Confucian Culture Still Matters: The Benefits of Zhongyong Thinking (Doctrine of the Mean) for Mental Health

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Abstract
Zhongyong thinking (Doctrine of the Mean) is a traditional Confucius interpersonal style with emphasis on interpersonal harmony and connection. In contemporary society, is Zhongyong thinking beneficial to, or has Zhongyong thinking become an old-fashioned idea with trivial or even detrimental influence on mental health? The current study explored the relationship of Zhongyong thinking and mental health measures in two studies. Study 1 was a cross-sectional survey involving a large representative sample of 8,178 Chinese undergraduate students. We found that Zhongyong thinking was negatively associated with anxiety ($r = -0.23$, $p < .01$) and depressive symptoms ($r = -0.32$, $p < .01$), but positively associated with self-esteem ($r = 0.28$, $p < .01$). Compared with low-Zhongyong group, those who scored high on the Zhongyong Thinking Scale had substantially lower scores on anxiety and depressive symptoms, and had higher scores on self-esteem and life satisfaction. In Study 2, we experimentally intervened in Zhongyong thinking in 30 mildly depressed students, comparing mental health outcomes with a randomized control group ($n = 30$) who received regular supportive group intervention. We found that training in Zhongyong thinking was more effective in alleviating depressive symptoms compared with the control group. The two studies prove from different aspects that Zhongyong thinking still plays an important role in regulating mental distress and maintaining subjective well-being among contemporary Chinese young adults. Why Zhongyong thinking is beneficial, and how to transmit this traditional cultural heritage to promote emotion regulation strategies are discussed.

Keywords
Zhongyong, Doctrine of the Mean, mental health, psychological well-being

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Zhongyong (the Doctrine of the Mean), as the central theme of Confucian thought, is a distinctive and important philosophical thought in Chinese traditional culture. Zhongyong is not only a moral concept since ancient China, but also a Chinese way of dialectic thinking as a meta-cognitive process (Chiu, 2000; Kim, Yang, & Hwang, 2006). Zhongyong thinking is characterized by “holistic information processing, tolerance of apparent contradictions, and avoidance of extremes in implementation planning” (Chiu, 2000). Zhong means centrality, mean, and equilibrium, bending neither one way nor another, and Yong represents ordinariness, universality, and harmoniousness. The goal of Zhongyong is to maintain balance and harmony from directing the mind to a state of constant equilibrium, without seeking unprincipled compromise between opposing poles. Zhongyong thinking represents the Confucian ideal of perfecting every relationship and activity in human life (Yuan, 2013). Individuals with high Zhongyong characteristics should never act in excess, and show appropriate and flexible self-appearance and behaviors under different circumstances, depending on the specific requirements of situational context and intrinsic personal expectations (Wu & Lin, 2005).

Previous studies in this field primarily focused on how Zhongyong thinking was associated with organizational harmoniousness and job performance. For example, Hu, Liao, and Xu (2012) investigated 426 company employees and found that Zhongyong thinking was positively correlated with organizational harmony and employee performance. However, less work has been approached from a cultural psychological perspective; few of them have a focus on mental health. By searching Chinese and English database, we found only two cross-sectional studies written in Chinese with a small sample size investigating the relationship of Zhongyong thinking and mental health measures. One study found that Zhongyong thinking was associated with higher cognitive reappraisal and lower mental distress in a sample of 369 college students (Guo & Zeng, 2012). Another study found that low Zhongyong thinking score was associated with higher depressive score in 112 major depressed patients (Gao, Cai, Tang, & Xu, 2013). The above two studies indicated that Zhongyong thinking might be beneficial for mental health.

With the advent of the Internet age, cultural interactions between the East and the West have been found to have a profound impact on people’s thinking style. In the current study, we seek to explore the following unanswered questions: with the East–West cultural integration taking place in China, what kind of role is Zhongyong thinking playing in the mental health field? Is Zhongyong thinking beneficial to, or has Zhongyong thinking become an old-fashioned idea with trivial or even detrimental influence on mental health? If Zhongyong thinking still plays an active role in mental health, then in what way Zhongyong thinking might work? Could Zhongyong thinking be trained and be integrated into a psychological intervention program? Investigating these questions could help us understand how traditional culture and modern culture shape young people’s mind collectively, and what could be done to transmit these cultural heritages to emotion regulation strategies.

The Measurement of Zhongyong Thinking and Mental Health

The study of Zhongyong thinking has gradually extended from philosophy to psychological and behavioral sciences in recent years, and more and more researchers are now committed to the operability and measurability of Zhongyong thinking style (Chiu, 2000; Yang, 2001). Wu and Lin (2005) developed a 13-item measurement—Zhongyong Thinking Scale (ZYTS)—to measure the concept of Zhongyong thinking. According to Wu and Lin, Zhongyong thinking was defined as considering things carefully from different aspects and conducting appropriate behaviors to account for the whole situation. This definition was derived from the narrow sense of Zhongyong—to a proper extent, never go to extremes; from a holistic approach, seek harmony and consistency—as an action-oriented guidance in interpersonal relationships. Based on this definition, ZYTS was constructed to include three inter-correlated dimensions: multi-thinking, holism, and...
harmoniousness. Multi-thinking measures the tendency of thinking from multiple perspectives in an opinion-expression situation, that is, making decisions after taking into consideration various possibilities from multiple perspectives. Holism measures the extent of integrating external information and internal needs as a whole. Harmoniousness measures the tendency of acting harmoniously when dealing with interpersonal conflicts. These three dimensions capture a situational, action-oriented Zhongyong thinking characteristic. The scale has shown acceptable reliability and validity in recent Chinese studies (Hu et al., 2012; Sun, Yan, & Chu, 2014; Wu & Lin, 2005; Ye & Zhang, 2012). For example, in Wu and Lin’s (2005) original study, the internal consistency coefficient of the three dimensions of ZYTS ranged from .69 to .73, and Cronbach’s alpha of the total scale was .87. ZYTS was also significantly correlated with emotional awareness ($r = .40$) and self-reflection ($r = .32$); the two measures assess the ability of adjusting oneself to adapt to the environment through self-reflection and emotion awareness in interpersonal interactions. These correlations support the construct validity of the ZYTS.

From a cross-cultural perspective, it is hard to define mental health comprehensively. Different scholars may have various opinions on what mental health means. However, it is generally agreed that mental health is broader than the lack of mental disorders. According to the World Health Organization, mental health is a level of psychological well-being, including subjective well-being, perceived self-efficacy, autonomy, competence, intergenerational dependence, and self-actualization of one’s intellectual and emotional potential, among others (Brundtland, 2001). Due to its definitional and theoretical diversity, mental health could hardly be measured precisely by a single instrument; however, the use of multiple indicators could provide a more comprehensive picture of mental health. In the current study, we used Self-Rating Anxiety Scale (SAS), Self-Rating Depression Scale (SDS), and Symptom Checklist–90 (SCL-90) to measure the extent of mental distress, the negative side of mental health; lower scores represent better mental health. We also used the Rosenberg Self-Esteem Scale and Satisfaction With Life Scale (SWLS) to measure the extent of subjective well-being, the positive side of mental health; higher scores represent better mental health.

The Relationship of Zhongyong Thinking and Mental Health

According to Wu and Lin’s (2005) theory, the goal of Zhongyong thinking is to regulate behavior to maintain interpersonal harmony. Thus, Zhongyong thinking could directly guide people’s behavior in everyday life, especially in the context of group discussion and interpersonal conflict. For example, in the face of interpersonal conflicts, Zhongyong thinking emphasizes reconciling different points of view and seeking common ground. Zhongyong thinking also could direct one’s behavior by refraining oneself from over-expression of emotions, maintaining harmony between different parts, and seeking impartial and sensible program of action. By examining the cognitive process and possible action strategy, the therapist would have a chance to train clients’ Zhongyong thinking style in a systematic way. Modeled after cognitive-behavioral therapy (Beck, 2008), we refer to Zhongyong thinking training in the current study as one of “modifying client’s beliefs about Zhongyong thinking, identifying Zhongyong way of thinking and non-Zhongyong way of thinking, and guiding client’s behavior concerning how to relate to others and deal interpersonal relationships in Zhongyong ways.” Specifically, we would try to train clients’ Zhongyong thinking in an 8-week group therapy setting focused on dealing with interpersonal issues.

Now we raise the core theoretical question in the current research—how Zhongyong thinking might be associated with people’s mental health? In what way Zhongyong thinking might affect people’s emotion regulation or emotional response to social stimuli? Some scholars believe that Zhongyong thinking comes from Chinese fuzzy thinking, which is extremely elastic, comprehensive, moderate, and tolerant. Compared with Westerners, Chinese people are more used to accepting and adapting to the harsh reality (secondary control), rather than changing the environment
Zhongyong thinking style also has similarities with Linehan’s dialectical behavior therapy (DBT) in their theoretical underpinnings and training practices (Linehan, Armstrong, Suarez, Allmon, & Heard, 1991; Linehan et al., 1999; Lynch, Chapman, Rosenthal, Kuo, & Linehan, 2006). DBT adopts a dialectical philosophy that encourages the balance and synthesis of both acceptance and change. Dialectical philosophy posits that reality is composed of interrelated parts that cannot be defined without reference to the system as a whole; the system and its parts constantly are in a state of change or flux (Lynch et al., 2006). In practice, DBT includes a group training program teaching clients mindfulness (e.g., attention to the present moment, assuming a non-judgmental stance, and focusing on effectiveness), distress tolerance, emotion regulation, interpersonal effectiveness, and self-management skills (Linehan et al., 1999). Therefore, we could see that both Zhongyong thinking and DBT emphasize tolerating and accepting conflict, change, and distress. They also have similarities in the holistic perspective of the body and the mind, of the interconnection of emotion, cognition, and behavior. However, as a worldview, dialectical philosophy is associated with Marxist socioeconomic principles, which is differed from Zhongyong thinking and Confucianism as a whole. For example, a Zhongyong thinker never goes to extremes and always keeps balance between conflicting parties, whereas a dialectical thinker may not necessarily behave in this way.

On the other side of the coin, Zhongyong thinking might bring a negative impact on people’s emotion regulation and experiences. First, tolerating extreme circumstances might make an individual more likely to avoid real conflict, and reluctant to seek ways to solve the true problem. In the long run, emotion-focused coping is less constructive than problem-focused coping in improving distressing situations, for example, loneliness (Schoenmakers, van Tilburg, & Fokkema, 2015). Second, maintaining interpersonal harmony is often at the expense of
repressing negative emotions, especially anger and disgust. Studies have shown that suppressing emotions and thoughts of the emotion-eliciting event was detrimental for mental health (Impett et al., 2012; Webb, Miles, & Sheeran, 2012). Third, when the effort of reconciling different points of view fail, or the common ground cannot be identified between conflicting parties, the Zhongyong thinker might feel frustrated and disappointed.

In summary, the relationship between Zhongyong thinking and mental health is far from clear and conclusive; researchers have not yet proposed an integrated model on how Zhongyong thinking might be related to mental health outcomes. The current study seeks to explore the role of Zhongyong thinking in mental health in two studies. In Study 1, we would examine the relationship of Zhongyong thinking and mental health indicators in a large representative nationwide sample; in Study 2, we would experimentally intervene in Zhongyong thinking to study the causal impact of Zhongyong thinking on mental health outcomes.

Previous studies showed that gender was an important demographic factor that associated with mental health outcomes. For example, systematic meta-analyses revealed that females were at slightly higher risk of developing depressive disorders (Cole & Dendukuri, 2014) and anxiety disorders (Baxter, Scott, Vos, & Whiteford, 2013). However, we found no existing literature that ever examined gender differences on Zhongyong thinking measures. Thus, we would test if there were any gender differences on Zhongyong thinking and mental health measures in the cross-sectional study.

**Study 1: Cross-Sectional Study of Zhongyong Thinking and Mental Health**

In Study 1, we sought to examine the association of Zhongyong thinking with two mental distress indicators—anxiety and depressive symptoms—and two subjective well-being indicators—self-esteem and life satisfaction—among a large representative sample of Chinese undergraduate students. We predicted that Zhongyong thinking was associated with lower mental distress and better subjective well-being; compared with low-Zhongyong population, high-Zhongyong individuals would score lower in mental distress indicators and higher in subjective well-being indicators. We would also examine the gender differences in the level of Zhongyong thinking and mental health measures.

**Method**

**Participants.** The study data were part of a national mental health survey conducted among Chinese college students from September 2012 to July 2013. The first and the corresponding authors organized this survey, and all the authors listed in the present study participated in this survey research. The whole database has not been published in any open journals. Multistage stratified cluster sampling procedure was performed to recruit participants of the national mental health survey. According to geographical divisions (North, Northeast, East, Middle South, Southwest, and Northwest) in China, we sampled two or three universities in every district, resulting in a total of 16 universities in our sample pool; from the selected universities, we randomly sampled 240 classes, with a total of 8,341 students ranging from the first to the fifth year to participate in the current study. Among all the participants who had completed the survey procedure, 8,178 students provided complete data on all of questionnaires involved in the present study, resulting in a valid response rate of 98%. Reasons for deleting cases included missed responses for over 10% of the total items, responses selecting the same extreme or intermediate values, and inconsistency in answering the five validity-checking questions. We found no statistically significant difference in demographic characteristics between the included and excluded participants.
The age of the sample (N = 8,178) ranged from 16 to 27 years (M = 21.1, SD = 1.44); 3,030 (37.1%) were male, 5,016 were female (61.3%), and 132 (1.6%) cases had missing data; 7,496 (91.7%) were of Han nationality, 664 (8.1%) were minorities, and 18 (0.2%) cases had missing data. A total of 2,642 (32.3%) were the only child of the family, 5,488 (67.1%) had siblings, and 48 (0.6%) had missing data; 3,253 (39.8%) were from rural areas, 4,863 (59.5%) were from cities or towns, and 62 (0.7%) had missing data.

Study design and procedure. Study 1 was a cross-sectional survey. Institutional review board approval was obtained prior to beginning of the study. Research assistants were trained to administer questionnaires under the same instructions in every data-collecting district. Students who agreed to participate were given a questionnaire to complete independently, anonymously, voluntarily, and confidentially in regular class hours. Written informed consents were obtained before data collection, and participants received 10 RMB payments after the completion of questionnaires.

Measures

Zhongyong thinking. It was measured by ZYTS developed by Taiwanese scholar Wu and Lin (2005) in simplified Chinese language. This scale has not yet been translated into English. The measurement contains 13 items using 5-point Likert-type scale (0 = strongly disagree, 4 = strongly agree) to assess three dimensions of Zhongyong thinking: multi-thinking (integrative thinking, four items), holism (holistic thinking, five items), and harmoniousness (four items). Participants were asked to evaluate their thinking process in a hypothetical opinion-expression situation; examples of items were as follows: “I will take into account the conflicting views from each other in discussion”; “I used to think about the same thing from many different perspectives”; “When making a decision, I will consider every possible situation”; “I will try to find balance in others’ views and my own point of view”; “No matter how other people might think, I’ll stick to my own opinion (reverse scored)”; “I will adjust my original idea after taking into account the views of others.” Cronbach’s alpha was .80 in the present study.

Anxiety symptoms. It was measured by SAS, Chinese version (Z. Wang & Chi, 1984), which was translated and modified from the original English version of SAS (Zung, 1971). This scale, a 20-item measure, aims to assess anxiety symptoms. The respondent indicates how often he or she has experienced each symptom on a 4-point Likert-type scale. A recent study revealed excellent psychometric properties for the Chinese version of SAS (Duan & Sheng, 2012). In this study, Cronbach’s alpha was .64.

Depressive symptoms. It was assessed by Zung’s SDS, Chinese version (W. W. K. Zung, 1999), which was translated and modified from the original English version of SDS (Zung, 1967). The scale consists of 20 items using 4-point Likert-type scale, with a higher score representing more depressive symptoms. The SDS has shown satisfactory reliability and validity and is widely used to measure depressive symptoms both in English (Ghayas, Shamim, Anjum, & Hussain, 2014) and Chinese (Duan & Sheng, 2012). In this study, Cronbach’s alpha was .53. In Chinese samples, the standardized scores of 50 to 59 suggest minimal depression, 60 to 69 indicate moderate depression, and scores greater than 70 suggest severe depression (X. Wang et al., 1999).

Self-esteem. It was measured by the Rosenberg Self-Esteem Scale, Chinese version (Rosenberg, 1999). Participants responded to 10 statements related to overall feelings of self-worth ranging from 1 (strongly disagree) to 4 (strongly agree). Cronbach’s alpha was .83 in the present study.
Life satisfaction. It was assessed using the five-item SWLS (Diener, Emmons, Larsen, & Grif- fin, 1985), Chinese version (Ding & Wang, 2004), which used a 7-point Likert-type scale (1 = strongly disagree, 7 = strongly agree), with higher total scores indicating higher life satisfaction. Cronbach’s alpha was .84 in the present study.

Results and Discussion

Comparison of study variables between male and female groups. The descriptive statistics of study variables and t tests between male and female groups are presented in Table 1. Compared with female groups, males scored significantly lower on multi-thinking, holism, harmoniousness, and Zhongyong thinking average item measures; they also scored lower on anxiety symptoms, depression symptoms, and life satisfaction measures. There was no significant difference in self-esteem scores between male and female groups.

Correlation between study variables. The correlation matrix of study variables is presented in Table 2. We found that Zhongyong thinking (including the three subscales and the total score) was significantly and negatively correlated with anxiety and depressive symptoms, however, positively correlated with self-esteem and life satisfaction. Anxiety symptoms were strongly correlated with
Comparison of mental health indicators between high- and low-Zhongyong groups. We used a median-split (median ZYTS = 35) to label the participants above the median as high-Zhongyong thinking group, and those below the median as low-Zhongyong thinking group. We then ran t-tests on mental distress and subjective well-being indicators (Table 3). We found that compared with low-Zhongyong thinking group, high-Zhongyong thinking group scored significantly lower in anxiety and depressive symptoms, and scored significantly higher on self-esteem and life satisfaction measures. Cohen’s $d$ effect size values for $t$ tests indicated that between high- and low-Zhongyong group, the differences in anxiety and depressive symptom and self-esteem scores were of medium effect (.421-.612); life satisfaction was of small effect (.208; Cohen, 1992).

In Study 1, we found significant negative relationships between Zhongyong thinking and mental distress indicators, and positive relationships between Zhongyong thinking and subjective well-being indicators, suggesting that Zhongyong thinking was associated with better mental health. When comparing mental health measures in high- and low-Zhongyong groups, we found that the high-Zhongyong group substantially scored low in mental distress indicators, and scored high in self-esteem and life satisfaction measures. These conspicuous differences provided solid evidence for the association of Zhongyong thinking and mental health.

In this study, we examined gender differences in mental health measures. We found that females scored slightly higher in anxiety and depressive symptoms than males. This finding was generally in line with previous studies (Derdikman-Eiron et al., 2011; Rosenfield & Mouzon, 2013; Silverstein, 2014). However, females reported higher level of life satisfaction than males in the meantime. We also found significant gender differences in Zhongyong thinking, that is, females scored higher on multi-thinking, holism, harmoniousness, and Zhongyong average measures than their male counterparts. These gender differences are difficult to interpret considering the cross-sectional nature of the current study. Why women are more likely to experience mental distress but feel more satisfied with life than men in the meantime? Why women are more Zhongyong than men? Does Zhongyong thinking play a different role for male and female groups? These unanswered questions need to be examined and explained in future studies.

Study 2: The Effect of the Zhongyong Thinking Intervention on Mental Health Outcomes

Study 1 found reliable associations between Zhongyong thinking and mental health measures in a large representative sample. However, this cross-sectional association did not guarantee a
causal relationship between Zhongyong thinking and mental health outcomes. In Study 2, we conducted an intervention experiment to investigate the impact of the Zhongyong thinking intervention on mental health outcomes. We would test the effectiveness of Zhongyong thinking training in improving mental distress among mildly depressed undergraduate students. We predicted that training Zhongyong thinking in a supportive group therapy setting would alleviate mental distress as effective as or more effective than regular supportive group therapy.

**Method**

**Participants.** The study participants included 60 mildly depressed undergraduate students who voluntarily enrolled in a supportive group in one medical university. The inclusion criterion included an SDS score higher than 50 and lower than 60, without previous psychological disorders diagnosis, without serious suicidal ideation, and not attending any other group or individual psychological intervention programs. The participants were randomly assigned to one of the two groups: experimental group ($n = 30$) and control group ($n = 30$). The socio-demographic and session-attendance characteristics were not significantly different between the two groups (Table 4).

**Study design and procedure.** Study 2 was an experimental study with a repeated measure design. After the written informed consent was obtained, participants were randomized into the two groups; they were administered a set of questionnaires measuring the baseline mental distress. They then received an 8-week group psychological intervention program: The control group received a psychotherapist-led supportive group therapy focused on solving interpersonal problems encountered on the college campus; this kind of group intervention is popular in Chinese colleges for students with mild psychological problems. The group members (10 members per group, total three groups) met once a week to discuss their daily interpersonal issues in a group therapy room. The aim of the group therapy was to improve the participants’ interpersonal skills and coping style in dealing with interpersonal conflicts. The length of time per session was 90 min. The therapist was previously trained as a group therapist.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Experimental ($n = 30$)</th>
<th>Control ($n = 30$)</th>
<th>$t$ or $\chi^2$ values $(df)$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>18.8 ± 0.99</td>
<td>18.6 ± 0.86</td>
<td>1.12 (58)</td>
<td>.268</td>
</tr>
<tr>
<td>Sessions completed</td>
<td>7.3 ± 1.01</td>
<td>7.3 ± 0.99</td>
<td>−0.12 (58)</td>
<td>.902</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td>0.37 (1)</td>
<td>.542</td>
</tr>
<tr>
<td>Male</td>
<td>6</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Han</td>
<td>29</td>
<td>27</td>
<td>1.07 (1)</td>
<td>.301</td>
</tr>
<tr>
<td>Others</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>Family residence</td>
<td></td>
<td></td>
<td>4.47 (2)</td>
<td>.107</td>
</tr>
<tr>
<td>Rural</td>
<td>11</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Town</td>
<td>15</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metropolis</td>
<td>4</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valid percentage</td>
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<td></td>
<td>1.07 (1)</td>
<td>.301</td>
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<td>Valid cases</td>
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<tr>
<td>Withdrawn cases</td>
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<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. For the variables "age" and "sessions completed," $t$ tests were conducted; for the other variables, Pearson’s chi-square tests were conducted.
The experimental group received the same intervention program with the same length of time led by the same therapist with the addition of training Zhongyong thinking in the following steps: (a) in the first two sessions, participants were instructed to discuss what is Zhongyong thinking, to clarify Zhongyong core beliefs, and how to implement Zhongyong thinking in everyday interpersonal interactions. For example, when interpersonal conflict arose, the clients were encouraged to maintain interpersonal harmony and connection by seeking common ground and reconciling different needs and interests; when strong emotion arose, such as rage, shame, sadness, or their combinations, the clients were encouraged to acknowledge and accept these distressing emotions, rather than to fight or challenge them; the therapist also encouraged the clients to view interpersonal differences and current sufferings from multiple perspectives, to think holistically toward the mind, body, and spirit. (b) At every beginning of the following sessions, the group therapist would present a hypothetical interpersonal conflict and let the group member to discuss what should be done to solve this problem in a Zhongyong way. Through these case discussions, Zhongyong way of thinking and non-Zhongyong way of thinking were identified, and the core Zhongyong beliefs were strengthened. The maximum time for Zhongyong discussion was set to be 20 min per session. Examples of the hypothetical interpersonal conflict included the following: Roommates A and B are both C’s friends. A and B had a terrible quarrel on when to turn off the dormitory lights in the evening; they both talked to C and hoped C could be on their side. If you were C, what would you do to solve this conflict in a Zhongyong way? A typical Zhongyong thinker might try to evaluate the situation from both A and B’s perspectives, and after considering C’s own needs and interests, propose a balanced solution that would likely be accepted by both A and B, for example, setting an intermediate lights-out time that both sides are willing to accept and comply with. (c) After the Zhongyong discussion, the regular group therapy began and lasted for the predetermined 90 min. During the supportive group therapy, the group member would be reinforced with positive feedback by the group therapist when a conflict or distressing situation was solved in a Zhongyong way. (d) By the end of each therapy, the participants were encouraged to solve daily distressing issues in the Zhongyong way of thinking.

After the end of the eight sessions, participants in the two groups were asked to complete the same questionnaire (except demographic information) again and were interviewed by an independent research associate. The interview was structured to tap into the following dimensions: (a) The participants would indicate on a 10-point analog scale to what extent they found the intervention was helpful, (b) what factors in the program were helpful, and (c) what factors in the program were annoying or unhelpful. By the end of the eight sessions, 27 in the experimental and 29 in the control group had completed the post-intervention measures and interview. As shown in Table 4, the withdrawal percentage was not significantly different between the experimental and control groups.

Outcome measures. The questionnaires included the demographic information, overall satisfaction with the current interpersonal relationships (1 = extremely dissatisfied, 100 = extremely satisfied), ZYTS, the Chinese versions of SAS and SDS, and the Chinese version of the SCL-90 (Z. Wang, 1984). The SCL-90 measures psychopathology on 10 dimensions: somatization, obsessive-compulsiveness, interpersonal sensitivity, depression, anxiety, hostility, phobia, paranoid ideation, and psychoticism, and additional items (Derogatis, 1993). Each question is rated on a 5-point Likert-type scale (0 = no distress, 4 = extreme distress). In the current study, Cronbach’s alpha was .67.

Statistical analyses. Differences on demographic or baseline variables between the two groups were tested by a t test or chi-square test. The statistical significance level was .05 (two-tailed). Participants who provided complete baseline and post-session measures and participated in six or more sessions were considered valid cases, and otherwise considered invalid and deleted from
the final analyses. General linear model (GLM) repeated measures analyses were used to detect the differences in the change in pre- and post-treatment scores between the experimental and the control groups.

**Results and Discussion**

**Descriptive statistics of outcome variables and independent-sample t tests between groups.** As presented in Table 5, there was no significant difference between groups on the pre-treatment measures of ZYTS, SAS, SDS, SCL-90 total scores and satisfaction with the current interpersonal relationships. However, on the post-intervention measures, compared with the control group, the experimental group scored significantly higher in ZYTS and participants reported helpfulness of the intervention and scored significantly lower in SDS.

**Repeated measures analyses on outcome variables.** Taking group as the between-subjects independent factor with two levels (experimental and control), pre–post as the within-subjects independent factor with two levels (pre-intervention and post-intervention), the tests of within-subjects effects in GLM repeated measures analyses are presented in Table 6. Main effects of pre–post were found in ZYTS, SAS, SDS, SCL-90 scores, and satisfaction with interpersonal relationships, indicating that both groups improved from pre- to post-intervention. Significant interaction effects of group by pre–post were found in ZYTS and SDS scores, indicating that comparing with the control group, the experimental group had more increase in ZYTS and more decrease in SDS.

In Study 2, we trained Zhongyong thinking in the experimental group, comparing mental distress outcomes with a supportive control group. We found that Zhongyong thinking combined
with supportive group therapy was more effective in alleviating depressive symptoms compared with regular supportive group therapy. The other mental distress outcome measures revealed that Zhongyong thinking training was as effective as or slightly more effective (statistically non-significant) than regular supportive group therapy. To summarize, Study 2 demonstrated that depressive symptoms could be improved by training Zhongyong thinking in group therapy.

**General Discussion**

The two studies prove from different aspects that Zhongyong thinking is still playing an important role in regulating mental distress and maintaining subjective well-being among contemporary Chinese young adults. We would try to discuss in the following section how Zhongyong thinking affected mental health outcomes, in what way Zhongyong thinking might be influential, and how to transmit this traditional culture heritage to emotion regulation strategies.

First, Zhongyong thinking emphasizes holism and multiple thinking—a global perspective in which a person acknowledges the interconnectedness of various elements that form the larger system. Thinking holistically is quite different from thinking analytically; the former acknowledges that all things are fundamentally interconnected and mutually dependent and the latter involves breaking down a larger system into its details according to logic and rules. As research has documented, there is a broad cultural difference in terms of holistic versus analytical thinking, with East Asians thinking holistically and Westerners thinking analytically (Masuda & Nisbett, 2001; Nisbett & Masuda, 2003; Nisbett & Miyamoto, 2005). In medical care practice, professionals who think holistically would consider the interconnectedness of the mind, body, and spirit and find ways to improve their balance (Dossey & Keegan, 2012). In the mental health field, therapists who think holistically would restructure their clients’ maladaptive cognition and behavior, without ignoring their physical well-being and emotional distress (Carriere &
Moreover, holistic thinking encourages people to adopt multiple perspectives, and perspective taking, and in turn, may link to greater emotional complexity and easier acceptance of a distressing moment (Goetz et al., 2008). By viewing the current suffering from multiple perspectives, holistic and multiple thinking is beneficial for those in psychological distress to alleviate or converse their painful experience.

Second, Zhongyong thinking could also be seen as a dialectical way of thinking—emphasizing change, holism, and contradiction, researchers found it is beneficial for emotion regulation (Chou, Chu, Yeh, & Chen, 2014). As Peng and Nisbett (1999) proposed, “Chinese ways of dealing with seeming contradictions result in a dialectical or compromise approach—retaining basic elements of opposing perspectives by seeking a middle way (p.741).” Dialectical thinkers show greater expectation of change in tasks related to explanation and prediction and greater tolerance of contradiction in tasks involving the reconciliation of contradictory information (Peng & Nisbett, 1999; Spencer-Rodgers, Williams, & Peng, 2010). Dialectical thinking is also manifested in the domains of the self, emotional experience, and subjective well-being (Spencer-Rodgers et al., 2010). Researchers found that dialectical emotion, the co-occurrence of positive and negative emotions, was more of an Eastern way of experiencing complex emotions (Miyamoto & Ryff, 2011; Miyamoto, Uchida, & Ellsworth, 2010). Westerners are less likely to experience positive and negative emotions simultaneously and less likely to acknowledge and tolerate emotional complexity when it arises, whereas the Easterners think that emotional complexity and simultaneously positive and negative emotions are all naturally acceptable (Goetz et al., 2008; Miyamoto et al., 2010). By accepting the coexistence of negative and positive emotions, individuals could readily find flexible behavioral responses to a distressing situation, in less need to regulate antagonistic emotions, thus save more self-control resources to cope with the real-life challenge (Weiss, Sullivan, & Tull, 2015; Wilson, Sayette, & Fiez, 2014), and turn the adversity to advantage (Weiss et al., 2015). In this way, one could achieve the doctrine of “Zhonghe” state—the desirable state of Zhongyong thinking—when joy, anger, sorrow, and pleasure have not yet manifested, this neutral emotional state is called “Zhong”; when they are manifested to their appropriate level, it is called “He (means harmony).”

Third, Zhongyong thinking also emphasizes interpersonal harmony and connection. Showy, heroic, canny, immodest, and explicitly oriented toward winning people are less popular than those who do things modestly and properly according to their social status (Yuan, 2013). Maintaining interpersonal harmony is essential for obtaining social support in Chinese culture (Chuang, 2005), and social support was found to be a reliable protective factor for mental health (Davey, Bouman, Arcelus, & Meyer, 2014; Siedlecki, Salthouse, Oishi, & Jeswani, 2014). As one participant of the experimental group reported,

> When I became more Zhongyong, the relationship with my roommate became more harmonious and happier. I used to get into fierce argument with one of my roommate before, and I wound not let him win. But now I will view our differences from multiple perspectives, I become more tolerant; let him live his own lives, even when I think he is making mistakes.

Actually, to deal with interpersonal relationships in a Zhongyong way—to seek common ground, to reconcile the two sides—has become a deep psychological structure in Chinese people (Yu & Fan, 2011). Evidences from industrial and organizational psychology also suggested that Zhongyong thinking may have important implications in stress coping and emotion regulation among employees, and ultimately affects their working performance through cognitive processing of workplace stimuli. For example, Sun et al. (2014) found that Zhongyong thinking could moderate the negative effect of daily passive mood on three dimensions of working behaviors:
organizational citizenship behavior, counterproductive work behavior, and task performance behavior (Sun et al., 2014). Zhongyong beliefs could weaken the negative effects of challenge-related stress on emotional exhaustion, and transform challenge-related stress into eustress for job satisfaction (Chou et al., 2014).

The present study demonstrates that Zhongyong thinking is still playing an important protective role in contemporary Chinese mental health status. In line with the present finding, researchers have found that DBT, the combination of dialectical thinking and cognitive-behavioral therapy, was effective in preventing suicidal ideation (Rathus & Miller, 2002), self-harm behavior, and substance abuse (Simpson et al., 2014). Therefore, when treating clients of Chinese origin, mental health professionals should pay special attention to their client’s cultural epistemologies, and be sensitive to their culture beliefs and practices. When designing psychological intervention programs, being aware of the influence of Zhongyong thinking could help clinicians promote their cultural competence.

There are several limitations to this study. First, the present study was conducted only with Chinese undergraduate students’ sample; one should be cautious to generate the current findings for a wider population. Cross-culture sample is necessary to test the role of Zhongyong thinking in different cultural contexts. Second, the present study regards Zhongyong thinking as an operationally definable construct that could be measured by questionnaires. Given that Zhongyong thinking is a complex and dynamic thinking process in specific social interactions, measuring Zhongyong thinking by static questionnaires raises doubts about its validity. Does ZYTS really capture the core value of Zhongyong thinking? Does one’s self-reported level of Zhongyong thinking represent his or her actual acts in specific context? Wu and Lin (2005) argued that the Zhongyong thinking process could be considered as a controlled processing, in which individuals consciously integrated the external information and internal demands to reach an appropriate behavioral strategy; this conscious thinking process could be introspected and reported by participants. Future studies could tap into the dynamic Zhongyong thinking process by using experimental or event recording method. The third limitation is related to the possible negative effect of Zhongyong training on mental health, that is, we trained mildly depressed undergraduate students in Zhongyong thinking in Study 2; however, we provided no data on the downside effect of training along with the positive side. Was it possible that the experimental group students repressed their feelings more than ever? Were they reluctant to solve the real interpersonal problem for the purpose of maintaining interpersonal harmony? We also recommend future studies to include measures on interpersonal effectiveness, to use more widely used measures of depression and anxiety such as Beck Depression Inventory and Beck Anxiety Inventory to make the results comparable with Western studies.

In summary, Zhongyong thinking still plays an important role in shaping Chinese young adults’ emotional experiences. To transmit this traditional culture heritage to emotion regulation strategies, the therapist could encourage the client to view the current sufferings and interpersonal conflict from multiple perspectives, to think holistically toward the mind, body, and spirit; to acknowledge and accept emotional complexity when it arises; and to maintain interpersonal harmony and connection by seeking common ground and reconciling different needs and interests when an interpersonal conflict arises.

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