It would be interesting to repeat the same survey before any government handouts are implemented, and especially during the lean seasons before harvesting of essential staple foods such as rice and cassava. In Mongolia for instance, the “affect” side of the subjective well-being of the population and in particular, the rural population was strongly correlated with seasonal changes (Aldar et al. 2017).
3. A time-series/repeat analyses would allow researchers to compare the changes in the perception of well-being over time, especially in the post-conflict/transition context, when many profound changes and reforms are introduced over a relatively short period of time.
4. Subjective well-being should be placed alongside measures of non-subjective outcomes, such as income, health, knowledge and skills, safety, environmental quality, and social connections. In the case of COVID-19 pandemic, government responsiveness and support should be taken into account.
5. To understand the social and subjective well-being, disaggregated data is needed on multi-dimensional poverty and deprivation, societal perceptions of “difficult/sensitive” issues such as the gender-based violence and/or discrimination based on ethnicity, religion and social status.
6. It would be useful to develop methodologies on subjective well-being involving a multi-disciplinary team of sociologists, psychologists, environmental professionals, and economists in the context of trauma-affected societies emerging from many years of deprivation and conflict. The compounding effects of climate change are real and urgent, and felt by the most vulnerable individuals and households, who may have the most limited coping strategies. Thus, the subjective well-being measures should reflect on the overall impact of changing climate in the SIDS context. According to the analysis of happiness across eight countries in Asia (Kobayashi and Aldar 2018), “there are geographical, rather than economic, differences in happiness in Asia” and a “potential Asian models

- of well-being” should be developed.
7. Post-conflict models of perceptions of well-being are also important to develop, to understand profound impacts of conflict on the subjective well-being across generations. The evolving work on lasting effects of trauma on human behavior and decision-making capabilities by psychologists is relatively new, but a growing research and evidence suggests that trauma informed development strategies are important to consider both at individual and community levels (Van der Kolk 2015).

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Notes

1. Feeling worried and stressed were combined into one question as during the SEIA 2.0 pilot survey, it was revealed the respondents were not distinguishing between the two concepts and used the terms interchangeably.

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