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The interplay of self-esteem, self-discipline, and financial satisfaction in shaping the well-being of remote workers in Lebanon

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Abstract. Background: The concept of subjective well-being is critical to mental health and productivity, particularly in remote work settings. With the acceleration of remote work adoption worldwide, the interplay between personal attributes and well-being has garnered significant interest in recent years. This study explores key determinants influencing the well-being of remote workers in Lebanon's digital industry. Objective: To examine the relationship between self-esteem, self-discipline, financial satisfaction, and the overall well-being of remote workers. Methods and Materials: A quantitative cross-sectional study was conducted using an online survey completed by 293 participants recruited through professional networks and digital platforms. Key scales included the Rosenberg Self-Esteem Scale, the Brief Self-Control Scale, and a financial satisfaction measure. The 14-item General Well-Being Scale assessed overall well-being. Statistical analysis, including bivariate and multivariate regression, was performed using SPSS 27.0. Results: The findings revealed strong positive correlations between self-esteem ($r = 0.422$), self-discipline ($r = 0.312$), and financial satisfaction ($r = 0.326$) with well-being. Multivariate regression highlighted self-esteem ($\beta = 0.66$), financial satisfaction ($\beta = 1.43$), and income above \$1,000 as significant predictors of well-being. Marital status and job security also influenced well-being, with "married with children" reporting challenges compared to single respondents. Conclusion: This study underscores the importance of psychological and financial factors in shaping the well-being of remote workers. Enhancing self-esteem, promoting financial security, and addressing job satisfaction are critical for improving remote work experiences.

Keywords. subjective well-being, remote work, self-esteem, self-discipline, financial satisfaction, productivity, Lebanon

Introduction

The concept of "subjective well-being" is often equated with positive mental health, encompassing an individual's overall satisfaction with life and emotional state. The World Health Organization (WHO) defines positive mental health as a state where individuals realize their abilities, cope with the normal stresses of life, work productively, and contribute to their communities (WHO, 2002). This definition highlights the essential role of mental health not only in fostering individual well-being but also in contributing to societal welfare. Well-being serves as a cornerstone for enhanced productivity in the workplace, transforming it from a mere

subjective pursuit into a foundational element that drives happiness and personal fulfillment. Numerous studies have established a clear correlation between employee well-being and organizational success, indicating that individuals who feel supported and valued are more likely to exhibit higher levels of engagement and productivity [1]. As a result, the well-being of employees has become a strategic imperative for organizations aiming for sustained success in an increasingly competitive environment. In recent years, there has been a marked increase in research focused on happiness and well-being, making these topics priorities for health organizations and governmental institutions alike (WHO, 2001). The business sector has recognized that employee well-being is closely linked to increased productivity, decreased absenteeism, and lower turnover rates [2-5].

Additionally, Fonner & Roloff (2010) and Huppert (2009) highlight the reciprocal relationship between well-being and productivity, emphasizing that enhanced well-being contributes to increased work efficiency and output. The intricate connection between well-being and broader development is further echoed in research by Knapp (2011), who emphasizes the role of well-being as a fundamental element in both individual and community growth. Knapp (2011) posits that a focus on well-being is integral for achieving sustainable development goals at various levels [3-5].

The onset of the COVID-19 pandemic in 2020 necessitated widespread lockdowns and travel restrictions, prompting businesses to adapt by enabling remote work arrangements. This shift from traditional office settings to remote work environments has fundamentally altered workplace dynamics and challenged established norms [4]. Remote work, once considered an alternative work arrangement, has rapidly transformed into a global phenomenon, reshaping the traditional dynamics of work and challenging established norms. The COVID-19 pandemic acted as a catalyst, expediting the adoption of remote work on an unprecedented scale [5]. Beyond being merely a response to crisis conditions, remote work has emerged as a strategic approach fostering flexibility, autonomy, and efficiency in the workplace. The literature presents a dichotomy regarding its impact on well-being. On one hand, proponents argue that remote work enhances autonomy and flexibility while improving work-life balance, leading to positive outcomes for individual well-being [2, 4].

Consequently, researchers have sought to understand the fundamental drivers of well-being by analyzing both direct and indirect factors that influence its levels. However, this shift also necessitates careful consideration of personal factors that shape remote workers' experiences. Personal attributes such as self-esteem, self-discipline, and financial satisfaction emerge as significant determinants influencing the well-being of remote workers. The interplay between these personal characteristics and the remote work environment offers fertile ground for exploration [2,3].

Self-esteem plays a pivotal role in shaping an individual's overall well-being. Defined as a person's sense of self-worth, self-esteem significantly influences how individuals perceive challenges inherent in remote work settings. Higher self-esteem is associated with greater resilience and better coping strategies qualities essential for managing the unique pressures of working remotely [6]. Secondly, self-discipline emerges as another crucial factor influencing remote workers' well-being. Characterized by the ability to accomplish important tasks while resisting distractions, self-discipline is vital in unstructured remote environments where numerous interruptions can derail productivity [7]. Remote workers must navigate various distractions ranging from household responsibilities to social media temptations. Thirdly, the incorporation of financial satisfaction acknowledges the multifaceted nature of well-being, encompassing economic dimensions. Recent research positions financial satisfaction as a

salient determinant of subjective well-being, emphasizing the intricate link between financial contentment and overall psychological health [8]. Individuals who feel financially secure report lower stress levels and greater emotional stability [4,5].

The interplay between financial satisfaction and personal attributes such as self-esteem creates a holistic understanding of how these factors collectively influence the well-being of remote workers. The research hypothesis posits the higher the levels of self-esteem, self-discipline, and financial satisfaction among remote workers, the higher their general well-being will be. This hypothesis is grounded in established literature that underscores the significance of these personal factors in shaping an individual's psychological and emotional states [8-10]. Therefore, the objective of this study is to explore the relationship between personal attributes specifically self-esteem, self-discipline, and financial satisfaction and the overall well-being of remote workers in the digital industry in Lebanon.

Methods

Research Design and participants

This study utilized a quantitative cross-sectional design to explore the relationship between personal factors and the well-being of remote workers in the digital industry in Lebanon. Data were collected through an online survey completed by 293 participants. To access the target population, two key organizations were approached: the Beirut Digital District, a leading national initiative fostering a tech hub for Lebanon's digital industry, and Jobs for Lebanon, a non-governmental organization with an extensive database of Lebanese professionals. These organizations provided direct access to remote workers in the digital sector, ensuring the survey reached individuals with relevant profiles. Additional recruitment methods included leveraging LinkedIn, where the survey link was shared across various groups and forums dedicated to remote work and the digital industry. Participants were selected using purposive sampling, with eligibility criteria including age 18 or older, prior or current experience in the digital sector, and active engagement in remote work. This multifaceted recruitment strategy ensured a representative sample of remote workers in the Lebanese digital industry.

Data Collection

Respondents were approached by the researcher via e-mail, electronic messages or phone messages and were first asked for informed consent (stating the purpose of the research, expected timing to complete the survey, confidentiality settings, as well as contact information of researcher). They were then given access to the survey through a web-based link where they were able to go through the various categories of questions and submit their answers anonymously. Data collection took place through a public online survey platform, ensuring accessibility and convenience for participants. The survey link was also distributed via digital and social media platforms commonly used by professionals in the Lebanese digital industry. Participants were assured of the confidentiality and anonymity of their responses. Once data collection was completed, it was inspected for missing data and patterns and interrelations between data sets were organized and cross-checked for validity and reliability.

Instrument: The Online Survey

Data collection involved the administration of a structured survey questionnaire explicitly developed for this study. The survey comprised several sections to capture

sociodemographic information, contextual factors and participants' general well-being. The survey instrument was pilot-tested with a small sample to ensure clarity and relevance.

Questions included in the survey included the following categories:

Sociodemographic factors:

This section of the survey collected information on participants' age, gender, education level, marital status, nationality, residence, monthly income, physical activity, leisure activity, and job security. The age of the respondents in this study was gathered through a structured approach wherein participants were required to choose one of the four specified age ranges: "Less than 25," "between 25 and 35," "between 35 and 45," and "above 45. Education level was categorized into: high school diploma, technical/vocational training, bachelor degree, master's degree and doctorate. Marital status was categorized into six distinct options that best described their current living situation. The available options were: "Living alone," "Married or living with a partner," "Married with children," "Living with parents and siblings," "Living with roommates or friends," and "Other." Regarding nationality, respondents were presented with a specific question asking them to indicate their nationality by choosing from two distinct options: "Lebanese" or "Other nationality." Monthly income ranged from four distinct options: "Below \$1,000," "1,000 to \$2,000," "2,001 to \$5,000," and "Above \$5,000." Physical activity had three distinct options: "Less active," "About as active," and "More active than other people your age." Leisure activity have four options: "Less than 1 a week," "Few times a week," "Once a day," and "Several times a day." Job security had four distinct options for characterization: "Not secure at all," "A little insecure," "Somewhat secure," and "Very secure."

Personal Traits Measures

The online survey contained three scales related to variables of self-esteem, self-discipline and financial satisfaction.

The self-esteem variable was measured by the 10-item Rosenberg Self-Esteem Scale (SES). Developed by Morris Rosenberg in 1965, the scale was designed to provide a simple and efficient measure of self-esteem, defined as the evaluative aspect of the self-concept, reflecting an individual's overall sense of self-worth and acceptance (Rosenberg, 1965). The RSES consists of ten items, each formulated as statements that respondent's rate on a likert-type scale ranging from strongly agree to strongly disagree. The items are designed to tap into both positive and negative feelings about oneself. Respondents' scores on the RSES are then aggregated, with higher scores indicating higher levels of self-esteem and vice versa [10].

The self-discipline variable was measured via the Brief Self-Control Scale (BSCS) (Tangney et al., 2004). BSCS is a concise and widely used psychometric tool designed to assess an individual's level of self-control. This scale aims to capture the capacity to regulate and manage one's own behaviors, thoughts, and emotions, reflecting a fundamental aspect of personality and psychological functioning. The BSCS comprises 13 items, each assessing an aspect of an individual's ability to regulate impulses, resist temptations, and exhibit goal-directed behaviors. Respondents rate their agreement with statements on a likert-type scale, typically ranging from 1 (not at all like me) to 5 (very much like me). Scores on the BSCS are summed, with higher total scores indicating greater self-control [11].

The financial satisfaction questions were extracted from the widely known FINRA (Financial Industry Regulatory Authority) a non-governmental agency holds the position as the largest self-regulatory body overseeing member financial brokerage firms and exchange

markets within the United States [12]. The survey assesses respondents' financial satisfaction concerning their current financial condition, considering factors such as income, debt, savings, and living expenses. Specifically, this study included a question adapted to the context of remote workers: "How satisfied are you with the income generated by your remote job or career?" Responses were collected using a 4-point Likert scale, where 1 indicated "Not satisfied at all" and 4 indicated "Very satisfied."

General Well-being

The well-being of participants was measured using a validated well-being scale, the 14-item Scale of General Well-Being (14-SGWB) capturing various dimensions of mental and emotional health. This scale provided a comprehensive assessment of participants' overall well-being. The 14-SGWB, being a self-reporting instrument, included fourteen items each assessing a distinct facet of well-being. Respondents score the 14 items on a 5-point Likert-type scale, with 1 denoting "not at all true" and 5 denoting "very true." Total scores can vary from 14 to 70 with higher scores indicating greater well-being [13].

Data analysis

Statistical analysis was performed using SPSS version 27.0. Quantitative data was presented using mean and standard deviation, and qualitative data using frequencies and percentages.

The normality test of the well-being scale was checked by the visual inspection of the histogram, while the skewness and kurtosis were below $|1.96|$. After that the bivariate analysis was conducted taking the well-being scale as the dependent variables. The Student T-test and ANOVA test were used in the bivariate analysis to compare two or more than three means. Pearson's correlation was applied to examine the association between continuous variables

A linear regressions analysis using the Stepwise method were conducted, taking the well-being scale as the dependent variables and all the variables that showed a $p < 0.2$ in the bivariate analysis were considered as independent variables. A p-value less than 0.05 was considered significant.

Ethical Committee Approval

Before any respondent was contacted for data collection, the research project was presented to the ethical committee of the Université Saint-Joseph. The ethical committee at the University granted these data collection approaches and tools the approval to be disseminated among the target population without any restrictions or concerns on the respondent's mental, physical or emotional health. The approval in question bears the code USJ-2021-178 dated May 21st, 2021. A declaration statement was joined to all documents or links shared with potential respondents, informing them of their rights, certifying the anonymity of the respondents, preservation of personal data as private for use solely and explicitly requesting their approval to participate in the study. This study was conducted in accordance with the principles of the Declaration of Helsinki, and ethical approval was obtained from the institutional review board before data collection

Results

Scales Reliability Tests

For the SGWB scale, which comprises 14 items assessing various dimensions of well-being, the reliability analysis yielded a Cronbach's alpha of .887. The reliability statistics

of the RSES in this study reveal a Cronbach's alpha coefficient of .815 and .816 based on standardized items, indicating a high level of internal consistency among the items measuring self-esteem. The reliability statistics of the BSCS in this study demonstrate a Cronbach's alpha coefficient of .796, indicating a satisfactory level of internal consistency among the items measuring self-control (*Table 1*).

Table 1: Scales Reliability Tests

Scales	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
SGWB Scale	0.887	0.888	14
Rosenberg SES Scale	0.815	0.816	10
Brief Self-Control Scale	0.796	0.796	13

Descriptive statistics

Table 2 presents the sociodemographic and other characteristics of the 293 participants included in the study. The vast majority were Lebanese (95.9%), with more than half being female (57.2%). The largest age group was 35 to 45 years (51.9%), and most participants held a master's degree (64.0%). A significant proportion were married (64.0%) and resided in Lebanon (56.3%). Regarding income, 34.0% reported earning between 2,000 and 5,000 USD per month. The majority of participants were physically active (66.7%), engaged in leisure activities less than once per week (52.7%), and 39.6% reported having very secure jobs (*Table 2*).

Table 2: Sociodemographic and other characteristics of the participants (N=293)

Variable	N (%)
Age	
< 25 years	9 (3.1%)
25 to 35 years	95 (32.4%)
35 to 45 years	152 (51.9%)
>45 years	37 (12.6%)
Gender	
Male	125 (42.8%)
Female	167 (57.2%)
Education level	
High school diploma	3 (1.0%)
Technical/vocational training	4 (1.4%)
Bachelor degree	68 (23.3%)
Master's degree	187 (64.0%)
Doctorate	30 (10.3%)
Marital status	
Living alone	36 (12.5%)
Married or living with a partner	59 (20.4%)

Married with children	126 (43.6%)
Living with parents and siblings	62 (21.5%)
Living with roommates or friends	6 (2.1%)
Nationality	
Lebanese	281 (95.9%)
Non-Lebanese	12 (4.1%)
Residence	
Lebanon	165 (56.3%)
Other	128 (43.7%)
Monthly income	
<1,000USD	17 (5.9%)
1,000 to 2,000USD	49 (17.0%)
2,001 to 5,000USD	98 (34.0%)
>5,000USD	124 (43.1%)
Physical activity	
Less active	97 (33.2%)
Moderate active	95 (32.5%)
More active	100 (34.2%)
Leisure activity	
None	40 (13.7%)
Less than one a week	154 (52.7%)
A few times a week	59 (20.2%)
Once a day	39 (13.4%)
Job security	
Not secure at all	6 (2.0%)
A little insecure	42 (14.3%)
Somewhat secure	129 (44.0%)
Very secure	116 (39.6%)

Qualitative variables were expressed as percentage

Descriptive Scores of Scales

The well-being total score reveals a moderate mean value of 33.39 (± 10.19), suggesting a relatively balanced overall well-being among the participants. The median (33.00) further corroborates the central tendency, reflecting the middle point of the dataset. The self-esteem total score demonstrates a mean value of 22.49 (± 4.26), suggesting a generally positive self-perception among participants. The median, at 23.00, aligns closely with the mean, indicating a balanced distribution, though these values ranged from a minimum of 6.00 to a maximum of 30.00. The self-discipline total score reveals a mean of 46.77 (± 7.41), showcasing a favorable level of self-discipline among participants in the remote work setting. The median closely aligns with the mean, suggesting a relatively symmetric distribution. The financial satisfaction total score demonstrates a mean value of 8.81 (± 2.11), The median (9.00) aligns closely with the mean, highlighting a balanced distribution of financial satisfaction scores (Table 3).

Table 3: Descriptive statistics of the scales used in the study

Scales	Mean \pm SD	Median	Minimum	Maximum
Well-being (SGWB) total score	33.39 \pm 10.19	33	2	56
Self-esteem total score	22.49 \pm 4.26	23	6	30
Self-discipline total score	46.77 \pm 7.41	47	23	65
Financial satisfaction total score	8.81 \pm 2.11	9	3	12

Well-being SGWB scale descriptive statistics, Rosenberg Self-Esteem scale descriptive statistics, Brief Self-Control scale descriptive statistics, Financial satisfaction descriptive statistics

The bivariate analysis, taking the total well-being scale as the dependent variable, revealed several significant associations with the independent variables. Age was positively associated with well-being, with individuals over 45 years reporting the highest mean score (35.27 \pm 12.71), and those under 25 years showing the lowest (25.78 \pm 13.56) ($p = 0.016$). Gender did not exhibit a statistically significant relationship with well-being ($p = 0.142$), though males reported slightly higher mean scores than females. Education level showed a trend toward higher well-being scores with increasing educational attainment, with the highest scores among doctorate holders (34.90 \pm 9.47), but the relationship was not statistically significant ($p = 0.115$). Nationality had no notable influence on well-being ($p = 0.787$), while residence approached significance, with individuals living outside Lebanon reporting slightly higher scores ($p = 0.055$).

Physical activity levels demonstrated a positive trend, as more active individuals reported higher well-being scores ($p = 0.074$). Marital status was significantly associated with well-being ($p = 0.038$); individuals living alone or with a partner had higher scores compared to those married with children or living with parents and siblings. Monthly income had a strong association with well-being ($p < 0.001$), with scores increasing markedly as income rose, particularly for those earning more than \$5,000 per month. Leisure activity frequency was significantly related to well-being ($p = 0.035$), with the highest scores among individuals engaging in daily leisure activities (37.03 \pm 10.73). Job security showed a highly significant positive association ($p < 0.001$), with well-being scores increasing as perceived job security improved. The level of remote working and specialty were not significantly associated with well-being ($p = 0.208$ and $p = 0.085$, respectively), though those working 100% remotely and in business functions reported slightly higher scores. Finally, years of experience showed no significant relationship with well-being ($p = 0.261$), although those with over 10 years of experience had the highest mean scores (*Table 4*).

Table 4: Bivariate analysis taking the well-being total scale as the dependent variable.

	Well-being total scale Mean \pm SD	p-value
Age		
< 25 years	25.78 \pm 13.56	0.016

25 to 35 years	31.74 ± 9.77	
35 to 45 years	34.41 ± 9.27	
>45 years	35.27 ± 12.71	
Gender		
Male	34.39 ± 10.17	0.142
Female	32.62 ± 10.19	
Education level		
School/Technical/vocational training	30.14 ± 8.39	0.115
Bachelor degree	31.03 ± 10.33	
Master's degree	34.11 ± 10.24	
Doctorate	34.90 ± 9.47	
Nationality		
Lebanese	33.35 ± 10.03	0.787
Non-Lebanese	34.17 ± 13.85	
Residence		
Lebanon	32.38 ± 10.60	0.055
Other	34.68 ± 9.51	
Physical activity		
Less active	31.88 ± 9.91	0.074
Moderate active	33.02 ± 9.82	
More active	35.14 ± 10.65	
Marital status		
Living alone	34.86 ± 9.45	0.038
Married or living with a partner	36.83 ± 10.21	
Married with children	32.25 ± 9.67	
Living with parents and siblings	32.02 ± 11.15	
Living with roommates or friends	33.33 ± 10.25	
Monthly income		
<1,000USD	21.59 ± 11.42	<0.001
1,000 to 2,000USD	33.27 ± 9.48	
2,001 to 5,000USD	33.47 ± 9.52	
>5,000USD	34.96 ± 9.84	
Leisure activity		
None	30.95 ± 9.47	0.035
Less than one a week	32.64 ± 10.09	
A few times a week	34.19 ± 9.70	
Once a day	37.03 ± 10.73	
Job security		
Not secure at all	24.67 ± 13.27	<0.001
A little insecure	29.14 ± 9.33	
Somewhat secure	32.90 ± 9.74	
Very secure	35.91 ± 10.09	
Level of remote working		
<50%	33.02 ± 9.69	0.208
>50%	32.26 ± 10.18	

100%	34.76 ± 10.58	
Specialty		
Technical roles	33.14 ± 9.10	0.085
Business function	34.62 ± 9.79	
Creative roles	29.66 ± 10.11	
Other	33.19 ± 10.79	
Years of experience		
0 to 3 years	33.41 ± 10.16	0.261
3 to 6 years	33.57 ± 9.28	
6 to 10 years	29.07 ± 9.69	
>10 years	36.50 ± 12.02	

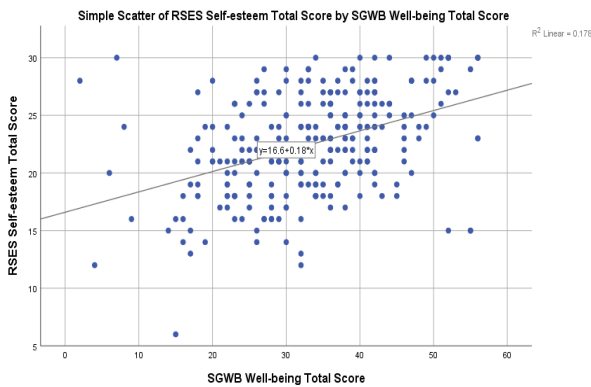
Self-Esteem: A Positive Predictor of Well-Being

The findings demonstrate statistically significant positive correlations between the well-being total score and several key variables among remote workers. A moderate to strong positive relationship was observed between self-esteem and well-being ($r = 0.422$, $p < 0.001$), indicating that individuals with higher self-esteem tend to report greater overall well-being. Similarly, self-discipline exhibited a moderate positive association with well-being ($r = 0.312$, $p < 0.001$), suggesting that individuals who demonstrate higher levels of self-discipline are more likely to experience enhanced general well-being. Additionally, financial satisfaction was moderately correlated with well-being ($r = 0.326$, $p < 0.001$), highlighting the role of financial security in fostering a greater sense of overall well-being (Table 5, Graphs 1,2,3).

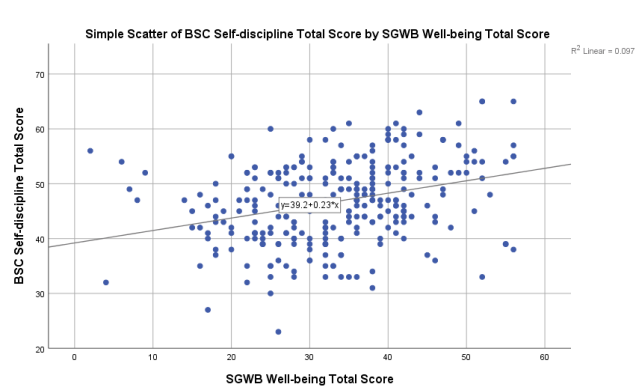
Table 5: Correlations between well-being and self-esteem, self-discipline, and financial satisfaction scales

	Correlation coefficient	p-value
Self-esteem total score	0.422	<0.001
Self-discipline total score	0.312	<0.001
Financial satisfaction total score	0.326	<0.001

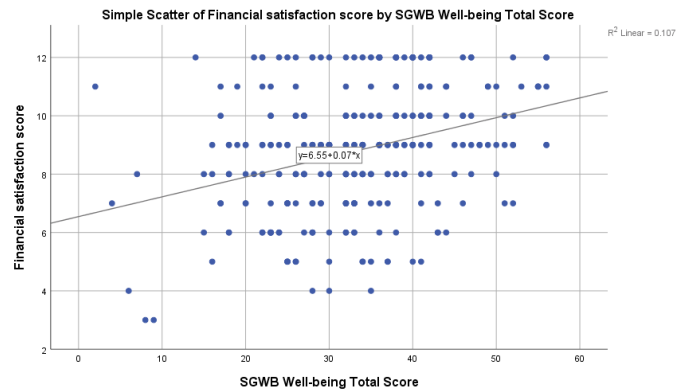
Correlation analysis between well-being and the self-esteem scale, Correlation analysis between well-being and the self-discipline scale, Correlation analysis between well-being and the financial satisfaction scale



Graph 1: Correlation between Well-being and Self-esteem



Graph 2: Correlation between Well-being and Self-discipline



Graph 3: Correlation between Well-being and Financial Satisfaction Score

Multivariate Analysis

The positive and significant relationship between the self-esteem total score and well-being suggests that individuals with higher self-esteem tend to report elevated levels of well-being (Beta = 0.66). Similarly, the positive relationship between self-discipline and well-being indicates that individuals with higher levels of self-discipline tend to report better well-being (Beta = 0.24). Furthermore, financial satisfaction emerges as a notable predictor of well-being, showing that remote workers who perceive higher financial satisfaction also experience greater overall well-being (Beta = 1.43).

The negative coefficient for the "married-with-children" category compared to the "single" category suggests that individuals with marital and parental responsibilities tend to experience lower well-being. Additionally, the negative coefficient for the age category (25 to 35) compared to those less than 25 years old indicates that younger individuals may experience higher well-being. Higher monthly income is associated with increased well-being, highlighting the significant role of financial stability in shaping the overall satisfaction and happiness of remote workers.

Lastly, individuals living with parents and siblings exhibit lower well-being compared to their single counterparts, shedding light on the potential impact of familial living arrangements on remote worker satisfaction (Table 6).

	Unstandardized Beta	Standardized Beta	p-value	Confidence interval	
				Lower Bound	Upper Bound
Self-esteem Total Score	0.666	0.280	<0.001	0.391	0.940
Self-discipline Total Score	0.248	0.181	0.002	0.090	0.406
Financial satisfaction score	1.435	0.296	<0.001	0.935	1.936
Marital Status (Married with children vs single*)	-6.007	-0.294	<0.001	-8.363	-3.650
Age (between 25 and 35 vs less than 25*)	-4.455	-0.207	<0.001	-6.736	-2.174

Monthly Income (1,000 to 2,000 vs less than 1,000 USD*)	6.433	0.234	<0.001	3.034	9.831
Marital Status (Living with parents and siblings vs single*)	-4.626	-0.188	0.003	-7.646	-1.606
Monthly Income (2,001 to 5,000USD vs less than 1000 USD*)	2.308	0.108	0.046	0.039	4.577
<i>Variables entered: Age, gender, education level, marital status, residence, monthly income, physical activity, leisure activity, job security, specialty, self-esteem total score, self-discipline total score and financial satisfaction total score.</i>					
<i>Adjusted R²=0.336</i>					
<i>*Reference group</i>					

Discussion

Overall, this study contributes to a nuanced understanding of the factors influencing the well-being of remote workers in Lebanon's digital industry. The data supported the hypothesis, which proposed a positive relationship between the duration of remote work and job satisfaction. The positive correlation aligns with existing research suggesting that individuals who engage in remote work over an extended period tend to experience higher job satisfaction [14]. The hypothesis posited that higher self-esteem, self-discipline, and financial satisfaction would correlate with elevated general well-being among remote workers living in the Lebanese digital industry. The quantitative survey results revealed significant associations between these personal factors and well-being, corroborating existing literature emphasizing well-being's psychological and financial dimensions.

These findings align with existing literature emphasizing the role of psychological factors in shaping remote workers' experiences. For instance, Battisti et al.'s (2022) research echoes the importance of financial well-being for job satisfaction in remote settings [15]. However, the significance of age, marital status, and income in predicting well-being also highlights the nuanced interplay of personal circumstances. The elevated well-being scores among respondents aged above 45 suggest that experience and maturity play a role. These results resonate with studies like those by Smith et al. (2018), which discuss the positive impact of age on remote workers' psychological well-being [14]. The findings align with recent research by Battisti et al. (2022), who highlighted the importance of self-esteem and financial stability in predicting remote workers' mental health [15]. The positive correlation between self-discipline and well-being resonates with the work of Baumann et al. (2023), underlining the role of self-regulation in maintaining a healthy work-life balance [16].

The bivariate analysis revealed a strong and statistically significant positive correlation between self-esteem and well-being. This finding is consistent with existing literature that highlights self-esteem as a critical determinant of mental health and overall life satisfaction [17]. Similarly, the analysis demonstrated a statistically significant positive correlation between the self-discipline total score and overall well-being. This indicates that individuals exhibiting greater self-discipline in managing their work tasks and schedules tend to experience higher levels of overall well-being in a remote work setting. These results emphasize the role of self-discipline in enhancing both psychological well-being and productivity among remote workers. Furthermore, a moderate positive correlation was observed between financial satisfaction and well-being scores, suggesting that individuals with higher financial satisfaction are more likely to report increased levels of general well-being. This highlights the importance of addressing

financial concerns and providing adequate financial support to remote workers to improve their well-being and job satisfaction.

Looking in more details at the findings of the bivariate analysis against the dependent variable, the most significant correlations were found with the self-esteem and self-control scales and the financial satisfaction. Indeed, both earning enough to make a decent living (above the minimum wage) and having at least some sort of job security did correlate with higher levels of wellbeing for the remote workers. This association was also observed for people aged above 45 years. Knowing that more than 75% of this portion of respondents state that their steady income ranges in the brackets above 2,000 USD and that their scores on the self-esteem and self-control scales were noted to be higher than the average for more than half of this section of the studied population, one might argue that respondents aged above 45 have reached a level of steadiness in their lives, with the competence and development needed to be aware of their self-worth.

This assumption is also reflected in the scores they have attributed to aspects of the well-being scale such as “I am highly effective at what I do”, “I feel I am improving”, “I feel close and connected to the people around me” [13]. All these scores were higher for people aged above 45 than they were for other age brackets. It is noteworthy to highlight that the highest rated statement for this age bracket was the statement “I have a purpose” which had the highest gap with other age brackets. Furthermore, the respondents who stated were “Married living with partner” scored higher on the scale of well-being scale than their “Married with children” counterparts. Respondents who are married with children, tended to state that people with whom they share their living space, such as their partner and children bring them less comfort, more stress and decrease their productivity, as compared to those married without children. This would be understandable given that more than 72% of this portion of the population married with children are aged between 35- and 45-year-old and that are slightly less satisfied with the income generated by their remote jobs or the compensation and benefits packages offered by their employers. They also reported feeling less secure about their jobs than their married without children’s counterparts. Both these married categories of respondents also reported engaging in leisure activities less than those who are living alone or those living with roommates or friends.

The multivariate linear regression analysis identified significant predictors of well-being. These included having a monthly income above 1,000 USD, satisfaction with income, and the compensation and benefits packages provided by employers. In contrast, being married with children was associated with greater challenges to well-being compared to living alone. Finally, higher self-esteem and self-discipline emerged as significant predictors of higher well-being among remote workers.

The study's findings carry significant implications for individual remote workers, highlighting key factors that can influence their well-being in the virtual workspace. Remote workers should recognize the impact of self-esteem and financial satisfaction on their overall well-being. Engaging in activities that enhance self-esteem and being proactive about strategies that help them grow in that direction can help improve their well-being. Financial security and stability can also significantly contribute to their work satisfaction and mental health.

Importantly, the reliability statistics of the scales used in the study demonstrated robust internal consistency, enhancing the credibility of the research findings. The Cronbach's alpha values indicated high reliability for the well-being, self-esteem, and self-discipline scales, reinforcing the validity of the results obtained. This study provides valuable insights into the complex relationship between remote work and well-being; however, several limitations should

be noted. Firstly, the reliance on self-reported well-being scores introduces the potential for bias, as factors such as mood, personal circumstances, and individual resilience can influence respondents' perceptions. Nevertheless, this subjectivity aligns with the study's focus by capturing the personal realities of remote workers. Since well-being is inherently subjective and individualized, these evaluations provide a nuanced understanding of the interplay between remote work and personal experiences. Secondly, the cross-sectional design limits the ability to establish causation or temporal relationships between variables. Despite this limitation, the design offers a snapshot of the current state of remote work, providing valuable insights into the present dynamics of this work environment. Finally, the sample's demographic specificity constrains the generalizability of the findings. The sample predominantly includes individuals with remote work experience, limiting broader applicability. However, this specificity enhances the study's relevance to the remote work context, allowing for an in-depth exploration of the experiences of remote workers. Future research should aim to include more diverse samples to improve the external validity and applicability of the results.

Conclusion

This study highlights the critical relationship between personal traits such as self-esteem, self-discipline, and financial satisfaction and the well-being of remote workers in Lebanon's digital industry. The results revealed that self-esteem and financial satisfaction significantly predict overall well-being, with higher levels of these factors correlating to improved mental health and job satisfaction. Remote workers with greater job security and financial stability reported enhanced productivity and reduced stress, while those managing family responsibilities faced additional challenges.

These findings emphasize the need for strategies that promote psychological resilience and financial security in remote work contexts. Future efforts should focus on fostering environments that support skill development, financial planning, and self-esteem enhancement to optimize both individual and organizational outcomes. The insights from this study provide a foundation for actionable interventions and further research into the evolving dynamics of remote work and well-being.

Declarations

Ethics approval and consent to participate

The ethics committee at the Saint Joseph University approved the study questionnaire. All participants provided informed consent at the beginning of the survey before they could access the questionnaire. This study was conducted in accordance with the principles of the Declaration of Helsinki, and ethical approval was obtained from the institutional review board before data collection

Consent for publication

Not applicable

Competing interests

The authors declare that they have no competing interests.

Availability of data and materials

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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No funding was received for conducting this study.

Authors' contribution

SEK designed the study; designed the tool, drafted the manuscript; carried out the analysis and interpreted the results; assisted in drafting and reviewing the manuscript; supervised the course of the article, revised and edited the article edited for English language, reviewed and approved the final version of the manuscript.

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