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Wellbeing Determinants of Household's Ability to Make Ends Meet: A Hierarchical Regression Model for Abu Dhabi

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Abstract: The purpose of this study is to explore the key factors influencing the ability of households in Abu Dhabi to maintain a subsistence standard of living, particularly focusing on how various socio-demographic and well-being determinants impact this ability. The study utilizes data from 38,124 employed heads of households who participated in the Abu Dhabi Quality-of-Life (QoL) survey conducted in 2021. A hierarchical regression model was applied to analyze the relationships between the ability to make ends meet and a range of independent variables while controlling for specific household and individual characteristics. The findings reveal that satisfaction with household income, the ability to save from previous earnings, and work-family balance are the most significant determinants of a household's ability to make ends meet. Additionally, the education level of the head of the household and the presence of a financial plan also play crucial roles. The results suggest that while the hierarchical regression model offers valuable insights, it does not fully capture the directional relationships between the variables, indicating the need for further research. In conclusion, the study highlights the importance of income satisfaction, financial planning, and work-life balance in helping households achieve financial stability. The implications for policymakers include the need to develop targeted strategies that enhance financial literacy, support income satisfaction, and promote work-life balance to improve the overall well-being of households in Abu Dhabi. Future research should consider a longitudinal approach to better understand the causal relationships between these factors and the ability to make ends meet.

Keywords: Ability to make ends meet; financial capability; households; well-being; hierarchical regression; Abu Dhabi

1. Introduction

Recent international surveys and studies have highlighted the prevalence of financial strain among households, even in some of the most developed countries (Pew Research Center, 2021; Whelan & Maître, 2012). For instance, in the United States, the Gallup-Sharecare Well-Being Index, which surveyed 500 citizens from 2013 to 2017, revealed that over 30% of respondents were concerned about their finances (Gallup, 2018). This financial anxiety is typically more acute for low-income individuals compared to their higher-income counterparts (Gallup, 2017; Johar et al., 2015). Similarly, in Abu Dhabi, the third cycle of the Quality of Life (QoL) survey conducted in 2021 found that 45% of household heads reported experiencing significant or moderate difficulty in meeting their expenses with their current income.

The repercussions of financial strain extend across various aspects of life, particularly impacting mental health, psychological well-being, and cognitive functioning (Drentea, 2000; Mani et al., 2013; Marjanovic et al., 2015; Netemeyer et al., 2018). Prior research has established a causal link between income levels and mental health, noting that indebtedness exacerbates stress (Drentea, 2000; Gathergood, 2012; Haushofer & Shapiro, 2016; Johar et al., 2015; Marjanovic et al., 2013; Netemeyer et al., 2018).

While several studies have examined the relationship between financial capacity—specifically the ability to make ends meet—and certain psychological variables, there is a pressing need for more comprehensive investigations that broaden the scope of financial well-being. This study aims to fill this gap by exploring the connections between the ability to meet financial obligations and a more extensive array of socio-demographic factors and well-being determinants. These include income, housing, employment, financial literacy, work-life balance, subjective health and mental health, social connections, and overall life satisfaction.

The constructs employed in this study are built upon a foundation of conceptually related constructs such as financial and economic threat (Marjanovic et al., 2013), debt stress (Drentea, 2000), and money management stress (Netemeyer et al., 2018). However, unlike previous research, which primarily focuses on the fear, uncertainty,

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and stress associated with financial concerns, this study also considers the subjective perceptions and evaluations of well-being that underlie these financial anxieties.

In the context of Abu Dhabi, understanding households' ability to make ends meet and cover essential expenses is crucial as it reflects the overall level of well-being. A deeper understanding of the characteristics and behaviors of these households could lead to more informed decision-making and effective actions to enhance their quality of life. For social policymakers, the implications are clear: there is a need to design and implement policies and programs that bolster the financial capability of households and provide education that enhances financial planning skills.

2. Literature Review

The ability to make ends meet plays a crucial role in mediating the relationships between financial capability, mental health, psychological well-being, and life satisfaction. Numerous studies have demonstrated that financial determinants, such as lower income and over-indebtedness, are strongly associated with poor mental health and psychological well-being (Atkinson, 2006; Fitch et al., 2011; Kahneman & Deaton, 2010; Kempson et al., 2005; Turunen & Hiilamo, 2014). Some quasi-experimental studies further confirm the causal direction from financial indicators to mental health and psychological well-being, showing positive effects of income and wealth (Gardner & Oswald, 2007; Haushofer & Shapiro, 2016; McInerney et al., 2013; Schwandt, 2018) and adverse effects of debt (Gathergood, 2012). Additionally, research indicates that life satisfaction has become increasingly unequal, closely tied to the ability to make ends meet (Appleton & Song, 2008; Diener & Weiting, 2010; Dolan et al., 2008).

Income is widely recognized as a principal determinant of the ability to make ends meet (Pohlig et al., 2020; Želinský, 2021). As household income rises, the ability to make ends meet significantly improves (Hébert & Gyarmati, 2014). Low-income individuals are more likely to struggle with making ends meet compared to higher-income individuals, both in general (Johar et al., 2015; Kahneman & Deaton, 2010) and specifically regarding their finances. A report by the European Commission (Eurostat, 2021) links the ability to make ends meet not only with income and material deprivation but also with housing, living environment, and access to services. Working households, despite generally having higher income and lower poverty rates, may still experience material hardship that affects their ability to make ends meet (Danziger et al., 2002). The COVID-19 pandemic has exacerbated these challenges, leaving households with fewer income capabilities struggling even more to make ends meet (Albuquerque & Green, 2022).

The health and mental health literature highlights the critical role of the ability to make ends meet in the emergence and exacerbation of mental health issues such as anxiety and depression (Gumà-Lao, 2022; Nolen-Hoeksema et al., 2008). Artazcoz et al. (2021) reported a significant association between the ability to make ends meet and poor self-perceived health status and psychological well-being in both sexes. Furthermore, the ability to make ends meet correlates with impaired cognitive functioning, resulting in cognitive inflexibility (Johar et al., 2015; Nolen-Hoeksema & Davis, 2000), poor problem-solving skills, and inadequate solution implementation (Lyubomirsky et al., 1999). Recent studies provide direct evidence for the mediating role of the ability to make ends meet in the relationships between financial antecedents and mental health, psychological well-being, and cognitive functioning. Marjanovic et al. (2013, 2015) found that financial threat, closely linked to the ability to make ends meet, partially mediates the negative relationship between economic hardship and mental health. Netemeyer et al. (2018) revealed that current money-management stress negatively affects well-being, with a stronger effect observed among lower-income individuals. Mani et al. (2013) provided evidence for a negative causal effect of poverty on cognitive functioning, mediated by financial concerns.

Financial knowledge is crucial for making appropriate financial decisions, and it significantly impacts the ability to make ends meet (McKay, 2011). A study by the Social Research and Demonstration Corporation (2014) found that higher numeracy skills correlate positively with the ability to make ends meet and financial planning. Households that engage in financial planning with the assistance of a regulated financial planner, equipped with the necessary knowledge, can devise strategies to achieve long-term financial goals. Research also indicates that households strive to make ends meet by developing effective financial plans and saving for the future (Devaney et al., 2007; King, 2022). Analysts have discussed saving strategies to extend resources and ensure financial stability (Hardy & Ziliak, 2014).

Work conditions also play a significant role in a household's ability to make ends meet (Alexander, 2015). Persson et al. (2022) identified the adverse effects of various work-related variables on the ability to make ends meet for both high- and low-income families. Stress and burnout due to work-home balance have been associated with the ability to make ends meet (Coote et al., 2021). Pollmann-Schult and Li (2020) noted that many households struggle to secure stable employment, often working evening and night shifts or multiple jobs to make ends meet. The International Labor Office (2011) reported that while longer working hours might allow families to make ends meet, they may also have adverse effects on workers' well-being.

Social connectedness, reflecting the presence of social ties, is another important factor to consider in relation to the ability to make ends meet (Gray, 2009; Tilly, 2012). Paiva et al. (2021) addressed the interrelationship between social connectedness and other well-being factors, including the ability to make ends meet. Families facing financial volatility without savings may turn to family and friends for support to make ends meet (Hardy & Ziliak, 2014).

Housing satisfaction has been shown to directly impact happiness and the ability to make ends meet (Wardrip et al., 2011). Studies have revealed the association between housing's physical aspects and happiness through meeting basic needs, making ends meet, and socialization (Cattaneo et al., 2009; Fujiwara & Campbell, 2011). Fujiwara and Campbell (2011), in their examination of housing variables and life satisfaction in the UK context, highlighted the ability to make ends meet as a significant variable with many implications. Regardless of demographic factors such as age, income, or community, housing is an important mediator (Lowney et al., 2013).

Recent research has also explored the ability to make ends meet during the COVID-19 pandemic. A Pew Research Center survey found that during the pandemic, one in four adults struggled to pay their bills, and a third dipped into savings or retirement accounts to make ends meet (Pew Research Center, 2020). These experiences were more common among adults with lower incomes, those without a college degree, and Black and Hispanic Americans. An OECD report further explained the impact of the COVID-19 crisis on the ability to make ends meet, particularly regarding access to good jobs, financial security, and decent housing (OECD, 2021).

The literature has also examined the variations in different household segments, such as gender, age, marital status, education, income, migration status, and other specific family characteristics, in their ability to make ends meet. However, findings often show inconsistencies. A report by the Consumer Financial Protection Bureau (2020) found that older consumers with lower incomes were more likely to report difficulties in making ends meet. Households in metropolitan areas were slightly less likely to face such problems. The significance of age and gender in relation to financial literacy and the ability to make ends meet was emphasized by McKay (2011), who suggested that older individuals become more capable of making ends meet and that women tend to have more psychosocial capital to manage finances better than men. However, Tur-Sinai et al. (2022) found that more men than women reported ease in making ends meet. Mack (2016), in a study in Germany, reported that women were more likely to report difficulties in making ends meet than men, but this gender difference was eliminated when additional explanatory variables were considered. An OECD report also noted that women were more likely to experience difficulties in making ends meet, saving, and accumulating financial resources (OECD, 2022). Some studies suggest that immigrants typically have fewer resources to make ends meet (Hébert & Gyarmati, 2014; Lohmann, 2009). While McKay (2011) found a positive correlation between education level and the ability to make ends meet, Hébert & Gyarmati's (2014) study did not observe this relationship. Studies comparing the number of children in a household found mixed results, with some reporting an insignificant effect of the number of school-age children on the ability to make ends meet (Blanchflower & Clark, 2020).

3. Methodology
3.1 The Survey

The Abu Dhabi Quality-of-Life (QoL) Survey was meticulously designed, drawing on several international social surveys and studies, including the OECD's Better Life Index (OECD, 2020), Gallup Global Well-Being Survey (Gallup, 2021), World Happiness Report (Helliwell et al., 2020), and European Quality of Life Survey (Eurofound, 2020). This survey encompassed various dimensions and factors pertaining to the well-being of households in Abu Dhabi, including their financial capability and concerns.

The survey was administered online using a combination of convenience sampling and random sampling approaches, covering all regions of the Emirate of Abu Dhabi and targeting residents aged 15 and above. The administration of the survey was conducted with the assistance of research assistants from the Statistics Center Abu Dhabi (SCAD). Sampling weights were applied to ensure adequate representation of various respondent categories.

3.2 Measurement

A pre-analysis meeting involving a team of researchers and community policymakers generated a list of variables deemed critical for studying the ability of Abu Dhabi households to make ends meet. Extensive statistical pre-analysis of the QoL data, including correlation analysis, regression analysis, and multicollinearity analysis, was conducted to finalize the list of variables.

This study employed households' subjective evaluations of their well-being and economic status, a method widely adopted in similar studies. For instance, sociologists have used this approach to derive poverty lines in Europe (van Praag et al., 1982). The dependent variable was derived from the question, "Thinking of your household's total income, is your household able to pay for its usual necessary expenses?" Responses were measured on a five-point scale ranging from "with great difficulty" to "very easily." The control variables were primarily dummy variables, including gender (male/female), nationality (Emirati/Non-Emirati), education (bachelor's degree or higher/lower than bachelor's degree), whether the household had clear financial planning goals and objectives or not, and marital status (married/single/separated, divorced, or widowed).

Other biographical and well-being variables included in the model were measured primarily on a 1-5 Likert scale. Reliability analysis was conducted for composite measures.

- Household biographical variables included age category (ten categories), the number of dependents younger than 18 years old, the number of domestic workers, and the number of family members.
- Household income and finance-related variables included average monthly income (21 income categories), satisfaction with household income, comparison of household income to one year ago,

frequency of having money left over from previous earnings, and frequency of discussing financial issues with family members. The latter variable was a composite score of five items related to the frequency of discussions about the family budget, savings decisions, spending decisions, family debts, and long-term family financial goals, with a Cronbach Alpha of 0.902.

- Housing-related variables included satisfaction with the residence and self-evaluated condition of the residence.
- Job-related variables included overall job satisfaction, satisfaction with career advancement, satisfaction with compensation and benefits, satisfaction with retirement benefits, satisfaction with the daily commute, and the number of hours worked per week.
- Work-life balance-related variables included difficulty in fulfilling family responsibilities due to work demands, days per month worked extra hours beyond the usual schedule, satisfaction with the current balance between job and home life, number of hours of sleep per day, self-rated quality of sleep at night, and number of hours spent on leisure and personal care daily.
- Subjective physical and mental health-related variables included self-assessed health status, self-assessed level of obesity, frequency of feeling emotionally stressed, a subjective mental health measure based on eight items assessing the extent of suffering from depression, anxiety, concentration issues, sleeping problems, physical pain, fear, loneliness, and boredom during the four weeks preceding the survey (Cronbach Alpha of 0.902), frequency of eating a healthy diet, frequency of physical exercise, and satisfaction with sports and physical exercise opportunities.
- Security and safety measures included three items: feeling safe and protected in Abu Dhabi, feeling safe walking at night in the neighborhood, and feeling safe alone at night, with a Cronbach Alpha of 0.893.
- Social connection-related variables included the availability of a social support network (yes/no); the number of people available to help and support when needed; frequency of participation in volunteer and community work; social trust; frequency of feeling isolated; the amount of quality time with family; satisfaction with family life; satisfaction with social relationships; and frequency of socializing with friends.
- Civic engagement-related variables included frequency of having a say within the community on important issues and trust in public institutions, constructed based on the level of trust in health, police, education, court, and media, with a Cronbach Alpha of 0.841.
- Environment-related variables included satisfaction with air quality, noise pollution level in the area of residence, and satisfaction with the current surrounding living environment.
- Subjective well-being variables included happiness and life satisfaction, measured on a scale of 0-10.
- Variables concerning the effect of COVID-19 included five items assessing the extent to which COVID-19 impacted income and financial situation, health, family relationships, social relationships, and overall life.

3.3 Analysis Methods

The primary objective of this research is to provide a comprehensive analysis of the determinants influencing the ability of households in Abu Dhabi to make ends meet. After standardizing the data, hierarchical multiple regression analysis was conducted using SPSS (IBM Corp, 2020), with different levels corresponding to selected control variables.

The pre-analysis included checking the assumptions required for applying hierarchical regression. We examined the distribution of the dependent variable, with the Shapiro-Wilk test yielding a significance value of 0.1748 and the Kolmogorov-Smirnov test a significance value of 0.0903, both indicating the normal distribution of the dependent variable. The sample size, comprising 38,124 heads of households, was deemed sufficient given the explanatory variables in the model. Due to multicollinearity and other issues, some variables were excluded from further analysis. For instance, a simple regression model of the ability to make ends meet and happiness produced a significant t-value of 32.615 at the 0.001 level, but the happiness variable was dropped due to its high correlation with life satisfaction (0.802). The residual statistics showed standard residuals ranging from −2.651 to 2.734, within the acceptable range of −3 to +3. Cook's distance values ranged from 0.000 to 0.397, and a few outliers were identified and removed accordingly.

Hierarchical regression began with the ability to make ends meet as the dependent variable. The first model included gender, nationality, marital status, and education as independent variables. The second model introduced the variable of having a financial plan. The final model incorporated a list of well-being variables. Significance tests for changes in R-square were used to assess how additional variables accounted for the variance in the ability to make ends meet. The hierarchical regression model examined whether the newly added variables could explain further variations in the dependent variable (Gelman & Hill, 2007).

4. Results / Analysis

A total of 82,761 residents of Abu Dhabi participated in the survey, with 38,124 identifying themselves as heads of households. Table 1 summarizes the characteristics of the respondents: 69% were male, 31% were female; 84.1% were married; 49.5% were Emiratis, while 50.5% were Non-Emiratis; 64.1% resided in the Abu Dhabi

region, 28.1% in the Al Ain region, and 7.8% in the Al Dhafra region; 57.2% held a college degree or higher. The majority of heads of households were aged between 30-49 years.

Regarding the ability to make ends meet, 17.8% of households reported great difficulty, 27.4% reported moderate difficulty, while 24.3% indicated that they could easily or very easily make ends meet. Table 1 also presents the mean ability to make ends meet for each category of head of household. Gender differences were minimal. Among marital status categories, the divorced/separated/widowed group recorded the lowest mean. Age-wise, the lowest mean was recorded for the 20-24 age group, and the highest mean was for those aged 60 or above. Respondents with a college degree or higher recorded a mean of 2.82 compared to 2.30 for those with lower educational attainment. Non-Emiratis recorded a higher mean of 2.78 compared to 2.51 for Emiratis.

Table 1: Ability to make ends meet descriptive statistics for different categories

Category	Percent	Mean	Standard deviation
Gender			
Male	69%	2.68	1.140
Female	31%	2.63	1.101
Marital status			
Married	84.1%	2.66	1.128
Single	6.7%	2.85	1.104
Divorced/separated/widow	9.2%	2.53	1.147
Age category			
15-19	.2%	2.750	1.258
20-24	1.0%	2.505	1.159
25-29	5.6%	2.668	1.094
30-34	14.1%	2.575	1.076
35-39	20.5%	2.563	1.105
40-44	20.6%	2.600	1.126
45-49	14.3%	2.655	1.142
50-54	9.2%	2.775	1.180
55-59	5.0%	2.856	1.193
60 and above	9.6%	3.185	1.042
Nationality			
Emirati	49.5%	2.51	1.146
Non-Emirati	50.5%	2.78	1.107
Education			
With college degrees or above	57.8%	2.82	1.116
Without college degrees or above	48.2%	2.30	1.082
Regions in Abu Dhabi			
Abu Dhabi	64.1%	2.709	1.127
Al Ain	28.1%	2.577	1.133
Al Dhafra	7.8%	2.691	1.128
Household has financial plan			
Yes	70.9%	2.785	1.150
No	29.1%	2.455	1.124

Source: By the Author

Figure 1 shows the mean of the ability to make ends meet by income category of the household. The mean is the lowest for those who reported the lowest monthly household income. The curve gradually trends upward as the monthly income increases. It reaches the highest mean of 3.036 for those with a monthly income of 70,000 to 75,000 Dirhams, and the curve starts descending after that point.
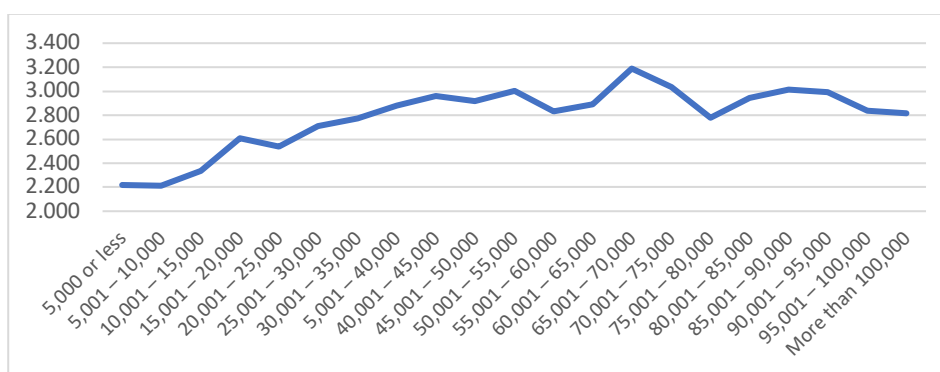

Figure 1: Mean for the ability to make ends meet and monthly income

Table 2 presents the final model summary, the R-square, adjusted R-square, and R-square changes associated with each step in the hierarchical regression. A total of 18 variables are significant in three hierarchical regression models. The first model with an R-square of 0.047 suggests that having a college degree or higher accounts for 4.7% of the variance in the ability to make ends meet. Even though the adjusted R-square is small, it has a significant effect. The second model accounts for 5.8% of the variance in the ability to make ends meet. It provides evidence to suggest that financial planning has a more positive influence on a household's ability to make ends meet. The third model adds significant power to the overall model as the adjusted R-square is 0.704 with an

addition of 0.644. The R-value increases from 0.241 to 0.839. The R-square value of 0.704 suggests that model 3 accounts for 70.4% of the variability of the dependent variable, indicating the significant effects of those well-being determinants in the model.

Table 2: Final model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.218	.047	0.047	.878	.047	217.797	5	42209	0.001
2	.241	.058	0.058	.877	.011	109.398	1	42208	0.001
3	.839	.704	0.644	.703	.444	1566.018	15	42193	0.001

Source: By the Author

The ANOVA results (Table 3) again confirm the significance of all three models, with the third model recording the highest F-value.

Table 3: ANOVA results for the final regression model

	Model	Sum of square	Df	Mean square	F	Sig.
1	Regression	840.379	5	168.076	217.797	0.001
	Residual	32573.092	42209	.772		
	Total	33413.470	42214			
2	Regression	924.586	6	154.098	200.196	0.001
	Residual	32488.885	42208	.770		
	Total	33413.470	42214			
3	Regression	12543.566	21	597.313	1207.596	0.001
	Residual	20869.904	42193	.495		
	Total	33413.470	42214			

Source: By the Author

Table 4 presents the coefficients of the significant variables considered in the models. The first model addresses gender, marital status, nationality, and education variables. Gender, marital status, and nationality do not produce significant differences. However, education shows a significant negative association favoring heads of households with a college degree. The negative t-value (-16.410) indicates that those with a college degree or higher exhibit a higher ability to make ends meet. Specifically, the mean score for their ability to make ends meet is 2.82, compared to 2.30 for those with an education level lower than a college degree.

In the second model, having clear financial planning goals and objectives plays a significant positive role in making ends meet. The negative t-value of -9.078 reflects the negative impact of not having precise financial planning and objectives. Households with a financial plan have a mean score of 2.78 for their ability to make ends meet, while those without a plan have a mean of 2.46.

The third model includes fourteen significant variables. The first significant variable is the number of dependents younger than 18 years old in the household, which is significant with a t-value of -3.733. The negative coefficient suggests that the larger the number of dependents, the lower the household's ability to make ends meet. The second variable, satisfaction with the residence, also demonstrates significance, with a t-value of 2.536, indicating that higher satisfaction with one's residence correlates with an increased ability to make ends meet.

Income plays a significant positive role in the ability to make ends meet. Satisfaction with income has the most substantial effect, with a t-value of 42.632. Additionally, the amount of money a family saved or did not spend from previous earnings generates the second-largest t-value of 23.343. The change in household income sources from a year ago also shows significance, with a t-value of 4.689.

An unexpected result is observed in the influence of the frequency of family discussions on financial matters. The role of family discussions and planning on financial matters plays a significant negative role in the ability to make ends meet. The negative sign might suggest that households with a lower ability to make ends meet tend to have more concerns and worries, leading to increased discussions about financial-related matters among household members. Further inconsistencies arise when breaking down the composite variable into its original five items. For example, households that always discuss the family budget have a mean score of 2.45 for their ability to make ends meet, compared to 2.75 for those who never discuss the matter. Similarly, households that always discuss saving decisions have a mean of 2.59, compared to 2.44 for those who never do; households that consistently discuss spending decisions have a mean of 2.68, while the mean is 2.50 for those who never do. Regarding discussions on family debts, the mean is 2.33 for those who always discuss and 2.91 for those who never do. Finally, the mean for discussing long-term family financial goals is 2.60 for those who always discuss and 2.55 for those who never do.

Work-life balance-related variables also show significant relationships with the ability to make ends meet. Heads of households who reported it have always been difficult to fulfil family responsibilities due to work demands have a mean score of 2.08 for their ability to make ends meet, compared to 3.21 for those who never experienced such difficulty. This suggests that households more at ease in fulfilling family responsibilities due to work are more capable of making ends meet. Similarly, heads of households who are more satisfied with their

current balance between job and home life are more likely to record a higher mean score for the ability to make ends meet.

Subjective mental health has a significant negative effect on the ability to make ends meet, with a t-value of -6.611. Further comparison of means shows consistent differences between those who reported "not at all" for having eight mental health issues and those who reported "all of the time." The differences in means between these two groups are as follows: 3.01 and 2.09; 3.02 and 2.16; 2.99 and 2.31; 2.94 and 2.36; 2.91 and 2.15; 2.90 and 2.00; 2.84 and 2.28; and 2.84 and 2.17.

Two COVID-19-related variables also exhibit significance, reflecting the negative impact of the pandemic on households. The mean score for the ability to make ends meet for those who stated that COVID-19 negatively affected their household's income and financial situation to a large extent is 2.18, while for those who reported a positive impact of COVID-19 to a large extent, the mean score is 2.60. The other significant COVID-19 variable in the regression model relates to its effect on a household's social relationships, with a t-value of -4.155.

Table 4: Regression coefficients of the final model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	S.E.	Beta		
(Constant)	3.471	.042		81.856	0.001
Education (have a college degree or not)	-.519	.032	-.202	-16.410	0.001
(Constant)	3.793	.055		68.890	0.001
Education (have college degree or not)	-.487	.032	-.189	-15.388	0.001
Having financial goals and objectives or not	-.285	.031	-.112	-9.078	0.001
(Constant)	.622	.093		6.714	0.001
Education (have college degree or not)	-.216	.024	-.084	-9.105	0.001
Household has financial goals and objectives or not	-.048	.024	-.019	-1.984	0.047
Number of dependents younger than 18 years old	-.011	.003	-.034	-3.733	0.001
Satisfaction with current residence	.028	.011	.025	2.536	0.011
Satisfaction with household income	.483	.011	.476	42.632	0.001
household income sources compared to one year ago	.054	.011	.044	4.689	0.001
Frequency of having money unspent from previous earnings	.219	.009	.225	23.343	0.001
Frequency of discussing financial issues with family	-.071	.010	-.065	-6.922	0.001
Difficulty to fulfill family responsibilities due to work	.108	.012	.091	8.737	0.001
Satisfaction with work-life balance	.040	.011	.042	3.753	0.001
Self-rated physical health	.033	.005	.029	7.019	0.001
Subjective mental health	-.129	.015	-.201	-6.611	0,001
Impact of COVID-19 on income and financial situation	.043	.011	.038	3.825	0.001
Impact of COVID-19 on social relationships	-.043	.010	-.041	-4.155	0.001
Number of people can help and support when needed	.041	.009	.043	4.759	0.001
Life satisfaction	.036	.006	.070	6.497	0.001

Source: By the Author

The final significant variable is associated with life satisfaction, yielding a t-value of 6.497. A comparison of the means for the ability to make ends meet, based on heads of households' reported life satisfaction scores on a 0-10 scale, reveals a consistent increase in values: 1.64, 1.71, 1.82, 1.82, 2.09, 2.16, 2.48, 2.74, 2.96, 3.20, and 3.08, respectively.

Many well-being variables considered in the analysis did not reach significance in the final model. Table 5 summarizes the variables that were not significant in the final regression model. The issue of multicollinearity warrants attention, as many of the eliminated variables exhibit relatively high correlations with the variables included in the final model.

Table 6 presents the collinearity statistics for each significant variable in the model. All tolerance values exceed 0.10, indicating no problem with multicollinearity in this case (Vittinghoff et al., 2011). The table also displays the Variance Inflation Factor (VIF), which should not exceed 10 (Menard, 2001). Additionally, the VIF demonstrates that the standard errors associated with the unstandardized beta coefficients are magnified by a factor of VIF compared to what they would be if there were no correlation between the variables.

Table 5: Variables that did not progress to the final regression model

Dimensions	Variables eliminated
Housing	Condition of residence
Income	Monthly income, frequency of having money unspent from previous earnings
Jobs	Overall job satisfaction, satisfaction with career advancement, satisfaction with compensation and benefits, satisfaction with retirement benefits, daily commute, hours of work every week
Work-life balance	Sleep duration, sleep quality, hours spent on leisure and personal care every day, number of days per month doing extra work beyond usual schedule
Subjective health	self-assessed current health status, self-considered level of obesity, frequency of eating a healthy diet, frequency of doing physical exercise, satisfaction with sports and physical exercise opportunities
Safety and Security	The security and safety measure (feeling safe and protected in Abu Dhabi, feeling safe walking at night in the neighborhood, and feeling safe alone at night)

COVID -19	Effect of COVID-19 on health, family relationships, and life overall.
Social connection	Having people to count on when needed, social trust, frequency of feeling isolated, amount of quality time with family, satisfaction with family life, satisfaction with social relationships, and frequency of meeting with friends socially
Civil engagement	Frequency of having a say within the community on important issues, and trust in public institutions
Environment	satisfaction with air quality in the area of residence, level of noise pollution in the area of residence, and satisfaction with a current surrounding living environment
Subjective well-being	Happiness

Source: By the Author

Table 6: Correlations and collinearity statistics

Model	Correlations			Collinearity Statistics	
	Zero-order	Partial	Part	Tolerance	VIF
(Constant)					
Education (have college degree or not)	-.202	-.202	-.202	1.000	1.000
(Constant)					
Education (have college degree or not)	-.202	-.190	-.188	.987	1.013
Having clear financial planning goals and objectives	-.133	-.113	-.111	.987	1.013
(Constant)					
Education (have college degree or not)	-.202	-.114	-.081	.923	1.083
Having clear financial planning goals and objectives	-.133	-.025	-.018	.862	1.160
Dependents younger than 18 years old	-.138	-.047	-.033	.934	1.071
Satisfaction with current residence	.274	.032	.022	.811	1.233
Satisfaction with household income	.639	.472	.378	.631	1.584
household income sources compared to one year ago	.243	.059	.042	.894	1.118
Frequency of having money unspent from previous earnings	.434	.282	.207	.847	1.180
Frequency of discussing financial issues with family	-.096	-.087	-.061	.901	1.110
Difficulty to fulfill family responsibilities due to work	.275	.109	.077	.721	1.386
Satisfaction with work-life balance	.236	-.047	-.033	.634	1.577
Self-rated physical health	.144	.034	.027	.838	1.193
Subjective mental health	-.254	-.062	-.083	.673	1.422
Impact of COVID-19 on income and financial situation	.125	.048	.034	.794	1.259
Impact of COVID-19 on social relationships	-.020	-.052	-.037	.808	1.238
Number of people can help and support when needed	.146	.060	.042	.950	1.052
Life satisfaction	.371	.081	.058	.675	1.482

Source: By the Author

5. Discussion

The ability to make ends meet is a strong correlate of Abu Dhabi households' overall perception of their well-being. Notably, 45.2% of Abu Dhabi households reported moderate or great difficulty in making ends meet, while 24.3% indicated that they could make ends meet very easily or easily. Individual ANOVA analyses revealed that certain household categories, including the divorced/separated/widowed, heads of households aged 20-24 years, and those without college degrees, recorded the lowest means. However, it is crucial to consider the various correlations between the variables when applying hierarchical regression. Hierarchical regression takes into account the correlation between independent variables and the primary dependent variable, focusing on the residuals of the overall model. Among the control variables, the education level of the head of the household emerged as the only significant determinant.

Two income-related variables were significant factors in determining a household's ability to make ends meet. Results indicate that satisfaction with household income is the most significant factor, aligning with international

research findings that highlight satisfaction with household income as a key determinant of the ability to make ends meet (Pohlig et al., 2020; Želinský, 2021). Our data further support income as a significant determinant at different income levels (Johar et al., 2015; Kahneman & Deaton, 2010). The mean score for the ability to make ends meet is lowest for households earning less than 10,000 Dirhams per month, while it reaches its highest value for households with a monthly income ranging from 70,000 to 75,000 Dirhams. Although the results affirm that households with fewer income capabilities are less likely to make ends meet (Albuquerque & Green, 2022), the decrease in the reported ability to make ends meet after a certain income threshold among high-income groups in Abu Dhabi presents a concern for policymakers. Household expectations, consumption patterns, and family composition may influence the accumulation of liquid assets (West et al., 2017). High-income households in Abu Dhabi, particularly Emirati families, typically have more dependents and higher spending expectations, which can constrain their ability to make ends meet. Additionally, the significance of the number of household dependents in explaining the variance in the ability to make ends meet is consistent with studies that quantified and compared the cost of raising children and its association with the ability to make ends meet (Buddelmeyer et al., 2018; Cetre et al., 2016). The future financial situations during the COVID-19 pandemic may further affect households' marginal propensity to consume, particularly for high-income families (Albuquerque & Green, 2022). Furthermore, Abu Dhabi households may have limited cognitive abilities in financial planning (Woodford, 2018).

Research suggests that budgeting and saving-related discussions can help households take better control of their finances (Linander et al., 2015). Several studies highlight the positive effects of such consultations in reducing stress and anxiety around money issues and enhancing the ability to make ends meet (McInerney et al., 2013; Schwandt, 2018). The findings of this study reveal the significance of family discussions on financial matters in alleviating issues related to making ends meet, though the results indicate a negative correlation. This suggests that Abu Dhabi households may engage in such discussions more frequently when faced with financial challenges. Families often adopt various coping strategies, including reliance on family and social networks, during periods of economic hardship and financial stress (Gjertson, 2016; He et al., 2021; Tobe et al., 2016). In Abu Dhabi, the pressure to make ends meet may have prompted more frequent family discussions on financial matters.

Economic hardship in Abu Dhabi may stem from the rising costs of housing, healthcare, education, food, and income instability, all of which contribute to families' difficulty in meeting their needs (Heflin, 2016). Housing satisfaction is a significant aspect of a household's life, with research consistently identifying its importance in the ability to make ends meet (Cattaneo et al., 2009; Lowney et al., 2013; Wardrip et al., 2011). In Abu Dhabi, a considerable portion of households live in government-provided housing as part of a "living well-being" scheme (Abu Dhabi Housing Authority, 2022). Conversely, the private housing market in Abu Dhabi is expensive and may discourage households from acquiring their desired housing. The findings underscore the importance of stable housing as a foundation for life and a household's ability to make ends meet (Fujiwara & Campbell, 2011; Lowney et al., 2013).

Additionally, this study confirms the positive role of social support networks or social capital in helping households cope with economic hardship (Gray, 2009; Paiva et al., 2021). The presence of social connections that provide social, emotional, and practical support is well-documented in the well-being literature, which highlights the interrelationship between social connectedness and the ability to make ends meet (Hardy & Ziliak, 2014; Tilly, 2012).

Conducting the survey during the COVID-19 pandemic provided an opportunity to better understand the ability to make ends meet during challenging macroeconomic conditions. Consistent with international survey results (OECD, 2021; Pew Research Center, 2021), this study found that households whose income and financial situations improved during the pandemic reported a higher ability to make ends meet. Conversely, households that experienced improved social relationships due to COVID-19 reported a lower ability to make ends meet.

Finally, this study did not find significant relationships between the ability to make ends meet and many household demographic variables, except for education. As suggested by Mack (2016), gender differences often disappear when additional psychosocial explanatory variables are considered. This research also did not find significant effects of the age and nationality of the head of household. It is important to note that this study did not include migrant workers residing in residential worker cities, who are mostly single, young males.

It should be acknowledged that while hierarchical regression helps to better understand the ability of households to make ends meet, it does not reveal the precise directions of associations between the dependent and independent variables. Therefore, a longitudinal study may be necessary to further explore the underlying mechanisms of relationships surrounding the ability to make ends meet.

6. Conclusion

This study clarifies the associations between Abu Dhabi households' ability to make ends meet and various well-being variables. The results provide valuable insights for social policymakers to address households' ability to make ends meet, especially during pandemic circumstances. Understanding how households use their economic, financial, and social resources to manage economic hardship is more critical than ever.

A significant percentage of households in Abu Dhabi reportedly face difficulties in making ends meet. This calls for more responsive, targeted policies, programs, and practices that address the significant determinants

identified in this study. Policymakers in Abu Dhabi should also consider these determinants in their future planning to develop a long-term strategy for enhancing the financial capability of Abu Dhabi households.

While focusing policies on addressing specific structural factors leading to the inability to make ends meet and financial strain on households, policymakers should be aware that certain well-being determinants are not likely to ease the ability to make ends meet. Most notably, income satisfaction as an affective dimension of well-being increases the ability of households to make ends meet. However, optimal outcomes will only be achieved if these policies are combined with other initiatives that enhance households' subjective feelings about other well-being aspects.

Data availability statement: Data is available at request. Please contact the corresponding author for any additional information on data access or usage.

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