Positive Mental Health, Subjective Vitality and Satisfaction with Life for French Physical Education Students

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Abstract: The multidimensional model of mental health includes both emotional and functional well-being. Functional well being is made up of psychological and social well-being. The factor structure of the Mental Health Continuum Short Form (MHC-SF), designed to measure these three factors, has been confirmed with a sample of U.S. adolescents and adults. Mental health can be seen as a continuum, where an individual's mental health may have many different possible values. Mental illness and mental well-being form two continua in the population. The purposes of this study were: 1) To test the factor structure and internal consistency of 5 scales: 4 subjective well-being scales and psychological distress scale (GHQ-12) with 509 French physical education students. 2) Examine the bi-dimensionality of complet mental health by the Confirmatory Factor Analysis (CFA). 3) Testing the correlation among mental well-being, mental illness, subjective vitality and the satisfaction with life. Results show a good structure validity for only 4 scales; the bi-dimensionnality of the complet mental health proposed by Keyes [1]. In addition, findings confirm a positive and significant correlations among the positive well-being scales (MHC-SF; SVS and SWLS) and negative correlation between these positive constructs and the GHQ-12.

Key words: Positive Mental health % Physical Education students % CFA % MHC-SF % GHQ-12 % SVS % SWLS

INTRODUCTION

The concept of well-being has traditionally been viewed from two differing perspectives [1, 2]. The long-standing "clinical tradition" operationalizes well-being through measures of depression, distress, anxiety, or substance abuse, whereas the "psychological tradition" operationalizes well-being in terms of one’s subjective evaluation of life satisfaction. The latter tradition is reflected in the considerable breadth of literature in psychology, yet, as Ryff and Keyes [3] noted that "the absence of theory-based formulations of well-being is puzzling". These authors further noted the need for developing theoretical models for testing the fit of such models with empirical data and for conducting theory-guided structural analyses. The development of comprehensive theoretical models requires a working elaboration of the concept of well-being.

Subjective well-being reflects the multidimensional evaluation of a person’s life and includes cognitive judgments of life satisfaction and affective evaluations of moods and emotions. It is a major contributor to quality of life and can be conceptualized as a momentary state or as a relatively stable trait, depending on the time frame of the assessment period. Any such elaboration must include at least three components: It should be subjective, reflecting a concern for how the individual views him- or herself; it should include positive indices of an individual's sentiments toward life as opposed to negative ones; and it should be global to encompass all areas of an individual's life [4, 5]. In sum, subjective well-being should be composed of three major constructs: (1) the presence of positive affect, (2) the absence of negative affect and (3) high levels of life satisfaction [6, 7]. Happiness is considered synonymous with subjective well-being.

Many studies of hedonic well-being have shown that it consists of two main dimensions, the first being how satisfied are you with your life overall, the second being the emotions that one experiences in a typical month (e.g. how frequently one experiences happiness, joy, or contentment). The domain of functioning well in life consists of psychological and social well-being. Psychological well-being consists of dimensions such as self acceptance, purpose in life, personal growth, positive
relations with others, autonomy, environmental mastery. Social well-being consists of acceptance of others, a sense of social contribution, feeling socially integrated, an interest in society and “what is going on,” and a sense of social growth [8]. Thus, when the six dimensions of psychological well-being are combined with the five dimensions of social well-being, there are at least eleven different signs of positive functioning in life. With the two dimensions of hedonic well-being, which represent whether and how much one feels good about life, the set of thirteen dimensions of subjective well-being provide a comprehensive assessment of the overall quality of life.

Mental Illness and Mental Well-being Form Two Continua in the Population: Mental health can be seen as a continuum, where an individual’s mental health may have many different possible values [1]. The theory that the measures of mental health and mental illness belong to latent continua was tested using data from a representative sample of American adults between the ages of 25 and 74 years old. Three scales served as indicators of positive mental health: the summed scale of emotional well-being (i.e. single item of satisfaction + single item of happiness + scale of positive affect), the summed scale of psychological well-being (i.e. six scales summed together) and the summed scale of social well-being (i.e. the five scales summed together). Four summary measures served as indicators of mental illness, based on the number of symptoms of four mental disorders: generalized anxiety, panic disorder, major depressive episode and alcohol dependence [9, 10]. Another studies based on three mental disorders symptoms: Anixety and depression, Social dysfunction and Loss of confidence [11].

Two competing theories were tested. The single factor model hypothesizes that the measures of mental health and mental illness reflect a single latent factor, support for which would indicate that the absence of mental illness implies the presence of mental health. The two factor model hypothesizes that the measures of mental illness represent the latent factor of mental health that is distinct from, but correlated with, the latent factor of mental illness that is represented by the measures of mental illness. The data strongly supported the two factor model, which was a nearly perfect fitting model to the MIDUS data [12].

As predicted, there is a modest association between mental health and mental illness; level of mental health tends to increase as level of mental illness decreases. The modest correlation suggests, however, that the latent constructs of mental health and mental illness are distinctive. This distinctiveness raises the empirical question of the risk of an episode of mental illness as levels of mental health decrease. Languishing adults report the highest prevalence of any of the four mental disorders as well as the highest prevalence of reporting two or more mental disorders during the past year. In contrast, flourishing individuals report the lowest prevalence of any of the four 12-month mental disorders or their comorbidity. Compared with languishing or flourishing, moderately mentally healthy adults were at intermediate risk of any of the mental disorders or two or more mental disorders during the past year. Thus, the 12-month risk of major depressive illness, for example, is over five times greater for languishing than flourishing adults.

Support for the two factor model provides the strongest scientific evidence to date in support of the complete health approach to mental health. The evidence indicates that the absence of mental illness does not imply the presence of mental health and the absence of mental health does not imply the presence of mental illness. Thus, neither the pathogenic nor salutogenic approaches alone accurately describe the mental health of a population. Rather, mental health is a complete state that is best studied through the combined assessments of mental health with mental illness. Complete mental health is a state in which individuals are free of mental illness and they are flourishing. Of course, flourishing may sometimes occur with an episode of mental illness and moderate mental health and languishing can occur both with and without a mental illness.

Flourishing Mental Health Is Even Better than Moderate Mental Health: To have ‘complete mental health’, one must be flourishing and free of most common mental disorders over the past year. Research has supported the hypothesis that anything less than complete mental health results in increased impairment and disability. For example, adults diagnosed as completely mentally healthy functioned superior to all others in terms of reporting the fewest workdays missed, fewest workdays cutback by one-half, the lowest rate of cardiovascular disease, the lowest level of health limitations of activities of daily living, the fewest chronic physical diseases and conditions, the lowest healthcare use and the highest levels of psychosocial functioning. In terms of psychosocial functioning, this meant that completely mentally healthy adults report the lowest level of perceived helplessness, the highest level of knowing what they want from life, the highest level of self-reported resilience (e.g. that they try to learn from adversities) and the highest level of intimacy (e.g. that they have very
close relationships with family and friends). In terms of all of these measures, completely mentally healthy adults functioned better than adults with moderate mental health, who in turn functioned better than adults who were languishing [13].

Just over 20% of adults in the MIDUS study had an episode of at least one of the four mental disorders. However and very importantly, levels of mental health differentiate levels of impairment and disability even among adults who have had a mental illness in the past year. Adults with a mental illness who had either moderate level of mental health or were flourishing reported fewer workdays missed, fewer workdays cutback and fewer health limitations of daily living than those who were languishing and had a mental illness. Thus, languishing individuals who also had one or more mental disorders functioned worse than all others on every criterion. Adults with a mental illness who also had either moderate mental health or flourishing function no worse than adults who were languishing and did not have a mental disorder. Thus, mental illness that is combined with languishing is more dysfunctional than the situation when a mental illness occurs in the context of moderate mental health or flourishing.

Another published paper investigated the association of the complete mental health diagnoses with chronic physical conditions associated with age [12]. The complete mental health diagnosis was associated with 85% of the chronic physical conditions measured in the MIDUS study. The prevalence of chronic physical conditions was highest among adults who are languishing and had an episode of major depression and lowest among completely mentally healthy adults. The prevalence of chronic physical conditions was slightly higher among moderately mentally healthy adults than completely mentally healthy adults, whereas languishing adults reported even more chronic conditions than adults with moderate mental health.

Overall, adults with major depression and languishing had an average of 4.5 chronic conditions. Adults with depression but who also had moderate mental health or flourishing had an average of 3.1 chronic conditions, which was the same as adults who were languishing but without any mental illness. Moderately mentally healthy adults without any mental illness had an average of 2.1 chronic conditions, compared with adults with complete mental health who had on average of 1.5 chronic conditions. When compared against completely mentally healthy adults, chronic physical conditions increased as the level of mental health decreased. It is noteworthy that mental health status was a significant predictor of chronic physical conditions even after adjustment for the usual sociodemographic variables as well as body mass index, diabetes status, smoking status and level of physical exercise.

Within the general population, considerable research has shown that regular participation in physical activity is associated with improvements in a wide range of SWB outcomes [14,15]. In sport and physical activity, recent comprehensive perspectives on well-being that may be relevant to athletic populations include positive aspects of human life such as subjective well-being. It is essential that all involved in the development and training of athletes understand the degree to which sport participation may pose problems to an athlete’s physical, emotional and social well-being. It is incumbent upon all sport service providers to remember that the health and well-being of the athletes is their paramount goal. However, it is equally important to recognize that concerns for the well-being of the athlete may conflict with the wishes of the athlete and other interested parties (e.g. coaches, organizational agents, family members).

In sport and exercise psychology, there are relatively few studies of physical activity and subjective well-being components (physical, social, psychological, emotional, spiritual, etc.). There are several reasons for limited existing literature on the topic. One essential contributor is that we have not, in many different languages, valid and reliable scales to measure the different components of the subjective well-being. More precisely, we have probably translated scales in French language but we have not valid and reliable questionnaires measuring many aspects of well-being for physically active people [16]. Secondly, the relationship between physical activity and subjective well-being is complex. One contributor is that there are many types, forms and modes of physical activity. For example, exercise as a type of physical activity may refer to acute and chronic exercise, aerobic and anaerobic activities, competitive and noncompetitive recreational physical activities and group and solitary activities [17].

Even within a single exercise mode, many factors vary. These include practice or training characteristics, the exercise environment, psychological characteristics and backgrounds of the participants, fitness and skill levels of participants and the instructors’ characteristics and approaches to exercise. Another contributor to the complexity of the relationship between exercise and subjective well-being is that the type and extent of the psychological benefits (and decrements) of exercise may differ for specific groups of participants. Participants may vary in age from preschoolers to the elderly and include normal and psychiatric populations. Despite such complex
issues, there is a strong consensus that many types of exercise are associated with enhanced subjective well-being, vigour or vitality and a sense of “feeling better” [18-21].

In sum, in psychology and physical activity, there are very few studies that have tested the factorial structure and the internal consistency for different aspects of well-being scales. In addition, knowledge about relation among mental, psychological and physical well-being aspects is rare [22]. So, our main purpose of this study was (i) the development and psychometric testing of a number of subjective well-being scales (i.e. emotional, physical, psychological and social aspects) with active physically youth; (i.e. physical education students, in Rennes University, France); (ii) testing the relationships among these different aspects.

More precisely, in this stage, we are firstly testing the internal consistency (Cronbach alpha,) by SPSS software. Using LISREL software, we are testing the Confirmatory Factor Analyses (CFA). In the second stage, we are examined the correlation between the different well-being aspects.

MATERIALS AND METHODS

Participants and Procedures: Using ‘forward and backward’ translation by four bilingual individuals, an experimental French versions equivalent to the original following scales were created. More precisely, the original scales were translated from English into French by two bilingual persons. The two translated versions were then backtranslated into English by two independent translators. Translators were not affiliated with the study to ensure comparability and meaning equivalence [23, 24]. Using the different versions, authors have created the French version for each scale. An independent professional have revisited the created French versions. In general, minor differences were corrected at this stage by agreement between the different translations. We used in these two studies 5 scales: the Mental Health Continuum-Short Form (MHC-SF); the General Health Questionnaire (GHQ-12); the Perceived Well-Being Scale (PWB); the Subjective Vitality Scale (SVS) and the Satisfaction with Life Scale (SWLS). We used in our present study the short versions of the Mental Health Continuum (MHC-SF); the General Health Questionnaire GHQ-12 and the Subjective Vitality Scale SVS.

The participants of the study were a French sample. It was consisted of students from physical education department aged 17 to 32 years (n =509). They were from three campus of Rennes University (i.e. Villejean, La Harpe and Saint Brieuc). They were athletes from a range of team and individual sports. Currently they were practicing their activity at least 3 times per week (for 3 to 8 years). Authors informed samples about the objective of the study and that their participation was voluntary and they could withdraw at any time. Both oral and written instructions were given regarding items understanding (i.e. that there were no right or wrong answers to the questions and they should freely state what they think) and they were reassured about the confidentiality of their responses. The SPSS 11.00 was used to perform the exploratory factor analyses (EFA) and the internal consistency (Cronbach alpha, “). The LISREL 8.5 computer program was used for testing the confirmatory factor analyses (CFA).

Measures

Mental Health Continuum- Short Form (MHC-SF): The MHC-SF consists of 14 items [12]. Choices for these items vary between 1 to 7. It measures the degree of (i) emotional well-being (EWB) (items 1-3) as defined in terms of positive affect/satisfaction with life; (ii) social well-being (SWB) (items 4-8) as described in Keyes’ model of social well-being [8] (one item on each of the facets of social acceptance, social actualization, social contribution, social coherence and social integration); and (iii) psychological well-being (PWB) (items 9-14) as described in Ryff’s model [25] (including one item on each of the dimensions of autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance). Short version has used in many cultures as (Germany, South Africa, USA and Iran). In France, it has recently exploited by Ismaïl et al. [26].

General Health Questionnaire (GHQ-12) [27]: Each one assessing the severity of a mental problem over the past few weeks used a 4-point Likert-type scale (from 0 to 36). The score was used to generate a total score ranging from 0 to 36. This questionnaire was validated in many countries and languages (e.g. Spanish, Japanese, Chinese, French, etc.). It has rarely been used with physical activity samples [11].

Perceived Well-Being Scale PWBS [28]: It composes of 14 items and measures two dimensions of general well-being (psychological and physical well-being). Psychological well-being evaluated by items 2, 5, 7, 8, 10 and 12; Physical well-being evaluated by items 1, 3, 4, 6, 9, 11, 13 and 14. Choices for these items varies between 1 and 7, higher score in PWB indicates better general well-being. Salama-Younes et al. [16] have developed and validate a French version.
Subjective Vitality Scale (SVS) [29]: The concept of subjective vitality refers to the state of feeling alive and alert to having energy available to the self. Vitality is considered then as an aspect of physical well-being. It is considered also as an aspect of eudaimonic well-being. The Subjective Vitality Scale (VS) is a short instrument to measure vitality. A 7-point Likert scale was used ranging from “strongly disagree” (1) to “strongly agree” (7). The scale has two versions: Individual Difference Level Version that ask individuals to respond to each of the items by indicating the degree to which the item is true for them in general in their life and the State Level Version that ask individuals to respond to each items in terms of how they are feeling right now. There is another version of the instrument that contains 6 items. Bostic et al. [30] have developed this new version. Since one item from seven items was negatively worded they excluded this item to yield a better fitting model for their data. The questionnaire is a brief measure of vitality pre se and is simple and easy to complete. In this study, we used this short version that consists of 6 items and purpose to evaluate the Individual Difference Level. It has rarely been used with physical activity sample [11].

Satisfaction with Life Scale (SWLS): Life satisfaction is a more general construct of subjective well-being. Theory and research from outside of the rehabilitation fields have suggested that subjective well-being has at least three components, positive affective appraisal, negative affective appraisal and life satisfaction. Life satisfaction is distinguished from affective appraisal in that it is more cognitively than emotionally driven. Life satisfaction can be assessed specific to a particular domain of life (e.g. work, family) or globally. The SWLS is a global measure of life satisfaction. The Satisfaction with Life Scale composes of 5 items. A 7-point Likert scale was used ranging from “strongly disagree” (1) to “strongly agree” (7). The Satisfaction with Life Scale (SWLS) is a measure of life satisfaction developed by Diener et al. [31]. The SWLS is shown to have favourable psychometric properties for French speaking in Canada [32-34]. It is noted that the SWLS is translated and used in a very wide countries and suited for use with different age groups.

RESULTS AND DISCUSSION

In the first time, the internal consistency to test reliability was assessed by calculating the Cronbach’s coefficient. The values of 0.70 or greater were considered satisfactory. After being tested the factor structure by exploratory factor analyses (EFA), we performed confirmatory factor analyses (CFA) to assess the five instruments’ structure for each sample. The intention was to indicate if the model fits well the data. There are varying suggestions in the literature about the number, type and cut-off values for goodness-of-fit required to be reported for confirmatory factor analyses [35]. A popular recommendation is to present three of four indices from different areas. Accordingly, we report several goodness-of-fit indicators including: Goodness of Fit Index (GFI), Normed Fit Index (NFI), Root Mean Square Residual (RMR), Root Mean Square Error of Approximation (RMSEA) and P2/df. The recommended cut-off values for acceptable values are = 0.90 for GFI and NFI. The RMR and RMSEA test the fit of the model to the covariance matrix. As a guideline, values of < 0.05 indicate a close fit and values below 0.11 are an acceptable fit. The value of 2 alone may be used as an index, but 2 divided by the degrees of freedom (2/df) reduces its sensitivity to sample size (cut-off values: < 2 to 5).

For physical education students, the goodness of fit indexes for SWLS, MHC-SF, GHQ-12 and SVS were acceptable in terms of P2/df ratio, GFI, RMR and RMSEA. However, the French version of PWBS did not show a good fit to the data either for one or for two factors (Table1). The factor structure and internal consistency of the 5 scales have not yet tested for youth or old adults who practice physical activities in regular manner. For example, we present the confirmatory factor analyse result of MHC-SF for french youth (Figure 1).

Table 1: Goodness-of-fit of the confirmatory factor analysis models n = 509.

<table>
<thead>
<tr>
<th>Scales</th>
<th>P2</th>
<th>df</th>
<th>GFI</th>
<th>NFI</th>
<th>RMR</th>
<th>RMSEA</th>
<th>P2 / df</th>
<th>Cronbach alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>MHC-SF (3 factors)</td>
<td>447.39</td>
<td>74</td>
<td>0.90</td>
<td>0.88</td>
<td>0.07</td>
<td>0.08</td>
<td>6.04*</td>
<td>0.86</td>
</tr>
<tr>
<td>GHQ-12 (3 factors)</td>
<td>344.27</td>
<td>51</td>
<td>0.91</td>
<td>0.84</td>
<td>0.07</td>
<td>0.07</td>
<td>6.75*</td>
<td>0.78</td>
</tr>
<tr>
<td>PWB (2 factors)</td>
<td>786.99</td>
<td>76</td>
<td>0.88</td>
<td>0.80</td>
<td>0.08</td>
<td>0.11</td>
<td>7.95*</td>
<td>0.23</td>
</tr>
<tr>
<td>SVS (Y)</td>
<td>90.17</td>
<td>14</td>
<td>0.93</td>
<td>0.87</td>
<td>0.06</td>
<td>0.06</td>
<td>6.43*</td>
<td>0.77</td>
</tr>
<tr>
<td>SWLS (Y)</td>
<td>22.70</td>
<td>5</td>
<td>0.99</td>
<td>0.98</td>
<td>0.03</td>
<td>0.05</td>
<td>4.57**</td>
<td>0.82</td>
</tr>
</tbody>
</table>

GFI = Goodness of Fit Index, NFI = Normed Fit Index, RMR = Root Mean Square Residual, RMSEA = Root Mean Square Error of Approximation, Y = Youth/ physical education students.

* p < 0.01; ** p < 0.001.
Fig. 1: CFA of MHC-SF

We concluded that only four scales have a valid factor structure. However, the PWBS proposed by Reker and Wong [28] will not be used. In the exercise psychology domain, we have few studies concerning these variables. So that, results presented here are probably due to physical activity practicing.

In the second time, we used the same data to explore the correlation between the positive concepts (MHC-SF, SVS and SWLS) and negative symptoms (i.e. GHQ-12).

Relation among the Different Variables: The correlation is significationevtively negative between the GHQ-12 and the emotional, social, psychological well-being and total scale. It is ranged between \( r = -0.24 \) and \(-0.38, p < 0.01\). The negative correlation among GHQ-12, total score of MHC-SF and the sub-scales was confirmed in different countries (for example: in South of Africa [10], in France [11, 36], in Egypt [37]; in USA [2, 13]).

The GHQ-12 is also negatively correlated with SWLS and SV. It was \( r = -0.21 \) and \(-0.42, p < 0.01\) respectively. This finding is similar to results of Keyes et al. [10].

However, the correlation between the MHC-SF total and sub-scores with SV and SWLS is significationevtively positive (\( r = 0.34 \) to 0.84 \( p < 0.01\)). In our knowledge, for physical education samples, there is the first investigation to test the correlation between the MHC-SF and SVS and SWLS. In conclusion, as expected a significant negative correlation emerged of GHQ-12 and positive construct indicating that those who were more distressed showed lower levels of mental well-being, subjective vitality and satisfaction with life (Table 2).

DISCUSSION

The MHC-SF is actually known as a continuum for evaluating the emotional, social and psychological well-being [2, 10, 13, 26, 38]. The GHQ-12 is a well-known instrument for measuring minor psychological distress and has been translated into a variety of languages [11, 37]. However, they were not used for indicating a specific diagnosis for active people [22]. This study reports data from a validation study of the MHC-SF and 12-item GHQ in France. This model has been investigated

Table 2: Correlations among the different variables for physical education students

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Emotional well-being</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2- Social well-being</td>
<td>0.42**</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-Psychological well-being</td>
<td>0.58**</td>
<td>0.57**</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4- Total score of MHC-SF</td>
<td>0.81**</td>
<td>0.76**</td>
<td>0.84**</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5- Satisfaction with life</td>
<td>0.48**</td>
<td>0.40**</td>
<td>0.46**</td>
<td>0.52**</td>
<td>---</td>
<td></td>
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</tr>
<tr>
<td>6- Subjective Vitality</td>
<td>0.44**</td>
<td>0.34**</td>
<td>0.53**</td>
<td>0.52**</td>
<td>0.51**</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>7-Psychological destress (GHQ-12)</td>
<td>-0.32**</td>
<td>-0.24*</td>
<td>-0.38**</td>
<td>-0.33**</td>
<td>-0.21*</td>
<td>-0.42**</td>
<td>---</td>
</tr>
<tr>
<td>Mean</td>
<td>4.91</td>
<td>4.14</td>
<td>4.13</td>
<td>4.53</td>
<td>4.30</td>
<td>3.97</td>
<td>1.68</td>
</tr>
<tr>
<td>Standard Devision</td>
<td>0.97</td>
<td>0.92</td>
<td>0.96</td>
<td>1.06</td>
<td>1.09</td>
<td>0.89</td>
<td>0.67</td>
</tr>
</tbody>
</table>

**p<0.01; *p<0.05
in different countries but not for physically active people [22, 26]. In general, the findings showed satisfactory results and were comparable with most research findings throughout the world [39]. In addition, for the first time we reported data on the Subjective Vitality Scale (VS) and Satisfaction with life for physically active youth from France lending support to its validity for using these instruments in French populations.

The findings from present study showed that the French versions of the MHC-SF, GHQ-12 are a valid measure for testing a mental well-being and mental illness from a complete perspective (positive and negative aspects). Although this model shows valid in many countries, it has not yet been studied for physically active youth. Findings of our study indicate that SV and SWLS are valid scales for this population.

Adults with a mental illness who had either moderate mental health or flourishing reported more work- days missed or more work cutbacks than languishing adults. However, languishing adults reported the same level of health limitations of daily living and worse levels of psychosocial functioning than adults with a mental illness who also had moderate mental health or flourishing. Individuals who were completely mentally ill—that is, languishing and one or more of the mental disorders—functioned worse than all others on every criterion. In general, adults with a mental illness who also had either moderate mental health or flourishing functioned no worse than adults who were languishing and did not have a mental disorder. Thus, mental illness that is combined with languishing is more dysfunctional than the situation in which a mental illness occurs in the context of moderate mental health or flourishing. In the next manuscript, we will test (i) the effect of the three categories of complete mental health (flourishing, moderately and languishing) on perceived physical health; (ii) the structural equation modelling among the three categories and these different variables.

REFERENCES