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Correlates of Self-Assessed Wellness

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Abstract

Background: This study was concerned with correlates of self-assessed health and wellness on ten dimensions including emotional, financial and physical health. All 10 self-ratings loaded on one factor with high internal reliability. **Method:** In all 506 adult participants, completed short measures of the bright side, Big Five traits (TIPI) and a short measure of the dark side, personality disorders (PID-5-BF). **Results:** Correlations and regressions suggested that wellness was related to sex, education and religious beliefs as well as four of five bright- and dark-side traits. Being Sanguine was most positively, and Choleric most negatively, associated with subjective wellness. Detachment and Negative Affect were the highest dark-side correlates. The final regression suggested that over a third of the variance in subjective wellness could be explained by four bright- and two dark-side factors. **Conclusions:** Personality factors, especially instability and negative affectivity, play a crucial role in all aspects of wellness. Implications and limitations are acknowledged.

Keywords

Heath, Personality Disorders, Traits, Wellness, Demography, Ideology

1. Introduction

Most people have a clear view of how well they are (i.e. healthy) if, and when, asked. It is often one of the first questions people ask each other: e.g. "How are you doing/feeling?". Further, observers often note that people give similar responses over time suggesting that, either or both, their reports and their health and wellness experiences are stable and consistent over time, despite occasional illness and other misfortunes. That is, people tend to be consistently on an optimism-pessimism dimension with regard to many aspects of their lives. In short, they have *dispositional* happiness or unhappiness and a sense of wellness and personal well-being, whatever life challenges are thrown at them.

However, it is believed that we can and do rate our wellness or health on different, and only tangentially related, dimensions like physical, spiritual, vocational and financial wellness. That is, for instance, financial and spiritual wellness and adjustment are essentially unrelated. Equally, it has also been suggested that these dimensions can and do influence each other: physical illness impacts on emotional, social and leisure wellness and vocational wellness on financial wellness. Thus, those with few financial resources cannot afford a lifestyle that is psychologically and physically healthy.

This study is concerned with correlates of people's evaluation of their "wellness" [1]. Our first question concerns the relationship between ratings of very different types of wellness, and the second is its correlates, namely demographic, ideological, bright- and dark-side correlates of self-rated wellness.

There is a vast literature on subjective health and well-being [2]-[14]. As Cleary [15] notes, one of the most compelling reasons for assessing general perceived health is that it predicts subsequent morbidity and mortality, even after controlling for other biological and health status variables. That is, subjectively assessed health and wellness is a major indicator of a range of life outcomes.

In this study, we were predominantly interested in personality trait correlates of self-rated multiple wellness. There is considerable literature on the relationship between personality and happiness [16] [17] and job satisfaction [18]. The results of these studies tend to show three things: *first*, the results are consistent across both measures (assessment tools) and populations, *second*, the size of the correlation is often large ($0.50 < r < 0.20$), suggesting that personality is strongly related to health, and *third,* the results usual confirm theory-based hypotheses, particularly for well-established traits. Thus, Extraversion is positive, and Neuroticism negatively, correlated with general happiness, job satisfaction, relationship stability and vocational and marital success [19]. Stable extraverts (Sanguine people) report consistently high levels of health and happiness, while unstable introverts (Choleric people) do the reverse. In short, a "bright-side" personality is highly correlated with subjective ratings of adjustment, happiness, and health.

Perhaps the most compelling study on the stability of happiness/wellness is the celebrated work of Brickman *et al*. [20] who compared 22 lotto winners to 22 control-group members, and to 29 people who were paralysed in accidents. Unsurprisingly, the lottery winners reported that they were happier than the paraplegics and quadriplegics. However, winning the lottery did not increase happiness as much as others thought it would, and a catastrophic accident did not make people as unhappy as one might expect. They argued that people's happiness levels will return to their set point levels after an extreme event because of adaptation level theory, which includes two key ideas: habituation and contrast.

Less work has been done on subjective assessment of health (compared to happiness) and even less on "dark-side" personality disorder correlates of health, i.e. those disorders of personality identified by psychiatrists such as Borderline and

Histrionic personality. This study attempts to confirm the literature on "bright-side" personality and extend the literature on "dark-side" personality.

2. Dimensions of Wellness

The multi-dimensional wellness approach has been adopted in mental health practice over the last few decades [21]-[25]. They have attempted to shift the focus from illness and dependence, to a sense of empowerment and optimistic belief in the capacity to manage total health needs. It also offers a holistic framework for viewing the person as a whole and promotes setting wellness lifestyle goals in various dimensions [24].

This study in part used the types specified by Stoewen [26], who noted eight different categories of wellness: *Physical Wellness*—Caring for your body to stay healthy now and in the future; *Intellectual Wellness*—Growing intellectually, maintaining curiosity about all there is to learn, valuing lifelong learning, and responding positively to intellectual challenges; *Emotional Wellness*—Understanding and respecting your feelings, values, and attitudes, appreciating the feelings of others, Managing your emotions in a constructive way; *Social Wellness*—Maintaining healthy relationships, enjoying being with others, developing friendships and intimate relations, caring about others, and letting others care about you; *Spiritual Wellness*—Finding purpose, value, and meaning in your life with or without organized religion; *Vocational Wellness*—Preparing for and participating in work that provides personal satisfaction and life enrichment that is consistent with your values, goals, and lifestyle; *Financial Wellness*—Managing your resources to live within your means, making informed financial decisions and investments, setting realistic goals, and preparing for short-term and long-term needs or emergencies; *Environmental Wellness*—Understanding how your social, natural, and built environments affect your health and well-being.

3. This Study

The aim of this study was two-fold. First, it examined the relationship between self-assessed types of wellness. The central question was whether there was a general factor in the sense that the intercorrelations between the many different ratings were high or whether there were clear differentiable factors. The previous literature would suggest that there would be evidence of a single clear single factor representing a general sense of wellness (H1). That is, that people have a general sense of wellness which refers to many, if only superficially and tangentially related, aspects of their lives.

Second, the study examined four types of correlates of wellness. We looked a *demographic factors* (sex, age, education) hypothesising that males more than females (H2), older more than younger (H3), and those more rather than less educated (H4) would have higher wellness scores. These hypotheses were based on the extant literature in this field. We also looked at *ideological factors*, namely religious and political beliefs, hypothesising that more religious people would

have higher scores (H5). There is a literature which suggests that religious people report more general life satisfaction [27].

Next, we looked at the Big Five, bright-side personality variables and based on the literature on personality beliefs, hypothesiseda positive correlation between wellness and Extraversion (H6), Emotional Stability (H7) and Conscientiousness (H8) [28]. Finally, we look at the five dark-side traits all representing poor adjustment, which we believe has attracted very little attention. In doing so, we used the comparatively new dimensional measure of the factors underlying all the personality disorders [29]. Here, we predicted all five dark side traits would be negatively correlated with wellness, particularly Negative Affect (H9), Detachment (H10) and Psychoticism (H11). Perhaps the major contribution of this study is to examine, through multiple regression, the relative contribution of these different factors to subjective wellness, that is how much variance our four groups of factors (demography, ideology, normal "bright-side" and "dark-side" disordered personality) each accounted for.

4. Method

A total of 506 participants completed the questionnaire: 255 were men and 251 were women. They ranged in age from 17 to 61 years, with the Mean age being 26.09 years (*SD* = 7.49 years). Almost all had completed secondary school education (97%) and 40.3% had a university degree. In total, 66.4% were single and 11.1% married, and 88.5% had no children. They are rated themselves on two scales: "How religious are you?" (*Not at all* = 0 to *Very* = 9) (*Mean* = 3.45, *SD* = 2.70) and "How would you describe your political beliefs?" (*Very Left Wing* = 1 to *Very Right Wing* = 9) (*Mean* = 6.07, *SD* = 1.86). In all, 49% said they believed in life after death and 50.6% said they did not.

Questionnaires:

1) Wellness: This involved a simple 10-point scale with the following instruction: "***How well are you?*** *There are different types of WELLNESS. We want you to estimate your overall Wellness/Health and your score on* 10 *basic types of wellness*".

2) *Ten Item Personality Measure* (*TIPI)* [30]. This measures five personality traits, Emotional Stability, Extraversion, Openness, Agreeableness, and Conscientiousness, using 2 items each. This measure was designed to maximise content validity and efficiency, but as a result, has a poor factor structure and reliability. Items were measured on a 7-point scale from "strongly disagree" to "strongly agree".

3) *DSM*-5—*Brief Form* (*PID*-5-*BF*) [29]. The Personality Inventory for the DSM is a 25-item self-rated assessment scale which assesses 5 personality trait domains: Negative Affect (0.74), Detachment (0.60), Antagonism (0.68), Disinhibition (0.72) and Psychoticism (0.75), with each trait domain consisting of 5 items. It is now a well-established measure which has been validated by a number of psychometric studies in different countries.

Procedure

Departmental ethical approval was gained prior to data collection (CEHP/217/565). Data were collected via Prolific. The questionnaire took an average of 20 minutes to complete. Participants were paid the standard agreed rate for this task. Data was inspected and cleaned before analysis. The data fulfilled the requirements for the subsequent analysis.

5. Results

Table 1 shows the scores for the different items. One way ANOVAs were run to examine sex differences and there were four significant differences: item 4 ($F(1,504) = 4.16$, $p < 0.05$), item 5 ($F(1,504) = 11.57$, $p < 0.001$), item 6 ($F(1,504) = 5.95$, $p < 0.05$) and item 10 ($F(1,504) = 4.51$, $p < 0.05$). However an inspection of the Cohen's d statistic suggested these differences were considered small as being < 0.20.

A correlation matrix was then computed between the 10 items. All the correlations were positive and significant, mostly in the range $0.50 < r > 0.30$. The lowest correlation was between Spiritual and Leisure wellness ($r = 0.27$), and the highest between Emotional and Psychological wellness ($r = 0.73$).

Then, a principal components analysis was performed on the 10 ratings. This yielded a single factor that accounted for just over 50% of the variance. Second,

Table 1. Means and standard deviations for each rating: Very well 10 9 8 7 6 5 4 3 2 1 Not at all well.

	Mean	SD
1. **Overall Wellness**	6.70	1.63
2. **Physical Wellness** which is about exercising regularly, eating a balanced diet, taking responsibility for minor illnesses and knowing when to get professional medical help	6.23	2.03
3. **Emotional Wellness** which is about your ability to manage, express and accept your feelings, cope with problems and solve them and manage stress	5.80	2.17
4. **Spiritual Wellness** which is about you seeking meaning and purposes in life, and discovering spiritual fulfillment	5.74	2.25
5. **Vocational Wellness** which is about gaining personal satisfaction and enrichment in your life through work or volunteerism	5.67	2.22
6. **Intellectual Wellness** which is about being actively involved and engaged in creative and mentally stimulating activities and increasing your knowledge	6.98	1.78
7. **Financial Wellness** which is about having an understanding, management and planning of your own financial situation	5.79	2.09
8. **Social Wellness** which is about developing meaningful relationships with others and making new friends	6.08	2.30
9. **Leisure Wellness** which is about having a number of recreational activities that you really enjoy and satisfy your interests and passions	6.37	2.08
10. **Psychological Wellness** which is about being able to cope with life's problems, plan ahead and being pretty realistic about your strengths and weaknesses	6.05	2.13

two factor analyses were performed, one with orthogonal and the other oblique rotations. Both revealed a single factor. Third, the Cronbach's alpha was calculated for the total 10 item scale, and this was 0.88. Clearly, although the items were very different, they were picking up the same underlying concept. Hence, the items were combined into a single score which is a general feeling of overall wellness.

Finally, we did a regression with the overall rating as the criterion and the nine ratings as predictors. The regression was significant ($F(9,375) = 58.99$, $p < 0.001$, Adj $R^2 = 0.58$. The three ratings that were most significant were *Physical Wellness* (Beta = 0.26; $t = 6.61$, $p < 0.001$), then *Vocational Wellness* (Beta = 0.21; $t = 4.57$, $p < 0.001$), then *Psychological Wellness* (Beta = 0.21; $t = 3.93$, $p < 0.001$).

Table 2 shows correlations between the totaled wellness scale and all the other variables. It indicated that eleven correlations were significant, particularly with Emotional Stability (Low Neuroticism) ($r = 0.50$) and Detachment ($r = -0.48$). All hypotheses were confirmed except (H3).

We then computed three hierarchical regressions on the total Wellness scale. First, we regressed demography, ideology and the bright-side traits, then demography, ideology and the dark-side traits, and finally all four sets of variables. Table 3 shows that Stable, Open, Conscientious, educated male Extraverts rate

Table 2. Correlations, means, SDs between all variables.

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(1) WellTOT	61.92	14.52															
(2) Sex	1.50	0.50	**−0.13****														
(3) Age	1994.91	7.49	**−0.03**	−0.08													
(4) Degree	1.59	0.49	**−0.18*****	−0.17***	0.36***												
(5) Religious	3.45	2.70	**0.14****	0.06	0.01	−0.08											
(6) Political	6.07	1.86	**−0.07**	0.20***	0.02	−0.04	−0.32***										
(7) Extraversion	7.08	3.08	**0.31*****	−0.01	0.14***	−0.01	0.12**	−0.08									
(8) Agreeableness	9.25	2.22	**0.08**	0.12**	−0.08	−0.01	0.10*	0.01	−0.02								
(9) Conscientious	9.58	2.71	**0.28*****	0.17***	−0.20***	−0.17***	0.09	−0.13**	−0.05	0.16***							
(10) Stability	7.76	3.05	**0.50*****	−0.31***	−0.10*	−0.04	0.05	−0.13**	0.15**	0.19***	0.17***						
(11) Openness	10.05	2.43	**0.24*****	0.05	0.03	−0.02	0.02	0.05	0.33***	0.15***	0.04	0.12**					
(12) DSM1NA	7.34	3.41	**−0.39*****	0.31***	0.16***	0.09*	0.01	0.13**	−0.14***	−0.13**	−0.11*	−0.69***	−0.20***				
(13) DSM2DET	5.32	2.86	**−0.48*****	0.09	−0.01	0.11*	−0.01	−0.00	−0.35***	−0.26***	−0.16***	−0.35***	−0.25***	0.32***			
(14) DSM3ANT	3.60	2.72	**−0.03**	−0.15***	0.20***	0.11*	−0.04	−0.04	0.20***	−0.29***	−0.18***	−0.09*	0.06	0.17***	0.18***		
(15) DSM4DIS	4.55	2.99	**−0.18*****	−0.16***	0.21***	0.23***	0.01	−0.06	0.15**	−0.21***	−0.51***	−0.19***	−0.03	0.24***	0.20***	0.32***	
(16) DSM5PSY	5.61	3.28	**−0.26*****	−0.01	0.21***	0.22***	−0.05	0.04	−0.08	−0.21***	−0.27***	−0.31***	−0.00	0.41***	0.33***	0.37***	0.41***

*$p < 0.05$, **$p < 0.01$, ***$p < 0.01$.

their wellness highly. These factors accounted for over a third of the variance. Table 4 shows that low on Negative Affect and Detachment but high on Antagonism who were more religious but less well educated had higher ratings on wellness. This accounted for a similar amount of the variance. Table 5 shows the regression with both bright and dark-side factors. This showed those who rated themselves higher on wellness were better educated, Stable Extraverts who were also Conscientious, Open and Disinhibited but low on Antagonism. This regression accounted for a third of the variance.

Table 3. Regression with the big five as dependent variables.

	B	*SE*	*Beta*	*t*
Sex	−2.67	1.35	−0.09	−1.97*
Age	0.07	0.09	0.04	0.87
Degree	−4.40	1.34	−0.15	−3.28**
Religious	0.30	0.23	0.06	1.30
Politics	0.42	0.36	0.05	1.19
Extraversion	1.05	0.21	0.22	5.01***
Agreeableness	−0.07	0.28	−0.01	−0.26
Conscientiousness	1.21	0.25	0.22	4.86***
Stability (LowN)	1.89	0.22	0.40	8.74***
Openness	0.70	0.26	0.12	2.67**
Adjusted R^2			0.38	
F			23.98	
p			0.000	

*$p < 0.05$, **$p < 0.01$, ***$p < 0.01$.

Table 4. Regression with the personality disorders as dependent variables.

	B	*SE*	*Beta*	*t*
Sex	−1.52	1.39	−0.05	−1.09
Age	0.06	0.09	0.03	0.69
Degree	−3.55	1.42	−0.12	−2.50*
Religious	0.62	0.24	0.12	2.59*
Politics	0.11	0.37	0.01	0.31
DSM1 Negative Aff.	−1.11	0.22	−0.26	−5.05***
DSM2 Detachment	−2.01	0.24	−0.39	−8.43***
DSM3 Antagonism	0.63	0.26	0.12	2.42*
DSM4 Disinhibition	−0.28	0.24	−0.06	−1.18
DSM5 Psychoticism	−0.10	0.24	−0.02	−0.43
Adjusted R^2			0.33	
F			19.21	
p			0.000	

*$p < 0.05$, **$p < 0.01$, ***$p < 0.01$.

Table 5. Regression with big five, personality disorders as dependent variables.

	B	*SE*	*Beta*	*t*
Sex	−2.56	1.38	−0.09	−1.86
Age	0.01	0.09	0.00	0.10
Degree	−4.28	1.37	−0.14	−3.13**
Religious	0.23	0.24	0.04	0.96
Politics	0.46	0.36	0.06	1.27
Extraversion	0.97	0.22	0.21	4.46***
Agreeableness	−0.30	0.30	−0.05	−1.01
Conscientiousness	1.24	0.26	0.22	4.88***
Stability/Neuroticism	1.92	0.23	0.40	8.21***
Openness	0.59	0.28	0.10	2.14*
DSM1 Negative Aff.	−0.05	0.09	−0.04	−0.61
DSM2 Detachment	0.12	0.11	0.06	1.10
DSM3 Antagonism	−0.21	0.11	−0.10	−1.98*
DSM4 Disinhibition.	0.43	0.14	0.15	3.05**
DSM5 Psychoticism	0.02	0.14	0.01	0.12
Adjusted R^2			0.39	
F			16.77	
p			0.000	

*$p < 0.05$, **$p < 0.01$, ***$p < 0.01$.

6. Discussion

In this study, we tested 11 hypotheses; in the first, we confirmed a single clear factor representing a general sense of wellness. Thus, despite the fact that people can and do differentiate between different aspects of their lives (e.g. physical health, job satisfaction, social relationships), these are all highly inter-correlated. We also predicted and found that males more than females and better, rather than less, educated, people would have higher wellness scores, but we did not find any correlations with age. We confirmed that more religious people would have higher self-reported wellness scores. Next, we predicted positive and found a significant correlation between wellness and Extraversion, Emotional Stability and Conscientiousness, as well as Openness, which we did not predict. Finally, we predicted and found Negative Affect, Detachment and Psychoticism negatively related to wellness.

The first result of interest was the relationship between the various measures of wellness which suggested that from a subjective perspective, people do not make clear distinctions between them. In this sense, they all influence each other: being physically ill or financially under pressure can and does impact on all aspects of health and happiness. Interestingly the regression indicated that phys-

ical and psychological factors as well as work issues were most directly related to overall wellness. Certainly, it would be interesting to understand how dramatic changes in any of these areas of life, such as sudden, acute illness, losing one's job or having a "mental breakdown" may affect all other forms of wellness. In short, one area of unwellness appears to have strong effects on all others. Indeed, this may be seen as a function of the general trait of optimism which has been shown to impact on many aspects of life [31].

This study was part replicative and part innovative. Although we accept that some of the literature that we have considered is as much about happiness and life satisfaction as wellness, it is clear that these concepts are clearly highly related. We found, as predicted, some sex differences but no age differences, though this could be because of the relative restriction of age in our sample. We also found differences in education with better-educated people expressing greater wellness possibly due to having better jobs and financial status.

We found religiousness related to self-perceived wellness, which was to be expected. It is assumed that being religious affords a range of positive benefits like an increased social support network which improves health, happiness and wellness [28]. Religion may also facilitate a sense of justice and optimism, both related to better adjustment.

The correlational results for bright-side personality also confirmed our hypotheses. Indeed, the highest correlation (shown in **Table 2**) with wellness was Emotional Stability (low Neuroticism) which is essentially defined as being less prone to anxiety, depression and hypochondriasis. Many studies have demonstrated how closely linked Neuroticism is to unhappiness [32] [33]. Hence, the modern interest in Resilience is about healthy coping and a positive outlook.

Much less work has been done on the dark-side personality traits (disorders). There is paradoxical literature on dark-side traits and success at work [34], but it seems that nearly all dark-side traits are associated with relationship problems and unhappiness. Indeed, the correlational results confirmed our hypotheses, particularly with Detachment, with its traits associated with withdrawal, anhedonia, and intimacy avoidance. This points again to the role of social support and contact in establishing and maintaining wellness of all kinds.

However, the strengths of this paper probably lie in the three regressions shown in **Tables 3**-**5**, particularly the final regression. The regression with the bright side factors (**Table 3**) confirmed that it was primarily Stability and Extraversion that related to wellness. In Galen's terminology, Sanguine types report the most wellness, and Melancholic the least wellness. The regression of the dark-side traits (**Table 4**) shows clearly that two of the five traits are most closely and negatively associated with wellness. It is the final regression that includes demographic, ideological, bright- and dark-side factors at the same time in the final step of the hierarchical regression. This was interesting particularly because it showed that one dark-side factor, namely Disinhibition, was *positively* associated with wellness. This higher-order factor is made up of three facets, namely irresponsibility, impulsivity and distractibility, which at first sight do not seem conceptually related

to wellness. It could be that functional, as opposed to dysfunctional, impulsivity and using healthy distractions could be seen to be good coping strategies and therefore related to wellness. However, this anomalous finding deserves further investigation.

The bio-psycho-social concept of health notes that health and wellness, whether "objectively" or "subjectively" measured is a function of psychological factors, such as an individual's personality, social contexts such as their social support network and socio-economic status, but also physical make-up. This study has demonstrated how important personality factors are, which have implications for both prevention and restoration. The results suggest that certain individuals are likely to have lifestyles and outlooks that impair their health status, and therefore, they could be more easily identified in behaviour change programmes.

Like all studies, this had limitations, which were predominantly in three areas. First, although we had a reasonably large sample, it certainly was not representative of the population with older, less well-educated people being under-represented which is often the case with this type of research. This is, however, only a limitation if the relationship between the factors varies significantly in different groups. Second, all our variables were self-report measures with the concomitant problems of method invariance, social desirability responding and item overlap. It would have been desirable to have ratings by others as well as actual behavioral data on such things as physical health. Although the relationship between mental and physical health is positive and well-researched, it is always desirable to have objective data such as that from a medical check-up to validate self-report findings. Third, we could not infer a correlation from this data because we did not have any longitudinal data collected at different points in time. That is, it is not clear to which personality factors determine lifestyle and concomitant health status, or whether health status which is multi-determined has an impact on personality change. These limitations are common in this area, nevertheless, deserve recording.

Data Availability

This is obtainable from the first author upon request.

Registration

This paper was not pre-registered with the journal.

Ethics

This was sought and obtained (CEHP/217/565).

Informed Consent

Participants gave consent for their anonymised data to be analysed and published.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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