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Exploring the Self-Reported Well-Being Attributes in Anxiety and Depression

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Abstract

Subjective well-being (SWB) is one of the direct measures of our mental health and overall wellbeing. Our objective was to explore whether, the factors that contribute to our sense of well-being could also correlate with prevalence and severity of anxiety and depression. We used an anonymous online survey and recruited 416 study subjects using social media as the main method of recruitment. We gathered demographic information, self-reported anxiety and depression as well GAD-7 and PHQ-9 questionnaire for evaluating anxiety and depression, assessed several well-being attributes, and SWB. The overall sense of subjective well-being and most well-being attributes in our study were negatively associated with both self-reported and objective assessment of anxiety and depression. In addition, the household income showed a negative correlation with the prevalence of anxiety and depression. In this study, we showed that SWB, and several well-being attributes that contribute to the sense of overall contentment, are negatively affected in those with anxiety and depression. We also showed that household income was negatively correlated with the prevalence of anxiety and depression. Recognizing the specifics of the disturbed personality traits could open a new horizon for helping these individuals using more specific forms of psychological interventions.

Keywords

Subjective Wellbeing, Anxiety, Depression, Happiness, Survey

1. Introduction

Subjective well-being (SWB) is one of the direct measures of our mental health and overall happiness [1, 2]. However, there is no consensus among researchers regarding how to measure well-being and overall level of contentment [1-6]. On the other hand, depression paired with anxiety comprises the major detriment to our mental health. With a prevalence of 16-23%, the detrimental effect of depressive symptoms was comparable with or worse than that several major chronic medical conditions [7, 8]. There is no doubt that there is a reciprocal effect of SWB on the presence and magnitude of depression and anxiety [9-13]. Some researchers used measures of SWB as a predictor of future depressive symptoms [9] or suggested that measures of SWB be included in the screening for depression and anxiety in the primary care setting [12]. It is not surprising that depressive symptoms and depressed mood can negatively affect our SWB [10]. Therefore, the measures that improved anxiety and depression could potentially improve SWB or vice versa [11]. Recent advances using various techniques have made it possible to improve an individual's positive psychological attitude and level of happiness [14, 15]. Therefore, it could be logical that interventions aimed at improving well-being and preventing or treating mental health problems should complement each other [13]. However, before we consider any intervention for improving our sense of SWB, we need to further recognize the important factors that are contributing to our overall sense of well-being. But are all the factors that contributes to our sense of well-being are of the same weight in their final contribution to our SWB? Several studies already explored this topic and demonstrated that some factors are more important than others in this determination. Certain well-being attributes that correlate with core human strengths, such as optimism, confidence, trust, and sense of financial security, could boost coping mechanism or improve our social support which can counteract the negative

influence of anxiety and depression. In fact, studies have shown that perceived level of success, level of income and several personality traits play a crucial role in our sense of well-being [16-19]. Determining the factor or factors that are crucial in our sense of well-being can help us better target methods of intervention to improve our SWB.

In this study, we explored several factors that contribute to our overall sense of well-being. We also explored the relationship between our sense of subjective well-being and major mental health problems, such as anxiety and depression. We investigated whether the factors that are relevant to our overall sense of well-being could also correlated with the self-reported or measured depression and anxiety in our study population.

2. Method

The study was approved by the MemorialCare Foundation IRB. The details regarding the method of data collection and processing could be found in our previously published study [20]. Briefly, we recruited 421 individuals, only 416 of which completed the surveys. Individuals were recruited for this study primarily through social media. The majority of the cases (92%) lived in the United States. We asked the participants to fill out an online questionnaire using Survey Monkey (Table 1). The questionnaire was devoid of any identifying questions to ensure participant anonymity. The participants were adults over 18 years old.

There were several questions exploring demographic information, including age, gender, level of education, occupation, household income, household number and country of residence. We asked questions regarding the presence of anxiety and depression. If there was any past or present history of anxiety or depression, the individuals were asked to fill out another specific questionnaire for anxiety or depression (GAD-7 or PHQ-9, respectively). GAD-7 generally assesses the presence of anxiety symptoms in the last 2 weeks and scores 7 items each ranging from 0-3. The total score, then, would be 0-21. Those with scores 0-4 would be considered to have minimal or no recent anxiety. Those with scores 5-9 would be considered to have mild anxiety, 10-14 moderate anxiety, and 15+, severe anxiety. PHQ-9 generally assesses the presence of depressive symptoms in the last 2 weeks and scores 9 items each from 0-3, making the total score 0-27. Those with scores 0-4 would be considered to have minimal or no recent depression. Those with scores 5-9 would be considered to have mild depression, 10-14 moderate depression and 15+, severe depression. Finally, we used a Positive Psychology Questionnaire generated by the authors that assessed the subjective well-being as well the extent to which patients endorsed each of the well-being attributes presented in Table 1. The face validity of the questions was established by two experts. The test was pilot tested on a subset of participants for practicality and feasibility purposes. We intentionally posed some questions with overlapping themes to test for internal consistency. The Cronbach's Alpha for these questions were 0.64-0.71, indicating good internal consistency in the responses. The participants were asked to rank the provided choices from low (1) to high (5) based on their perceived importance.

Table 1. *The average score, 95% confidence interval of the well-being attribute scores, correlation of well-being attributes with SWB, gender distribution of well-being attribute average score and the significance of the difference of distribution of well-being attributes between genders.*

Well-being Attribute	Score average	Score range	SWB correlation	Male	Female	Significance
Flexibility	3.70*	3.61-3.79	r=0.21, P<.001	3.66	3.71	P=.447
Confidence	3.43*	3.33-3.53	r=0.44, P<.001	3.58	3.38*	P=.040
Sense of financial security	2.76*	2.64-2.89	r=0.29, P<.001	3.22	2.63*	P<.001
Feeling loved	3.87*	3.77-3.97	r=0.45, P<.001	3.90	3.85	P=.265
Having someone to love	4.05*	3.95-4.15	r=0.33, P<.001	3.90	4.10	P=.140
Feeling healthy and fit	2.96*	2.85-3.06	r=0.35, P<.001	3.25	2.88*	P=.002
Believe in faith	3.09*	2.95-3.23	r=0.20, P<.001	2.75	3.19*	P=.005
Being generous	3.13*	3.02-3.24	r=0.11, P=.037	3.20	3.11*	P=.551
Having a passion in life	3.28*	3.17-3.38	r=0.30, P<.001	3.52	3.19*	P=.007
Being supportive of others	4.14*	4.06-4.22	r=0.15, P=.003	3.99	4.18	P=.098
Having a desirable job	3.90*	3.81-4.00	r=0.40, P<.001	4.03	3.66	P=.187
Sense of independence	3.84*	3.73-3.94	r=0.38, P<.001	3.81	3.84	P=.269
Having adequate education	3.79*	3.69-3.88	r=0.26, P<.001	3.97	3.74*	P=.024
Having adequate leisure	3.58*	3.49-3.67	r=0.16, P=.004	3.75	3.53	P=.055
Being respected	3.76*	3.67-3.85	r=0.47, P<.001	3.95	3.70*	P=.011
Feeling their talent is being properly used	3.60*	3.51-3.69	r=0.44, P<.001	3.75	3.56	P=.087
Having adequate pleasure	3.36*	3.27-3.44	r=0.51, P<.001	3.41	3.34	*P=.481*
Being attractive	3.38*	3.30-3.46	r=0.35, P<.001	3.37	3.38	P=.913
Being forgiving	3.73*	3.64-3.83	r=0.27, P<.001	3.68	3.74	P=.761
Feeling accepted by others	3.96*	3.88-4.04	r=0.46, P<.001	4.09	3.92	P=.129
Living in peace	3.59*	3.50-3.67	r=0.58, P<.001	3.62	3.57	P=.586
Managing life properly	3.38*	3.29-3.47	r=0.50, P<.001	3.54	3.34*	P=.043

Well-being Attribute	Score average	Score range	SWB correlation	Male	Female	Significance
Being optimistic	3.73*	3.65-3.82	r =0.52, P<.001	3.62	3.77	P=.167
Being able to trust others	3.80*	3.71-3.90	r =0.30, P<.001	3.73	3.82	P=.407
Believe in fairness in life	3.12*	3.02-3.21	r =0.37, P<.001	3.01	3.14	P=.700
Being grateful	4.26*	4.18-4.34	r =0.37, P<.001	3.91	4.36*	P<.001
Embracing challenges in life	3.53*	3.44-3.62	r =0.31, P<.001	3.78	3.46*	P<.001
Being successful	3.53*	3.44-3.63	r =0.51, P<.001	3.70	3.49*	P=.014
Excess regret from the past	3.31*	3.21-3.40	r =0.37, P<.001	3.40	3.28	P=.151
Feeling closure with death	3.09	2.93-3.25	r =0.03, P=.615	3.25	3.04	P=.263
Overall happiness with life	3.70	3.62-3.79		3.73	3.69	P=.962

* indicates a significant correlation of attributes with SWB or a significant difference between male and female

We attempted to minimize missing data by not asking too many detailed questions, to increase the chance of having a complete response. For example, if someone did not have any issue with anxiety they would have bypassed the anxiety related questions altogether. We had on average 13.9% of well-being attribute questions that were left unanswered. This number was 13.8% in those without IBS and 14.3% in those with IBS, which suggests a "missing at random" assumption. Considering this assumption, we used a list-wise deletion for handling our missing values.

We used SPSS V.23 software for analysis of the data. For direct comparison between two variables, the Mann-Whitney U test, chi-squared test of independence, or a t-test of independence was used as appropriate. The main statistical tools that were used to characterize the relationship among various variables of interest were Kruskal-Wallis test and binary logistic regression. For this study, a p-value ≤.05 was considered significant.

3. Results

The age and gender distribution of our participants are shown in Figure 1A and 1B. Women comprised the majority of the subjects with 77% (n = 321) of the sample, and 27% (n = 97) were men. The largest group of the subjects was in their forties and fifties. Most of the subjects were educated individuals with college degrees and had household income in the range of $25,000-75,000 per year (Figure 2A and 2B). The demographic data also showed that the majority of the participants were married (53%), while 18% were divorced and 22% never married. Sixty-eight percent were white American, 15% Asian American, 11% Latino and 9% African American or other races.

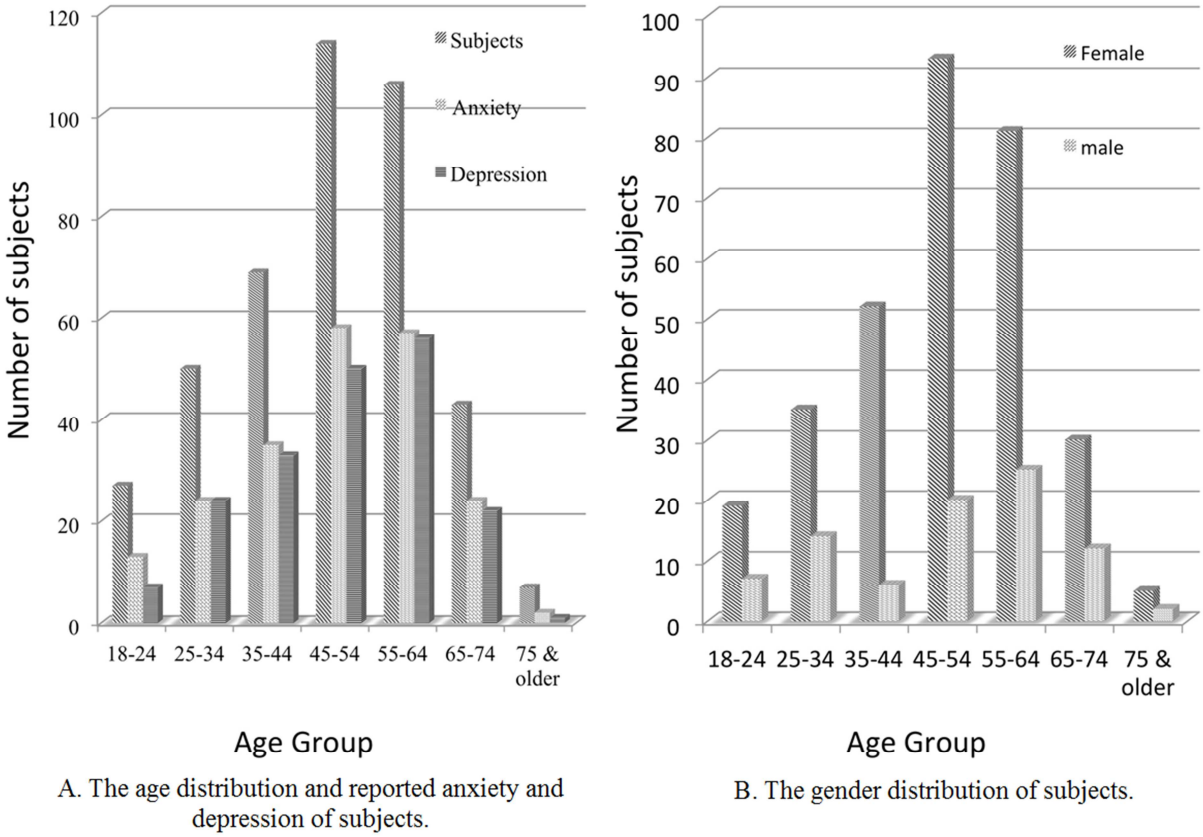
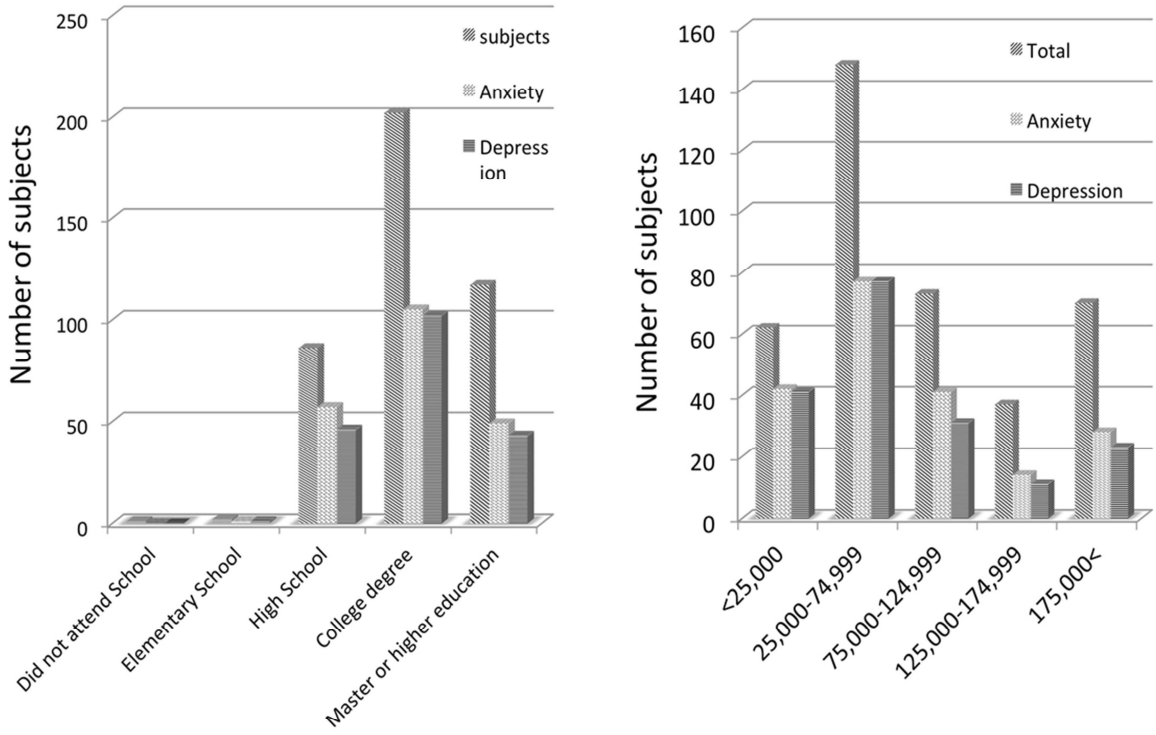


Figure 1. *The prevalence of anxiety and depression and gender distribution among the study subjects in different age groups.*

Almost half of our subjects (54%) had a history of anxiety disorder and a quarter of the subjects (28%) were either formally diagnosed or had been a recipient of therapy for anxiety in the past or at the time of the study. Based on GAD-7 criteria that detect only the presence of anxiety symptoms in the last two weeks, only 71% of subjects with self-reported history of anxiety had anxiety as defined by GAD-7.

Almost half of our subjects (52%) had history of depression and a quarter of the subjects (29%) were either formally diagnosed with depression or receiving therapy for depression in the past or at the time of the study. Based on PHQ-9 criteria that detect only the presence of depression symptoms in the last two weeks, only 69% of subjects with self-reported history of depression had depression as defined by PHQ-9.

Years of education was associated with a decreased risk of self-reported anxiety and depression in our study (Figure 2A). Those with high school degree had a higher rate of self-reported anxiety and depression compared to those with a college degree and/or higher education (P=0.001 and P=0.018, respectively Chi Square test).

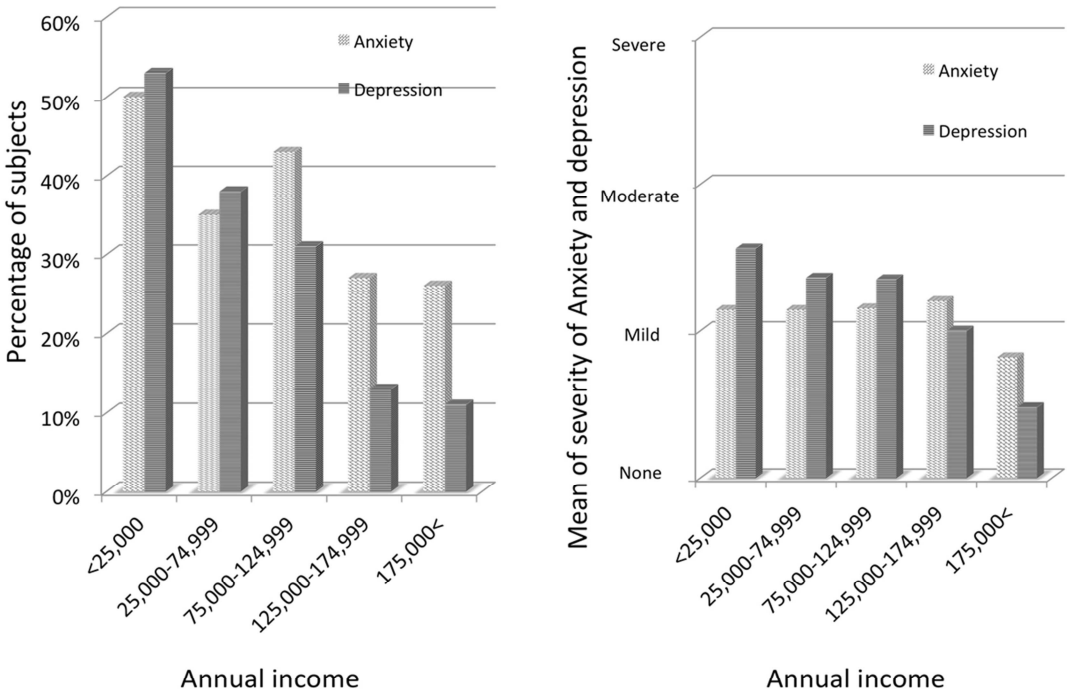


A. The prevalence of anxiety and depression among the study subjects in different educational levels.

B. The prevalence of reported anxiety and depression among the study subjects in different income levels.

Figure 2. *The prevalence of anxiety and depression among the study subjects in different educational and income levels.*

The level of household income was related to the self-reported prevalence of anxiety and depression (Figure 2B). In general, the distribution of income was different in those with anxiety and depression compared to those without. (P=.002 and P<.001, respectively, Mann-Whitney U test) (Figure 3A). Those with anxiety (M=\$91,750.00, SD=\$64,500.00) had on average \$22,500 less annual household income compared to those who did not (M=\$114,250.00, SD=\$70,250.00) (t(374)=3.21, P=.001). Similarly, those with depression (M=\$86,500.00, SD=\$62,250.00) had on average \$31,250 less annual household income compared to those who did not (M=\$117,750.00, SD=\$70,000.00) (t(372)=4.56, P<.001). In addition, the severity of depression significantly decreases with an increase in the household income (P=0.008) but the severity of the anxiety was not related to the household income categories (Kruskal-Wallis test) (Figure 3B).



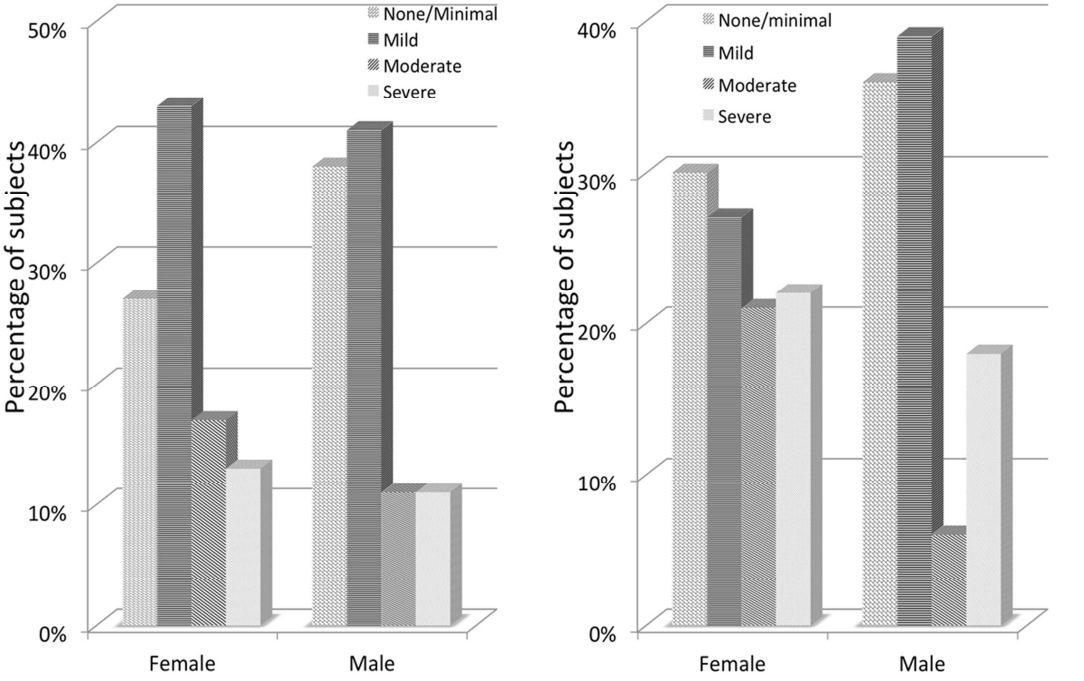
A. The prevalence of the anxiety and depression based on GAD-7 and PHQ-9 among the household income categories.

B. The severity of the anxiety and depression based on the GAD-7 and PHQ-9 in those with reported anxiety and depression among the household income categories.

Figure 3. *The prevalence and severity of the reported anxiety and depression based on the household income categories.*

In general, women had a higher rate of anxiety (58% versus 40% *P*=0.003, MWU test). The majority of subjects with anxiety had a mild form of anxiety based on severity index GAD-7. Female subjects also tended to have more severe anxiety (Figure 4A).

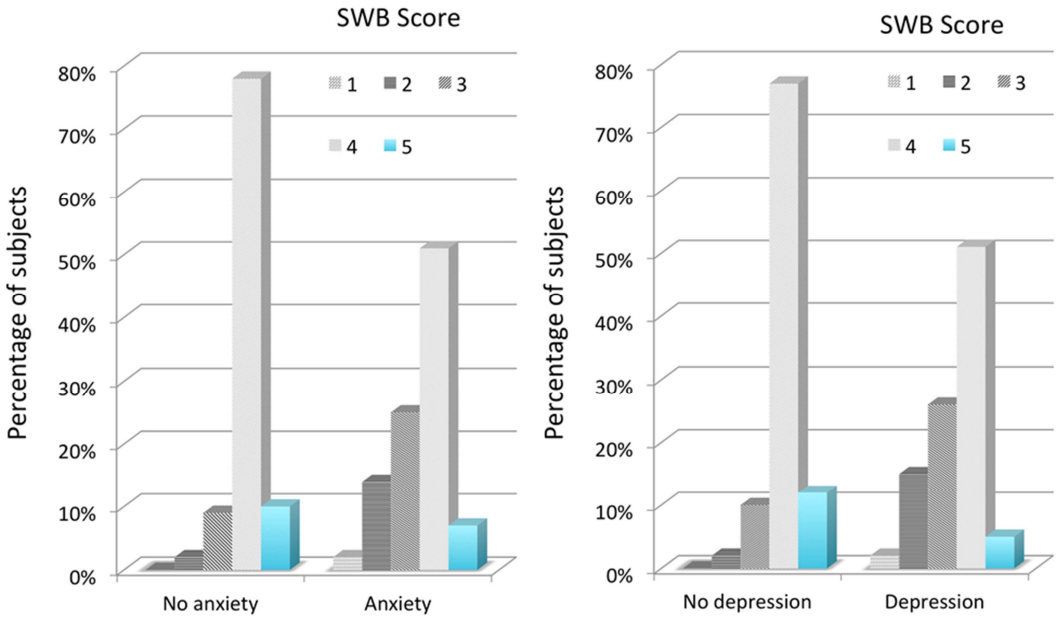
Women also had higher rate of depression (54% versus 36%, *P*=0.007, MWU test). The majority of those with depression had a mild form of the disease based on severity index PHQ-9. Female subjects also tended to have more severe depression (Figure 4B).



A. The severity of the anxiety based on the GAD-7 in those who reported the presence of anxiety between different genders.

B. The severity of the depression based on the PHQ-9 in those who reported the presence of depression between different genders.

Figure 4. *The severity of the anxiety and depression in those who reported anxiety between different genders.*

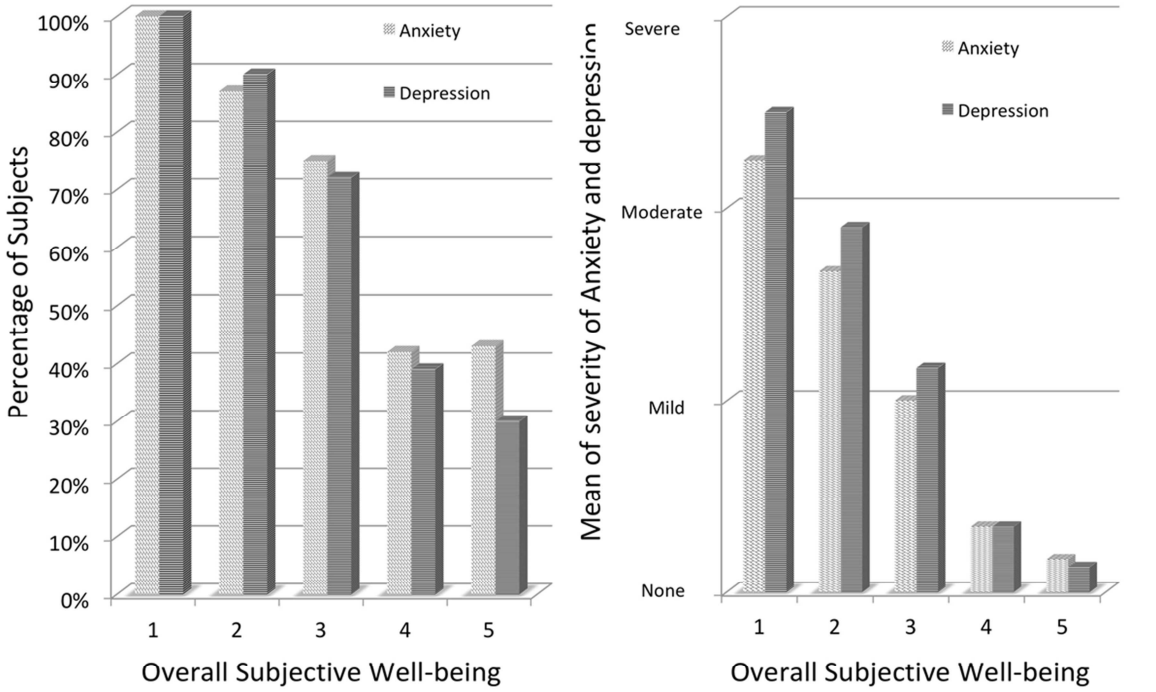


A. The subjective well-being levels in those with or without subjective anxiety.

B. The subjective well-being levels in those with or without subjective depression.

Figure 5. *The subjective well-being levels in those with or without subjective anxiety and depression.*

Using SWB score, the overwhelming majority of subjects were generally a happy. 73% were generally happy or very happy all the time. 18% were neither happy, nor unhappy, and 9% were unhappy or very unhappy. The overall sense of SWB was not different between males and females, nor did it vary substantially among household income categories. We observed that those with anxiety and depression had lower scores of the overall sense of SWB compared to controls (both P<0.0001, Mann-Whitney U test) (Figure 5A, 5B). The level of SWB was also closely related to the prevalence of self-reported anxiety and depression. In general, the prevalence of both anxiety and depression declines as the level of SWB increases (Figure 6A). Not only is the prevalence of anxiety and depression negatively correlated with the level of SWB, but the severity of the anxiety and depression also significantly increases as the level of SWB decreases (both P<0.0001, Kruskal-Wallis test) (Figure 6B).



A. The prevalence of the reported anxiety and depression among the subjective well-being categories.

B. The severity of the anxiety and depression based on the GAD-7 and PHQ-9 among the subjective well-being categories.

Figure 6*. The prevalence and severity of the reported anxiety and depression based on the subjective well-being categories.*

We measured SWB and also asked multiple questions exploring the well-being attributes. All of the well-being attributes except one correlated with SWB using non-parametric tests (Spearman correlation) (Table 1).

Even though the sense of overall well-being did not vary substantially between males and females, several well-being attributes assumed a significant difference between males and females using non-parametric tests (Mann-Whitney U test). Most of these attributes are negatively affected in females.

There were significant differences in the distribution of the well-being attributes between those with and without anxiety or depression using non-parametric tests (Mann-Whitney U test) as shown in Table 2. All of these attributes are negatively affected in those with anxiety and/or depression.

We used linear modeling to see which subset of well-being attributes could be used effectively as a surrogate for the sense of SWB. Among all well-being attributes that were correlated with the sense of SWB, only a few proved to be useful in a linear model. Among those were a sense of optimism, living in peace, feeling respected, a sense of being successful and feeling loved were the attributes that could be used as a surrogate for SWB with an accuracy of 68%.

Table 2. *The average score of the well-being attributes in those with and without self-reported anxiety or depression.*

Well-being Attribute	No Anxiety	Anxiety	Significance	No depression	Depression	Significance
Flexibility	3.79	3.60*	*P*=.010	3.75	3.64	*P*=.117
Confidence	3.60	3.27*	*P*<.001	3.64	3.22*	*P*<.001
Sense of financial security	3.07	2.47*	*P*<.001	3.15	2.36*	*P*<.001
Feeling loved	4.10	3.66*	*P*<.001	4.09	3.64*	*P*<.001
Having someone to love	4.18	3.95*	*P*=.041	4.22	3.88*	*P*=.001
Feeling healthy and fit	3.33	2.62*	*P*<.001	3.26	2.64*	*P*<.001
Believe in faith	3.06	3.12	*P*=.723	3.01	3.18	*P*=.264
Being generous	3.32	2.96*	*P*=.003	3.27	2.99*	*P*=.020
Having a passion in life	3.39	3.17*	*P*=.017	3.37	3.18*	*P*=.029
Being supportive of others	4.18	4.10	*P*=.485	4.13	4.16	*P*=.464
Having a desirable job	4.07	3.76*	*P*=.002	4.10	3.71*	*P*<.001
Sense of independence	4.07	3.63*	*P*<.001	4.04	3.63*	*P*=.001
Having adequate education	3.98	3.61*	*P*<.001	3.90	3.67	*P*=.062
Having adequate leisure	3.70	3.47*	*P*=.011	3.64	3.52	*P*=.229
Being respected	3.96	3.58*	*P*<.001	4.00	3.52*	*P*<.001
Feeling their talent is being properly used	3.85	3.37*	*P*<.001	3.82	3.37*	*P*<.001
Having adequate pleasure	3.64	3.10*	*P*<.001	3.61	3.09*	*P*<.001
Being attractive	3.42	3.34	*P*=.310	3.47	3.29	*P*=.073
Being forgiving	3.89	3.59*	*P*=.001	3.87	3.59*	*P*=.008
Feeling accepted by others	4.19	3.75*	*P*<.001	4.19	3.73*	*P*<.001
Living in peace	3.84	3.16*	*P*<.001	3.79	3.37*	*P*<.001
Managing life properly	3.63	3.35*	*P*<.001	3.57	3.19*	*P*=.001
Being optimistic	3.97	3.52*	*P*<.001	3.93	3.53*	*P*<.001
Being able to trust others	4.05	3.58*	*P*<.001	4.02	3.58*	*P*<.001
Believe in fairness in life	3.28	2.96*	*P*=.001	3.22	3.01*	*P*=.015
Being grateful	4.35	4.19	*P*=.087	4.38	4.15*	*P*=.003
Embracing challenges in life	3.74	3.35*	*P*<.001	3.67	3.39*	*P*=.001
Being successful	3.79	3.30*	*P*<.001	3.80	3.26*	*P*<.001
Excess regret from the past	3.49	3.14*	*P*<.001	3.50	3.11*	*P*<.001
Feeling closure with death	3.21	2.98	*P*=.108	2.99	3.20	*P*=.271
Overall happiness with life	3.96	3.47*	*P*<.001	3.99	3.41*	*P*<.001

* indicates a significant difference compared with those without anxiety or depression

In addition, we used binary logistic regression modeling to see which subset of these well-being attributes that correlated with self-reported anxiety could be used in our model as a surrogate marker of self-reported anxiety. Among all well-being attributes that correlated with self-reported anxiety, only a few proved to be useful in our binary logistic model. These included a sense of optimism, living in peace, feeling respected, a sense of being successful and feeling loved. These attributes could be used as a surrogate for the self-reported anxiety with an accuracy of 70%.

Similarly, we used binary logistic regression modeling to see which of these well-being attributes that correlated with self-reported depression could be used in our model as a surrogate marker of self-reported depression. Among all well-being attributes that correlated with self-reported depression, only a few were proved to be useful in our binary

logistic model. These included a sense of financial security, feeling healthy and fit, having adequate pleasure in life, feeling accepted by others, having trust in others and closure with death as a fact of life. These attributes could be used as a surrogate for the self-reported depression with an accuracy of 71%.

4. Discussion

Depression and anxiety are very common in the general population with a prevalence of 16-23% based on the population that was studied or the method that was used [7, 9, 21]. This number could be even higher in special subgroups of populations [22, 23]. In our study we had a very high rate of self-reported past or present depression and anxiety. When we used the more strict criteria for definition of depression or anxiety and limited the time frame of the anxiety or depressive symptoms to 2 weeks as part of the requirement of the designated questionnaires used in the study, the prevalence of depression and anxiety dropped by one third, but still demonstrated a high prevalence of anxiety and depression (36% and 38% of the study subjects, respectively). Even though there are a few studies with the rate of anxiety and depression as high as 39% and 35%, respectively, in selected populations such as educated females [24], this number is still high compared to other reported statistics of prevalence of anxiety and depression in the general population in the US. One of the reasons for the high prevalence in our study could be due to the fact that the majority of our subjects were middle-aged educated females with a historically high rate of anxiety. We also refer to a selection bias later in our discussion that could also explain the higher than expected rate of anxiety and depression in our study population.

As we eluded above, the prevalence and severity of both anxiety and depression were more pronounced in female subjects. Female gender has been shown to present an increased risk for anxiety and depression in several reports [25-27]. Our data shows a similar trend and depicts an increased prevalence of depression and anxiety, as well as a decline in several well-being attributes in female subjects.

Our data showed that years of education were negatively correlated with the prevalence of self-reported anxiety and depression. This finding has also been reported in other studies [25].

Depression and anxiety can significantly impact an individual's personal, social and financial aspects of life in a negative way and result in a significant decline in the overall quality of life. One of the investigated factors that correlated with the prevalence and severity of anxiety and depression was the level of household income. This variable has always been a contentious risk factor for anxiety and depression in other researches with mixed results [28-31]. Some studies showed a direct relationship between low household income and the prevalence of anxiety and depression [28-30], while other studies failed to show a direct and independent correlation between household income and anxiety and depression [31]. This variable was negatively correlated with the prevalence and the severity of anxiety and depression in our study.

The other key variable that was evaluated in our study was subjective well-being. Several studies have already shown a close correlation of anxiety and depression and SWB [7, 9-13]. As we pointed out earlier, an overwhelming majority of our subjects considered themselves as a happy or very happy person. It could be perceived that those who are not content with their lives are suffering from depression and or anxiety. Our data confirms that notion and also shows that the prevalence and severity of anxiety and depression significantly increase by a decline in our overall contentment with life and well-being attributes.

We also investigated the correlation of SWB and several personality traits that could be considered as surrogates of well-being. The majority of these personality traits have been reported to be correlated with measures of SWB [1, 4, 19, 32-36]. Our data suggests that there is strong correlation between these attributes and the overall sense of SWB [20]. Most of these attributes were positively correlated with the sense of SWB and included, flexibility, confidence, financial security, feeling loved, having someone to love, feeling healthy and fit, practicing faith, being generous, having a passion in life, being supportive for others, having a desirable job, sense of independence, having adequate education, having enough leisure in life, feeling respected, feeling their talent is being properly used, having adequate pleasure in life, being attractive, being forgiving, feeling accepted by others, living in peace, being able to manage their life properly, general sense of optimism, having trust in others, belief in justice in life, feeling grateful, embracing challenges in life, sense of being successful, and sense of regret from past actions.

In this study we investigated the correlation of personality traits that correlate with the SWB and showed that these attributes had correlation with self-reported anxiety and depression. We also used these variables to build a model to see if they could be used to effectively predict the presence of anxiety and depression. Among all personality trait variables that correlated with self-reported anxiety and depression, only a few were proved to be useful in our model. The other variables were dropped out of the model since the data did not show a strong correlation or the information provided with that variable was redundant. Considering the collective power of these variables, we were still not able to predict the presence of anxiety or depression past the 70%, using our model. Knowing the specifics of the personality traits, could open a new horizon for helping these individuals using more specific forms of psychological interventions [6, 11]. When we can tailor these interventions to individualized personality problems, the yield of these interventions could be vastly improved.

Several studies have reported a close relationship between personality traits and anxiety or depression [10, 13, 25, 26, 28, 32, 33]. We have already shown that several of these personality traits contributed to the sense of SWB [20].

However, there are reports that a few of these attributes could be directly related to depression and/or anxiety. For example, flexibility was one of most important factors in the overall sense of well-being and correlated with self-reported anxiety and depression in our study. Kelly et al, also reported that one's coping mechanism is significantly disturbed in those with depression [26]. Physical health was another very important factor that plays a critical role in SWB as well as the prevalence of anxiety and depression [33]. Low self-esteem was among other factors that revealed a significant negative correlation with anxiety and depression in our study. Together with poor physical health, low self-esteem has been shown to be a critical factor in depression and anxiety in other reports [25, 28, 32].

Our study had several shortcomings. Our study is exploratory in nature, and we used statistical evaluation of a large numbers of variables. This can result in inflation in the type I error rate for our tests, giving spurious significant results. The other shortcoming may be related to the design of our study, which inherently targeted educated individuals due to the nature of an online survey. We also had a disproportionate number of females in our study, which again is another pitfall of online surveys. This is particularly true since there is a higher prevalence of anxiety and depression in female subjects as discussed above. This could have biased our data by showing more significant correlations than we may have naturally had if the subjects were equal numbers of men and women. Due to the small number of participants, the study may have been underpowered to test various hypotheses among sub-groups of interests.

We had more than 80 questions in our questionnaire and some of these questions may have been of intimate or private nature for some individuals. We were not surprised that there were several well-being attribute questions that were left unanswered (up to 14%) due to either the length of the questionnaire or the private nature of the question. This was despite our effort to minimize asking too many detailed questions in order to increase the chance of having a complete response. Regardless, we treated the missing data appropriately in our analysis, but a partially filled questionnaire or missing data could have made our interpretation less effective. For this reason, we forfeited collecting more detailed information about daily activity and general functioning that could have been useful in our interpretation.

Another issue that is also inherent to most survey researches is response bias. Even though the questionnaire was completely anonymous, it is possible that the response of the individuals may have been biased toward answering what they thought would be the right answer rather than being completely transparent in their answers. Another issue could be a selection bias. It is likely that those with anxiety and/or depression are more willing to participate in a long survey, and this willingness can artificially increase the prevalence of anxiety and depression in our study. Overall, we consider this study as a preliminary exploratory study to help us design a more comprehensive study with a larger number of participants to examine this very interesting subject.

5. Conclusion

There is a clear correlation between commonly diagnosed psychological conditions such as anxiety and depression and the sense of SWB. We also showed that the factors that contribute to our sense of well-being and overall contentment in life are negatively affected in those with anxiety and depression. These attributes include confidence, sense of financial security, feeling loved, feeling healthy and fit, having a passion in life, having a desirable job, sense of independence, feeling of being respected, feeling their talent is being properly used, having adequate pleasure in life, feeling accepted by others, living in peace, being able to manage their life properly, general sense of optimism, sense of being successful, sense of excess regret from the past actions and overall sense of subjective happiness. In addition, household income was negatively correlated with the prevalence of anxiety and depression. Knowing the specifics of the personality traits could open a new horizon for helping these individuals by using more specific forms of psychological interventions.

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