



Measuring Well-Being: Variables and Their Relationship

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Purpose: We propose a well-being index that consists of components that reflect well-being from the literature on well-being. The study emphasizes the magnitude of each component of this well-being index.

Study design/methodology/approach: The dimensions of the well-being of interest are (i) A sense of discrimination, (ii) General trust, (iii) A sense of appreciation from family members, (iv) Expectations regarding the future, (v) A sense of ability to deal with problems, (vi) A feeling of loneliness, and (vii) A feeling that there is no one to trust.

Findings: The study includes 222 responders. The variables in the survey support the research question about the structure of well-being. They affect directly and indirectly well-being. For example, the daily number of hourly sittings. We cluster some variables into a single construct. We found no correlation between age with the other factors.

Originality/value: This finding has essential effects when dealing with what can improve people's well-being.

Introduction

Well-being is a term that refers to all the factors that affect the individual's well-being, quality of life, physiological condition, mental state, level of happiness, personal prosperity, satisfaction with the standard of living, etc.

The influence on the level of well-being of man consists of many factors, when they can be classified into two aspects: physiological and mental-mental (non-physiological).

In the physiological aspect, factors such as the level of physical activity, the BMI index, the quality of vision, and joint and muscle problems (created as a result of body posture and organs) can be listed.

Factors that belong to the mental-psychic aspect include sociability, the level of happiness, and the level of intelligence.

A vital component of a person's well-being index is satisfaction; this index is entirely subjective and describes the degree of the general happiness of a citizen with his life in the State of Israel (CBS website, 2019). The Central Bureau of Statistics samples the index data; among the questions citizens are asked in this survey.

- A sense of discrimination
- General trust
- A sense of appreciation from family members
- Expectations regarding the future
- A sense of ability to deal with problems
- A feeling of loneliness
- A feeling that there is no one to trust in a time of crisis or distress

The Central Bureau of Statistics observed in the last decade in Israel a 75% increase in the satisfaction index, i.e., in 2008, the index averaged 29.6. In contrast, in 2018, the index value reached 51.8, as shown in Figure 1 below.

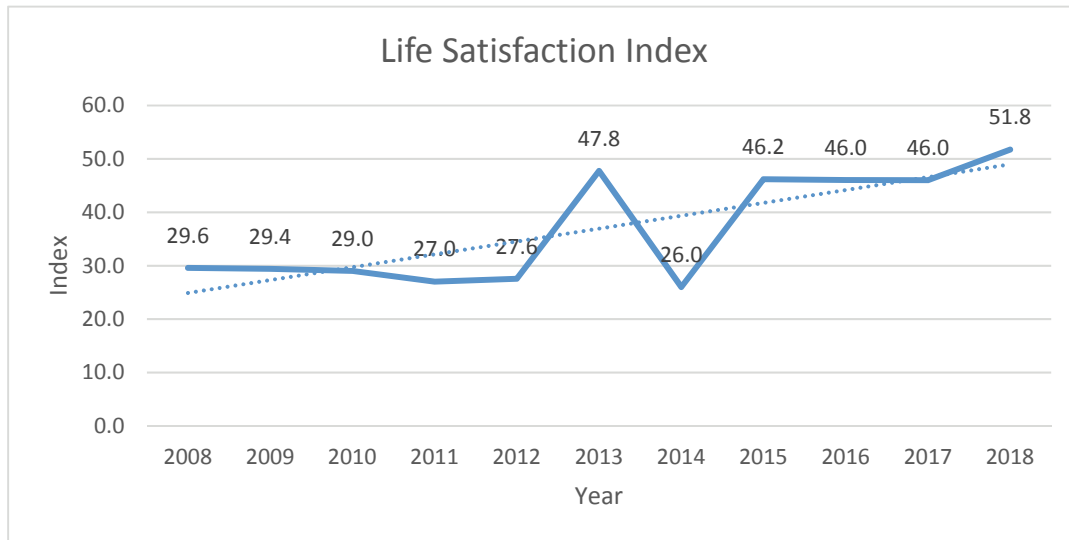


Figure 1: Life satisfaction index in Israel

Another component in the human well-being index, but no less important, is life expectancy, which can also be seen to increase (CBS website, 2019) between 2007-2017 in Israel. An increase of about 2.5% in life expectancy was observed in men and 2.6% in women. In 2007, the index averaged 80.6 years, whereas, in 2017, the value of the index reached 82.7 (see Figure 2). As time goes on, life expectancy increases; each year, life expectancy increases by about two months, as shown in the following charts:

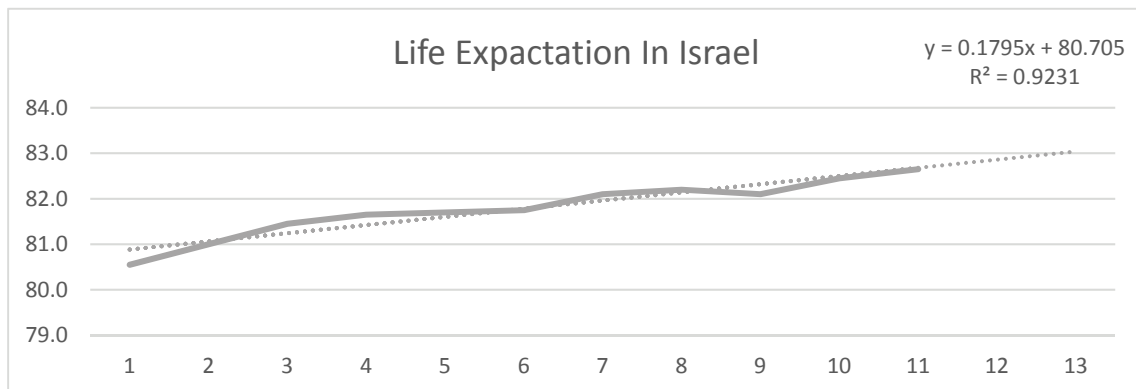


Figure 2: Life Expectation in Israel

This study aims to examine the relevance of factors affecting the individual's Well Being.

Methodology

According to the research model, two demographic variables and 12 variables (13 questions) represent the WB index. The variables are presented in Table 1:

Table 1: The variables in the study

Variable's Name
Gender
Age
Weight
Height
BMI (Avey, Luthans, Smith, Palmer 2010)
The degree of satisfaction with the standard of living (Aghili, Venkatesh 2008)
Degree of satisfaction from social contexts (Wright and Huang 2012)
The degree of sense of ability to deal with problems (Menard, Brunet 2011)
The degree of feeling that there is someone to rely on in times of distress (McLellan 2017)
The degree of feeling about the non-existence of discrimination (Menard, Brunet 2011)
The degree of general trust in the country (Wright and Huang 2012)
A sense of the degree of receiving appreciation from relatives (Wright and Huang 2012)
Number of close friends (Wright and Huang 2012)
Daily sitting hours (Avey, Luthans, Smith, Palmer 2010)
Degree of physical activity (Avey, Luthans, Smith, Palmer 2010)
Degree of sense of security (Menard, Brunet 2011)

In a survey, we collected data about 222 Israelis. The respondents were asked about their life in general and their perceived and subjective opinion regarding the variables of interest.

The choice of the variables that appeared as questions in our survey is based on the literature review.

Following the joint distributions, the Alpha Index examines the overall correlation between all questions, and the goal is to conclude that:

- The measurement tool checks the actual situation as accurately as possible.
- Re-measurement will yield the same results.
- The true values will be represented by the measured.
- The measurement will be accurate every time we repeat the measurement - consistency.

The Cronbach Index calculated among the questions of the Well Being Index is 0.79. The value of the reliability indices is above 0.7. These results are in the accepted range, and the conclusion is that the questionnaire is reasonably reliable and all the questions adequately reflect the variables they are intended to measure.

Findings

The survey was conducted before and in the very early days of the COVID19 pandemic. The descriptive statistics of the major variables of the analysis are provided in Table 2.

The distribution of the responders by their age is in Figure 3:

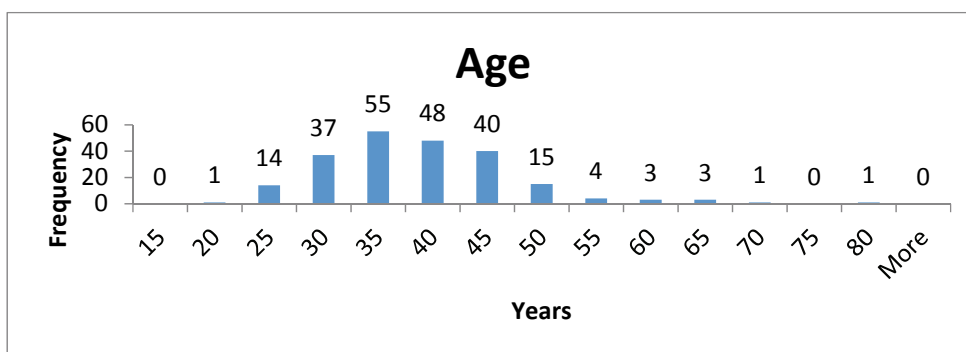
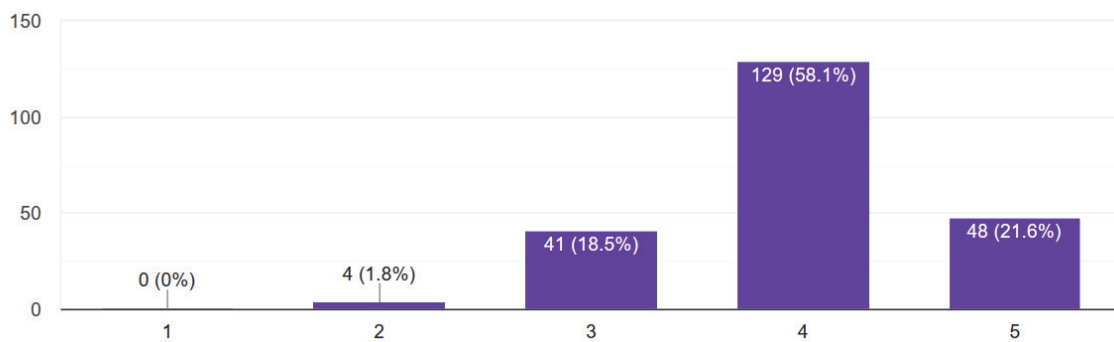


Figure 3: The empirical distribution of age

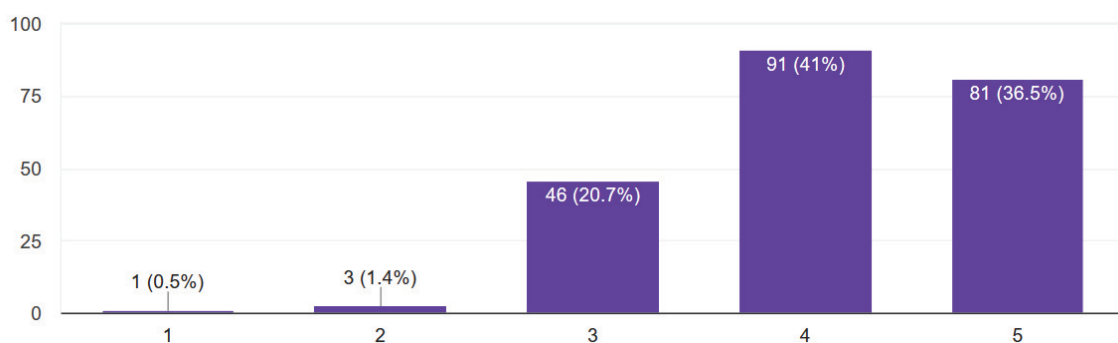
Table 2: Descriptive statistic of the variable in the study

Variable's Name	Min	Max	Mean	St. Dev.
Age	19	77	36.99	8.74
Weight	40	140	72.28	15.89
Height	1.5	2	1.70	.10
BMI	16.3	41.8	24.63	4.11
The degree of satisfaction with the standard of living	1	5	3.99	.68
Degree of satisfaction from social contexts	1	5	4.11	.80
The degree of sense of ability to deal with problems	1	5	4.31	.66
The degree of feeling that there is someone to rely on in times of distress	1	5	4.20	.94
The degree of feeling about the non-existence of discrimination	1	5	4.17	1.08
The degree of general trust in the country	1	5	3.18	1.05
A sense of the degree of receiving appreciation from relatives	1	5	4.23	.80
Number of close friends	1	10	5.55	2.47
Daily sitting hours	2	15	8.19	3.30
Degree of physical activity	1	5	3.05	1.09
Degree of sense of security	2	5	3.85	.74

The empirical distribution of "The degree of satisfaction with the standard of living" is given in Figure 4.

**Figure 4: The degree of satisfaction with the standard of living**

About 45 per cent are male (100), and 55 per cent are female (122). The average BMI value is 24.63 (average in the normal range, 41% of the subjects (92 out of 222) are at least overweight, BMI > 25) - from this, it may be concluded that there is some bias in the study, this insight may be discussed later in the study.

**Figure 5 The empirical distribution of "the Degree of satisfaction from social contexts"**

The average score is 4.1, and most respondents answered that they are satisfied with their social connections to a high degree.

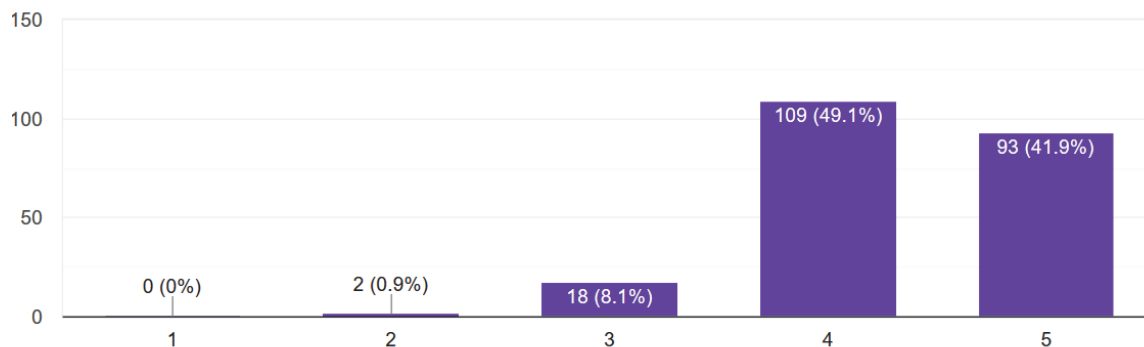


Figure 6 The empirical distribution of “The degree of sense of ability to deal with problems”

The average score is 4.32. Most respondents answered that their ability to deal with problems is high, as illustrated in Figure 6.

The empirical distribution of: “A sense of the degree of receiving appreciation from relatives” is given in Figure 7:

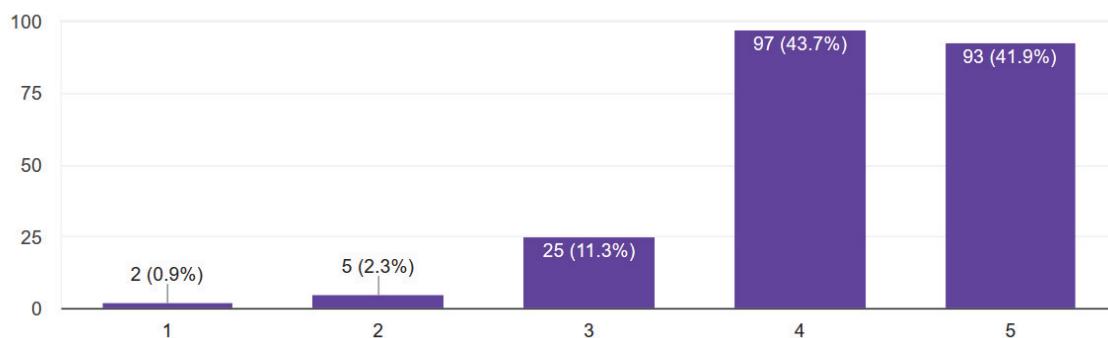


Figure 7 A sense of the degree of receiving appreciation from relatives

The average score is 4.2, and most of the respondents answered that they feel highly valued by relatives in their environment.

Discussion

We claim that these variables are relevant to setting a well-being measure. The correlations of “Degree of sense of confidence” is significantly correlated with several variables, as can be seen in Table 3.

- The degree of satisfaction with the standard of living”.
- The degree of satisfaction from social contexts”.
- The degree of sense of ability to deal with problems.”
- The degree of feeling that there is someone to rely on in times of distress”.
- The degree of general trust in the country.
- A sense of the degree of receiving appreciation from relatives.
- The degree of physical activity.

Table 3 The correlation matrix

Age	BMI	The degree of satisfaction with the standard of living	Degree of satisfaction from social contexts	The degree of sense of ability to deal with problems	The degree of feeling that there is someone to rely on in times of distress	The degree of feeling about the non-existence of discrimination	The degree of general trust in the country	A sense of the degree of receiving appreciation from relatives	Number of close friends	Daily sitting hours	Degree of physical activity	Degree of sense of confidence	
1	2	3	4	5	6	7	8	9	10	11	12	13	
1	1												
2	.162*	1											
3	0.104	-0.07	1										
4	0.000	-0.06	.46**	1									
5	0.066	-0.04	.35**	.38**	1								
6	-0.06	-0.09	.38**	.35**	.32**	1							
7	0.069	-0.07	.21**	0.080	0.081	.32**	1						
8	.18**	-0.09	.31**	.23**	.21**	.27**	.18**	1					
9	0.056	0.031	.41**	.48**	.33**	.50**	.27**	.25**	1				
10	0.100	-0.04	.17**	.37**	.19**	0.079	0.067	0.111	.17*	1			
11	-0.09	0.06	-0.08	-0.04	-0.10	-0.01	0.03	-0.03	-.14*	0.057	1		
12	0.014	-.2**	0.060	0.110	.19**	0.046	-0.06	0.030	0.05	0.067	-0.13	1	
13	0.05	-0.04	.38**	.29**	.37**	.35**	.17*	.37**	.28**	0.06	-0.07	.30**	1

It implies that a significant dimension in well-being as feeling confidence, is associated with other relevant variables, but less with a variable such as having experience discrimination. It does not correlate, as expected, with the number of hours of daily sitting.

The variable daily sitting hours does not correlate with other study variables. It may raise further questions regarding well-being as people use to sit more and more while working on technological devices such as computers. Physical activity is positively correlated with feeling confident and negatively with BMI. This might sound reasonable as non-healthy persons reduce their physical activity (or vice versa), and the more physical activity they do, the more confident they feel.

Not surprising that the number of friends is correlated with satisfaction from social life. Yet, dealing with problems is associated with the number of friends.

Dealing with problems is an exciting variable; it is related to satisfaction from the standard of living, satisfaction from social life, the sense that there are people to rely on them, getting appreciation from a relative, and the level of confidence.

Conclusions and summary

The variables in the survey seem to support the research question about the structure of well-being. Some of them do affect directly, and some of them may affect indirectly, for example, the daily number of hourly sittings. There is room for clustering some variables into a single

construct. For instance, we found no correlation between age with the other factors. This finding has essential effects when dealing with what can improve people's well-being.

Acknowledgment

The authors would like to thank Lior Malka, Tomer Shahaf and Menachem Cohen from HIT Holon Institute of Technology for their work on data collection and basic analysis.

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