Dispositional Predispositions of Depression, Life Satisfaction, and Life Meaning among Chinese College Students

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Abstract

Non-depression (i.e., the reverse of depression), life satisfaction, and life meaning are conceptually three different aspects of well-being. Their similarities and dissimilarities in relation to personality traits are an uncharted concern. For this concern, this study analyzes data collected from 6,210 Chinese students attending 52 colleges in Mainland China, Taiwan, Hong Kong, or Macau. Results show that on all the three well-being factors, neuroticism had negative effects, and extraversion, conscientiousness, and openness had positive effects. However, non-depression did not have significant effects on life satisfaction and life meaning. By contrast, personality traits still had effects on life meaning, after controlling for non-depression. Results unfold similarities and dissimilarities among the three well-being factors.

Non-depression Effects on Life Satisfaction and Life Meaning

Personality traits are likely to predispose non-depression, life satisfaction, and life meaning or well-being altogether principally according to set-point theory [16,17]. The theory posits that personality traits as well as other stable characteristics determine and constrain one’s life well-being to keep it at equilibrium, even after some occasional perturbation. As such, personality or temperament such as extraversion and neuroticism are particularly deterministic, through the processes of event creation and reaction [18,19]. That is, extraversion is likely to predispose one to happy events and foster one’s pleasurable reaction to the event [20]. Conversely, neuroticism is likely to distract one from happy events and arouse unpleasant reactions to events [20].

Neuroticism is particularly likely to predispose depression, according to spectrum theory [21]. The theory regards neuroticism, depression, and other pathological conditions as lying on a spectrum of different degrees of intensity and durability. In the spectrum, neuroticism represents a chronic and generic trait, and depression indicates an acute and intense state. Hence, depression is a specific manifestation of neuroticism. Alternatively speaking, neuroticism enhances sensitivity to adverse cues, thus leading to depression [21].

Apart from the theories, research has pervasively shown the predisposing effects of personality traits on depression, life satisfaction, and life meaning. Concerning depression, neuroticism has shown a positive effect [8,22]. Openness has also exhibited a positive effect on depression [11]. In contrast, extraversion has shown a negative effect on depression [22]. Conscientiousness has also displayed a negative effect on depression [3,11]. As regards life satisfaction, neuroticism has manifested a negative effect [7,23]. Openness also generated a positive effect on life satisfaction [24]. Regarding life meaning, conscientiousness, extraversion has indicated a positive effect [25]. In contrast, neuroticism has evolved a negative effect on life meaning [25].

Non-depression Effects on Life Satisfaction and Life Meaning

Depression in a non-clinical sense refers to feelings of frustration or other obstructions [26]. It operates affectively, cognitively, somatically, and physiologically in a form of dysfunction or symptomatology. Depressive symptomology is common among youth to signal their vulnerability and immaturity [27,28]. It is a problem in youth in Mainland China and Taiwan as well [29,30]. The problem can culminate in cognitive, behavioral, physical, and relational disorders [31,32]. Depression is also problematic because of its chronicity in the youth [11]. As such, depression represents suffering psychological and biologically, and conversely, non-depression means the avoidance of pain, desired for hedonist well-being [33].
Depression (or non-depression), measured as experience during the recent week, is a logical precursor to life satisfaction and life meaning indicated currently. The effect is explicable with reference to deprivation theory [34,35]. Accordingly, depression represents deprivation that erodes mental resources or vigor, and this erosion undermines capability to maintain life satisfaction and pursue life meaning. Research has found the negative effect of depression on life satisfaction [36,37]. Similarly, research has found a negative relationship between depression and life meaning [25,38].

Life satisfaction is another indicator of hedonist well-being that focuses on the cognitive aspect [39-41]. The cognitive operation involves an implicit comparison of perception with expectation such that the surplus gives satisfaction [42]. Life satisfaction can be a composite of satisfactions with various life domains, such as study and extracurricular activity [43]. It is an important protective factor against behavioral problems [44]. As such, life satisfaction is of concern in Chinese as well as other societies [45,46].

Life meaning refers to the grasp of meaning in life, as regarded as necessary for existence to secure existentialist well-being [2,47,48]. Associated with the grasp are the person's awareness, engagement, fulfillment, self-determination, and even isolation regarding life [49]. They are necessary for existence because life is short and uncertain. The grasp is to establish purposes, goals, values, directions, and philosophies in life [50]. Life meaning, apart from its intrinsic value for the individual, contributes to volunteering and therefore others' well-being [51].

Thus conceived, this study aims to investigate relationships among personality traits, non-depression, life satisfaction, and life meaning in the college student. Specifically, neuroticism will have negative effect on non-depression, life satisfaction and life meaning. While extraversion, conscientiousness and openness will have positive effects on non-depression, life satisfaction and life meaning.

Method

Participants

The study employed a survey of 6,230 Chinese college students to collect data for analysis. These students attended each of the 52 colleges located in different places of Mainland China, Taiwan, Hong Kong, and Macau. To avoid domination by any one college, the analysis proceeded with a weighted sample such that all the colleges had equal proportions of weighted cases, and therefore were equally important.

The weighted sample showed that the students had an average age of 20.7 years (Table 1). Among them, 56.7% were females and 43.4% were males. 41.6% were Year 1 students, 33.1% were Year 2 students, 15.9% were Year 3 students, 9.2% were students of higher grades, 50.3% were only children, 20.7% were in Mainland China, 19.2% attended Band 1 colleges, 40.4% attended Band 2 colleges, and 40.4% attended Band 3 colleges.

Measures

A combination of scales measured the student’s personality traits, depression, life satisfaction, life meaning, and family income. Personality traits consisted of neuroticism, extraversion, conscientiousness, and openness. Each of them combined two items, including one negatively phrased item that required reverse scoring [12]. All the items referred to traits all along the student's life. Items for neuroticism were “anxious, easily upset” and “calm, emotionally stable” (Table 2). Those for extraversion were “extraverted, enthusiastic” and “reserved, quiet.” Conscientiousness combined the items of “dependable, self-disciplined” and “disorganized, careless.” Openness combined the items of “open to new experiences, complex” and “conventional, uncreative.” Confirmatory factor analysis showed that composite reliability was .421, .413, .375, and .353 for neuroticism, extraversion, conscientiousness, and openness respectively. The low reliability was not a problem, because structural equation modeling identified trait factors that were free of measurement error for analysis [52]. Specifically, structural equation modeling adjusted for unreliability in testing for statistical significance.

Depression combined nine items, such as “feeling down-hearted and blue” and “getting tired for no reason” (Table 2), during the recent week [26]. Confirmatory factor analysis showed that composite reliability was .762. Notably, non-depression referred to the reverse of depression to signify well-being.

Life satisfaction combined eight items, such as “study satisfaction” and “teacher satisfaction” at the current time (Table 2). Confirmatory factor analysis showed that composite reliability was .816.

Life meaning combined six items, such as “feeling like I am living fully” and “having clear goals and aims in life” at the current time [50] (Table 2). Confirmatory factor analysis showed that composite reliability was .760.

Acquiescence referred to the average of all unreversed rating items involved to represent a method artifact factor for controlling in structural equation modeling [53]. That is, the presence of the method factor enabled the identification of the trait factors of personality traits, depression, life satisfaction, and life meaning, which were independent of the method factor.
The study solicited support from the teachers of 52 colleges located in various places in Mainland China, Taiwan, Hong Kong, and Macau to engage their students in the survey. These colleges covered various places in various major fields of study. The students participated voluntarily and completed the survey through self-administration.

### Results

Structural equation modeling, which incorporated the confirmatory factor analysis part, showed that all models attained a good fit (Table 3). The fit was essential to warrant detailed estimates derived for the models [54]. Notably, Model 1 and Model 2 displayed identical fit results, as they were perfect alternatives to each other. In other words, treating the three well-being factors as correlates was equally plausible with treating non-depression as a predictor of both life satisfaction and life meaning. Moreover, Model 2 fitted as well as other models, as the disadvantage (e.g., a decrease of .002 in CFI) of Model 2 was negligible [55]. In other words, constraining effects of each personality trait on the three well-being factors to be equivalent did not substantially weaken the fit. As such, Model 2 could be a comparable alternative to other models.

In each of the models, the confirmatory factor analysis part identified traits factors in the presence of the method factor (Table 2). The identification was evident in the substantial loadings of items on their respective factors. Notably, the non-depression factors involved negative loadings of depression items. Meanwhile, some loadings on the method factor were substantial (> .4, Table 4), thus indicating the need for specifying the method factor in order to distill the trait factors. For instance, some parts of life satisfaction and life meaning were due to the method factor of acquiescence, and removing these parts was necessary to unfold the trait factors of life satisfaction and life meaning.

Among the 21 inter-factor correlations after controlling for background characteristics, four were strong (r > .4, Table 4), eight were moderate (r = .25-.40), seven were weak (r = .10-.25), and two were negligible (r < .10). The correlations ranged from .058 to .492 in absolute value, showing that the factors were clearly not redundant to each other. Notably, correlations between non-depression and life satisfaction and life meaning were moderate (r = .357 & .372), and the correlation between life satisfaction and life meaning was weak (r = .238).

The structural relation analysis of structural equation modeling showed that neuroticism exerted significant negative effects on the three well-being factors of non-depression, life satisfaction, and life meaning, based on Model 2 (Table 5). In the same model, extraversion, conscientiousness, and openness displayed significant effects on the three well-being factors. These findings supported Hypotheses 1, 2, 3, and 4. Based on Model 1, the effects of each personality trait on the three well-being factors could vary, and some of the effects were insignificant. However, the general pattern was in support of the four hypotheses. This general pattern made Model 2 preferable because of its parsimony and comparable fit.

Findings for Model 3 showed a very similar picture with that of Model 1, even though Model 3 specified non-depression as a predictor of both life satisfaction and life meaning. The similarity importantly
### Table 4: Inter-factor correlations.

Note. They were partial correlations, after controlling for years of study, family income, only-child status, college banding, and location.

<table>
<thead>
<tr>
<th>Correlate</th>
<th>N</th>
<th>E</th>
<th>C</th>
<th>O</th>
<th>D</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism (N)</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extraversion (E)</td>
<td>.316*</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conscientiousness (C)</td>
<td>.446***</td>
<td>-.121</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Openness (O)</td>
<td>-.212</td>
<td>.144</td>
<td>.091</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-depression (D)</td>
<td>-.377***</td>
<td>.156*</td>
<td>.459***</td>
<td>.492***</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Life satisfaction (S)</td>
<td>-.058</td>
<td>.215</td>
<td>.273**</td>
<td>.385</td>
<td>.365*</td>
<td>1.000</td>
</tr>
<tr>
<td>Life meaning (M)</td>
<td>-.257***</td>
<td>.113</td>
<td>.456***</td>
<td>.297***</td>
<td>.372***</td>
<td>.238***</td>
</tr>
</tbody>
</table>

### Table 5: Standardized effects on well-being.

Note: Male gender, non-only-child status, Band 3 college, and non-Mainland location were reference categories.

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Non-depression</th>
<th>Life satisfaction</th>
<th>Life meaning</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism (N)</td>
<td>-.385***</td>
<td>-.082</td>
<td>-.264***</td>
<td>-.206***</td>
<td>-.215***</td>
</tr>
<tr>
<td>Extraversion (E)</td>
<td>.186**</td>
<td>.225</td>
<td>.134*</td>
<td>.177**</td>
<td>.184**</td>
</tr>
<tr>
<td>Conscientiousness (C)</td>
<td>.503***</td>
<td>.301***</td>
<td>.521***</td>
<td>.416***</td>
<td>.433***</td>
</tr>
<tr>
<td>Openness (O)</td>
<td>.475***</td>
<td>.374</td>
<td>.290***</td>
<td>.350**</td>
<td>.365***</td>
</tr>
<tr>
<td>Female</td>
<td>.200*</td>
<td>.066</td>
<td>.099</td>
<td>.156*</td>
<td>.103</td>
</tr>
<tr>
<td>Age</td>
<td>-.085</td>
<td>-.076</td>
<td>-.053</td>
<td>-.064</td>
<td>-.087*</td>
</tr>
<tr>
<td>Years of study</td>
<td>.050</td>
<td>.085</td>
<td>.141</td>
<td>.056</td>
<td>.047</td>
</tr>
<tr>
<td>Family income</td>
<td>.005</td>
<td>.038</td>
<td>.027</td>
<td>-.031</td>
<td>.068</td>
</tr>
<tr>
<td>Only child</td>
<td>.032</td>
<td>.003</td>
<td>.066</td>
<td>.048</td>
<td>.012</td>
</tr>
<tr>
<td>Band 1 college</td>
<td>.092</td>
<td>.214***</td>
<td>.168**</td>
<td>.054</td>
<td>.253***</td>
</tr>
<tr>
<td>Band 2 college</td>
<td>-.020</td>
<td>.147*</td>
<td>.089</td>
<td>-.044</td>
<td>.183*</td>
</tr>
<tr>
<td>Mainland</td>
<td>-.052</td>
<td>.023</td>
<td>-.082</td>
<td>-.030</td>
<td>-.006</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.619</td>
<td>.293</td>
<td>.428</td>
<td>.357</td>
<td>.388</td>
</tr>
</tbody>
</table>

### Table 6: Standardized effects on well-being, estimated for Model 3

Note. Male gender, non-only-child status, Band 3 college, and non-Mainland location were reference categories.

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Non-depression</th>
<th>Life satisfaction</th>
<th>Life meaning</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism (N)</td>
<td>-.385***</td>
<td>-.039</td>
<td>-.360**</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Extraversion (E)</td>
<td>.186**</td>
<td>.205</td>
<td>.181*</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Conscientiousness (C)</td>
<td>.503***</td>
<td>.245</td>
<td>.647**</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Openness (O)</td>
<td>.475***</td>
<td>.321</td>
<td>.408*</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Non-depression</td>
<td>-</td>
<td>.110</td>
<td>-.249</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Female</td>
<td>.200*</td>
<td>.044</td>
<td>.149</td>
<td>.099</td>
<td>.155*</td>
</tr>
<tr>
<td>Age</td>
<td>-.085</td>
<td>-.067</td>
<td>-.074</td>
<td>-.050</td>
<td>.034</td>
</tr>
<tr>
<td>Years of study</td>
<td>.050</td>
<td>.079</td>
<td>.153</td>
<td>-.075</td>
<td>-.072</td>
</tr>
<tr>
<td>Family income</td>
<td>.005</td>
<td>.038</td>
<td>.029</td>
<td>.099</td>
<td>.027</td>
</tr>
<tr>
<td>Only child</td>
<td>.032</td>
<td>.000</td>
<td>.074</td>
<td>-.100</td>
<td>.009</td>
</tr>
<tr>
<td>Band 1 college</td>
<td>.092</td>
<td>.204***</td>
<td>.191*</td>
<td>.179*</td>
<td>-.035</td>
</tr>
<tr>
<td>Band 2 college</td>
<td>-.020</td>
<td>.147**</td>
<td>.084</td>
<td>.101</td>
<td>.126</td>
</tr>
<tr>
<td>Mainland</td>
<td>-.052</td>
<td>.028</td>
<td>-.095</td>
<td>-.034</td>
<td>.015</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.618</td>
<td>.297</td>
<td>.451</td>
<td>.080</td>
<td>.036</td>
</tr>
</tbody>
</table>
showed that neuroticism exerted significant effects on life meaning ($\beta = -0.360$, Table 6), and extraversion ($\beta = 0.181$), conscientiousness ($\beta = 0.647$), and openness ($\beta = 0.408$) exerted significant positive effects on life meaning, even after controlling for non-depression. Meanwhile, non-depression did not manifest a significant effect on either life satisfaction ($\beta = 0.110$) or life meaning ($\beta = -0.249$). This result did not support Hypothesis 5. What is more, the correlation between life satisfaction and life meaning was minimal ($r = 0.005$), after controlling for personality traits and background characteristics.

Additional analysis indicated no significant locational variation in the effects of personality traits on the three well-being factors (Table 7). That is, the interactions involving location and personality traits did not introduce significant effects on the well-being factors. The effects were minimal (maximum $\beta = 0.047$ in absolute value), showing that the effects of personality traits were comparable between Mainland China and the non-Mainland.

The random effects of personality traits on the three well-being factors across colleges were mostly significant, albeit the effects were weak (maximum $\beta = 0.129$ in absolute value, see Table 7). In other words, most of the effects varied significantly among colleges. For instance, the standardized effect of neuroticism on non-depression could vary from -0.134 to -0.392 in different colleges. Nevertheless, none of the random effects of personality traits was stronger than was the corresponding fixed effects. This indicated that the random variation was not strong enough to reverse the fixed effects. Consequently, the four hypotheses about the effects of personality traits on the well-being factors remained to find support.

The analyses also found some consistently significant effects of background characteristics on the well-being factors and personality traits. These effects were the positive effects of female gender on non-depression; and the positive effects of Band 1 and Band 2 colleges on life satisfaction and life meaning. That is, the female students were lower in depression and the Band 3 college students were lower in life satisfaction and life meaning. In addition, significant findings about personality traits showed that the female students were higher in extra version ($\beta = 0.155$, see Table 6) and lower in openness ($\beta = -0.205$) than male students. The more senior student was lower in openness ($\beta = -0.199$). The only child was lower in conscientiousness ($\beta = -0.148$) than one with siblings. The Band 1 college students were higher in extraversion ($\beta = 0.179$) than were Band 3 students. The students in Mainland China were higher in conscientiousness ($\beta = 0.164$) than were the Chinese student outside Mainland China. All the significant background effects, nevertheless, were weak.

### Discussion

Results proffered robust support for the four hypotheses concerning the effects of personality traits on the three well-being factors of non-depression, life satisfaction, and life meaning in the Chinese college student. Specifically, neuroticism maintained a negative effect on the well-being factors, and extraversion, conscientious, and openness evolved positive effects of the factors. These effects were robust in that locational variation in the effects was insignificant and random variation across colleges was not strong enough to nullify the effects. More importantly, the effects of each personality trait could be constrained to be equal in a parsimonious model without impairing the model fit. That is, each personality trait tends to predispose non-depression, life satisfaction, and life meaning similarly.

### Table 7: Standardized fixed and random effects on well-being.

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Non-depression</th>
<th>Life satisfaction</th>
<th>Life meaning</th>
<th>Non-depression</th>
<th>Life satisfaction</th>
<th>Life meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism (N)</td>
<td>-0.263***</td>
<td>-0.167***</td>
<td>-0.198***</td>
<td>0.129**</td>
<td>0.127*</td>
<td>0.088*</td>
</tr>
<tr>
<td>Extraversion (E)</td>
<td>0.177***</td>
<td>0.214***</td>
<td>0.231***</td>
<td>0.080*</td>
<td>0.106*</td>
<td>0.101**</td>
</tr>
<tr>
<td>Conscientiousness (C)</td>
<td>0.540***</td>
<td>0.417***</td>
<td>0.575***</td>
<td>0.121*</td>
<td>0.094**</td>
<td>0.087**</td>
</tr>
<tr>
<td>Openness (O)</td>
<td>0.579***</td>
<td>0.471***</td>
<td>0.438***</td>
<td>0.048</td>
<td>0.118*</td>
<td>0.116**</td>
</tr>
<tr>
<td>Female</td>
<td>0.200***</td>
<td>0.156***</td>
<td>0.167***</td>
<td>0.152*</td>
<td>0.112*</td>
<td>0.133*</td>
</tr>
<tr>
<td>Years of study</td>
<td>0.080*</td>
<td>0.107**</td>
<td>0.173***</td>
<td>0.024</td>
<td>0.113*</td>
<td>0.078</td>
</tr>
<tr>
<td>Family income</td>
<td>-0.018</td>
<td>0.035</td>
<td>0.043</td>
<td>0.199**</td>
<td>0.126**</td>
<td>0.126*</td>
</tr>
<tr>
<td>Only child</td>
<td>0.049**</td>
<td>0.031*</td>
<td>0.090***</td>
<td>0.033</td>
<td>0.057</td>
<td>0.077</td>
</tr>
<tr>
<td>Band 1 college</td>
<td>0.177***</td>
<td>0.210***</td>
<td>0.180***</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Band 2 college</td>
<td>0.028</td>
<td>0.101**</td>
<td>0.086***</td>
<td>0.000</td>
<td>0.000</td>
<td>0.068</td>
</tr>
<tr>
<td>Age</td>
<td>-0.170***</td>
<td>-0.082*</td>
<td>-0.083*</td>
<td>0.196**</td>
<td>0.146*</td>
<td>0.155*</td>
</tr>
<tr>
<td>Mainland</td>
<td>-0.110**</td>
<td>-0.057</td>
<td>-0.084***</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Acquiescence</td>
<td>0.019</td>
<td>-0.019</td>
<td>-0.008</td>
<td>0.070</td>
<td>0.078*</td>
<td>0.073</td>
</tr>
<tr>
<td>Mainland × N</td>
<td>0.026</td>
<td>0.015</td>
<td>-0.014</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Mainland × E</td>
<td>0.002</td>
<td>0.007</td>
<td>-0.018</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Mainland × C</td>
<td>-0.047</td>
<td>0.003</td>
<td>0.011</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Mainland × O</td>
<td>-0.005</td>
<td>0.005</td>
<td>-0.008</td>
<td>0.025</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.726</td>
<td>0.621</td>
<td>0.735</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: Male gender, non-only-child status, Band 3 college, and non-Mainland location were reference categories.

* p < .05. ** p < .01. *** p < .001.
Despite the similar pattern of personality effects, the three well-being factors demonstrated some differences in relation to personality traits. These differences were transparent when personality traits displayed effects on life meaning even after controlling for non-depression. Moreover, non-depression did not show effects on life satisfaction and life meaning, in the presence of the effects of personality traits. That is, personality traits rather than depression were the predictors of life meaning. Hence, the three well-being factors, albeit inter-correlated, turned out to be independent after controlling for personality traits. In other words, observable relationships among depression, life satisfaction, and life meaning are attributable to the common influences of personality traits.

Dissimilarity among the three well-being factors is evident in the distinction between hedonist and existentialist views. Notably, life meaning originates from the existentialist view, whereas life satisfaction and non-depression index the hedonist view. The existentialist emphasizes the person's freedom, choice, and taking responsibility for deriving meaning for the turbulent life [3]. Moreover, the maintenance of life meaning stands as a vital life goal and project [56]. As such, the maintenance of life meaning would particularly benefit from the person's conscientiousness exhibited as striving and perseverance for the maintenance. Meanwhile, the maintenance is effortful and can even be painful, thus occasionally meeting with frustration and depression [57,58]. Depression is likely to spur as well as impede the maintenance [56,59]. Because of its reliance on personality traits such as conscientiousness, life meaning would be independent of non-depression.

The female students were higher than were the male students in non-depression and extraversion, and were lower in openness. That is, that the females were lower in depression were surprising, given some research and theory about hormonal influence and social status [60,28]. Nevertheless, some studies have found that the females were lower in depression [61,62]. In particular, the female Chinese students may enjoy relatively favorable social life [63]. With respect to the theory about social status, the females may therefore experience lower depression. Similarly, the female youth appears to be higher in social maturity and activity than does the male youth [64,65]. The female's greater social engagement just reflects her higher extraversion. Moreover, females are more religious and less realistically oriented than is the male [65,66]. These characteristics just reflect lower openness in the females [65].

Another surprising finding is that the students attending a Band 1 college manifested higher life satisfaction, life meaning, and neuroticism than did the students attending a Band 3 college. The former contradicts the expectation that the selectivity of college weakens the student's life satisfaction [67]. According to set-point theory, some predispositions would enable the youth's entrance into a higher-quality college and sustain higher life satisfaction and life meaning. This is possible through the youth's generalized ability [68,69]. Meanwhile, a selective or competitive context would engender neuroticism [70].

Conscientiousness was lower in the only child and the Chinese student outside Mainland China in than other students. The only child tends to be less competitive [71,72]. Meanwhile, competitiveness or achievement orientation is a basis for conscientiousness [73]. Therefore, the only child is like to be lower in conscientiousness than is others. By the same vein, achievement and competition orientations are high in Mainland China [74,75]. The orientation may sustain conscientiousness there. Finally, for the maintenance of the well-being of Chinese college students, sustaining their conscientiousness, openness, and extraversion and taking care of their neuroticism would be effective. Meanwhile, Band 3 college students require more support for them to bolster their well-being. Band 1 students, by contrast, require more support to tackle their higher neuroticism. More particularly, prevention of depression is a concern more for male students than for female students. The male students also need a higher concern than female students about their lower extraversion. In contrast, the female students require a higher concern about their lower openness. The only child is in need of greater concern about his or her lower conscientiousness.

Limitations and Future Research

The study is limited in its focus on students in selected Chinese colleges and one-time measurement. As such, the generalizability and validity of its findings decidedly require future research to verify and substantiate. Although the study finds no difference in personality effects between Mainland China and Chinese societies outside Mainland China, the study find substantial random variation among colleges. As such, sampling of colleges may make a difference in findings about the effects, even though the difference may not be dramatic. Moreover, because variation among colleges also reflects that among cities, student population, and other background characteristics. This means that future research needs to take care of sampling of colleges, cities, and other characteristics. Moreover, future research needs to enhance the validity of measurement. Notably, the one-time measurement cannot guarantee the durability of and causal primacy of personality traits. It also cannot ascertain changes in the well-being factors and their dependence on personality traits. Preventing these limitations requires future research to measure personality traits and well-being repeatedly to verify that prior personality traits produce changes from prior well-being to later well-being. Preferably, future research can collect data not just from Chinese societies, but also other places, in order to make research findings generalizable for the world.

Competing Interests

The authors declare that they have no competing interests.

References


