The Effectiveness of Solution-Focused Group Therapy in Ethnic Chinese School Settings: A Meta-Analysis

Wei-Su Hsu, PhD, Department of Educational Psychology and Counseling, National Taiwan Normal University, Taipei, Taiwan.

Huilang Gong, PhD, Department of Psychology, Henan University, Kaifeng, China.

Introduction

- Kim (2008) also performed a meta-analysis on 22 studies that met inclusion criteria. Before calculating effect sizes, he separated the involved psychological problems into three categories: externalizing behavior problems, internalizing behavior problems, and family and relationship problems. The research found that when SFBT was applied to externalizing behavior problems, internalizing behavior problems, and family and relationship problems, it had an effect size of 0.11, 0.26, and 0.26, respectively. Overall, the effect size of SFBT was small.
- Corcoran and Pillai (2009) further reviewed 10 studies that met inclusion criteria, and found that 2 studies reported large effect sizes, 3 reported medium, and 1 small. The remaining 4 effect sizes were all smaller than 0.20. Only 2 of the studies included the follow-up results of SFBT. In their research, no particular moderators emerged regarding studies with high versus low effect sizes.
- Kim and Franklin (2009) reviewed 7 studies examining the effect of SFBT in school settings, effect size estimates were calculated for each study. Their review found mixed results but SFBT did show promise as a useful approach in working with at-risk students in a school setting.

- Second, most meta-analyses of SFBT did not collect studies involving Chinese samples.
- Though sharing same cultural and ethnic roots, Mainland China and Taiwan have developed into two quite different societies with distinct features over the past sixty years due to the larger socio-historical backgrounds.
- We conducted a literature review of all articles on SFBT using the academic full-text database Chinese National Knowledge Infrastructure (CNKI) in Mainland China. The result showed that, as of September 30, 2014, a total of 155 journal articles on SFBT were retrieved and reviewed. The similar searching method was conducted by using the PerioPath Index to Taiwan Periodical Literature System and the National Digital Library of Theses and Dissertations in Taiwan. The result showed that 116 journal articles and 91 dissertations were obtained up to September 30, 2014.
- Kim et al. (in press) specifically investigated the effects of SFBT only in Mainland China. If the large number of SFBT research in Taiwan can be joined when meta-analyses results are conducted, those limitations will be overcome to some extent.

- Third, SFBT has gradually become a common and accepted treatment option for many mental health professionals, particularly in school setting. Also, SFBT is achieving effective outcomes when compared to other therapeutic and educational intervention in school-based research.
- With its emphasis on client strengths and short-term treatment, portable and adaptable SFBT would appear to be well suited to school mental health contexts, given the wide array of problems presenting in school settings, including student behavioral and emotional issues, academic problems, and social skills (Kelly, Kim, & Franklin, 2008).
- Kim & Franklin (2009) reviewed the research literature examined the effectiveness of solution-focused approach conducted in schools and considered the mixed results of 7 studies included. They thought that caution was warranted in drawing any definitive conclusions about the efficacy of solution-focused approach in school settings.
- Zhang, Liu, Franklin, Qu, Chen, and Kim (in press) reviewed the solution-focused approach literature in China. Their research found that published articles in the educational field (counseling in schools, colleges, and for adolescents) have the highest numbers in China as Hsu and Tsai (2008 &2011) found in Taiwan. The results indicated that the school settings was an important applied field for SFBT, especially SFGT, is worth to be studied.

- More recently, Kim, Franklin, Zhang, Liu, Qu, and Chen (in press) conducted a meta-analysis on 21 studies on SFBT and found that the overall effect size was a small to near medium effect (d = .37). Among the results of these studies, there were strong heterogeneity among the effect sizes, indicating that moderators existed. The moderator analyses results indicated that when compared to a group who received no treatment, those who received SFBT were found to have a statistically significant medium effect size (d = .57). The moderator analysis further highlighted that studies published prior to 2000 did not produce as strong of effects (d = .29) as those published after 2000 (d = .87). In addition, there were specific populations that benefited more from receiving SFBT: adults (d = .87), clients who received services while being institutionalized (d = .60), participants with externalizing problems (d = .61), those who received SFBT in a group format (d = .59), and participants who received six weeks or less of SFBT (d = .46).
**INTRODUCTION**

- Fourth, several moderators were identified in the previous meta-analytic reviews. Can these factors also impact the effectiveness of SFGT in ethnic Chinese School settings?
- "Type of outcomes" was the most commonly seen factor. Other important factors included the year of publication, the ages of research participants, etc. In group psychotherapy, intervention effects were often influenced by the group size. In their research, Kim & Franklin (2009) also mentioned that future studies need to examine more carefully which school-based populations and problem areas that solution-focused approach is best suited to help.
- Research purposes
- In light of the research conducted in ethnic Chinese school settings, the lack of investigations pursuing the follow-up effects of solution-focused approaches, and the effectiveness of SFGT as described above, we aim to adopt a meta-analysis methodology to perform a comprehensive quantitative analysis on all the research materials from Mainland China and Taiwan, and from these research materials investigate the immediate and follow-up results as well as any moderating factors of receiving SFGT for those samples with an ethnic Chinese background.

**METHOD**

- The source of all materials analyzed in our meta-analysis are the following:
  - CNKI, VIP journal integration platform, the Wanfang data knowledge service platform, the PeriPath Index to Taiwan Periodical Literature System and the National Digital Library of Theses and Dissertations in Taiwan. Studies were retrieved from them using the Chinese key word jiaodian-jiejue, which translates to solution-focused.
  - All materials analyzed in this meta-analysis took place in schools
  - They all had an experimental or quasi-experimental designs. (Studies that used single-subject, single-group posttests only designs, or single group pretest/posttest designs, were excluded.)
  - All research included in this meta-analysis used pure SFGT as its only intervention method (i.e., SFGT was not combined with other counseling approaches, such as pastoral counseling, etc.).
  - Questionnaires or scales used in included studies had to have good psychometric properties.
  - A total of 26 valid studies published between 2000 and 2014 were included.
  - In total, there were 20 dissertations, and 4 journal articles. Of these 24 studies, 15 were conducted in Taiwan and 9 were conducted in Mainland China

**STUDY CHARACTERISTICS (SORTED BY THE YEAR OF PUBLICATION)**

**DATA ANALYSIS**

- For this meta-analytic review, effect sizes and 95% confidence intervals were calculated using Comprehensive Meta-Analysis software 2.0 (Borenstein, Hedges, Higgins, & Rothstein, 2005) and SPSS 20.0 was used for correlation analysis.
- Because the sample sizes of these SFGT studies were usually small, Hedge's unbiased estimator $d$ was calculated. Both Kim (2008) and Corcoran and Pillai (2009) recommend that only one effect size value be calculated per study in order to ensure the statistical independence of the data. So, for each study with multiple effect sizes an average effect size ($M_e$) was calculated to show an overall effect.
- After effect sizes for each study was calculated, accompanying variances were calculated for each study and used to calculate weights by taking the inverse of the variance score.
**THE RESULTS OF META-ANALYSIS TO EFFECTIVENESS OF SFGT**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Overall effect size</th>
<th>SE</th>
<th>Z</th>
<th>95% CI</th>
<th>Ns, 2s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate</td>
<td>1.03</td>
<td>.13</td>
<td>7.99**</td>
<td>.78–1.28</td>
<td>100</td>
</tr>
<tr>
<td>Follow-up</td>
<td>1.09</td>
<td>.13</td>
<td>8.37**</td>
<td>.84–1.35</td>
<td>73</td>
</tr>
</tbody>
</table>

*Note: Here K is the number of studies. Immediate effect: K = 24; N = 551; Follow-up: K = 16; N = 280; ** p < .01; * p < .05; the same below.*

The results showed that SFGT had significant immediate and follow-up effects, and that, according to Cohen’s (1992) standard for evaluating effect sizes (0.2 small, 0.5 moderate and above 0.8 large), the effect sizes were large in both cases.

**META-ANALYSIS OF EXISTING RESEARCH RESULTS**

- Whether or not the result of meta-analysis is stable depends on both internal and external threats. The main external threat is the existence of publication bias. This meta-analysis calculated Ns to evaluate publication bias. Rosenthal et al. (1991) suggested that the fail safe number, Ns, should exceed the critical value of 5k + 10, where k refers to the number of studies included in the meta-analysis.
- The immediate effect of SFGT, to reduce the overall effect size of 1.03 to .20, the Ns was 100; for follow-up effect of SFGT, to reduce the overall effect size of 1.09 to .20, the Ns was 73. Both of these were less than but near the critical value. Hence, this meta-analysis has only small publication bias threats.

**SENSITIVE ANALYSIS TO THE RESULT THROUGH META-ANALYSIS FOR EFFECTIVENESS OF SFGT**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Category</th>
<th>K</th>
<th>N</th>
<th>Overall effect size</th>
<th>SE</th>
<th>Z</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate</td>
<td>I</td>
<td>22</td>
<td>515</td>
<td>.91</td>
<td>.09</td>
<td>9.67**</td>
<td>.72–1.10</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>22</td>
<td>515</td>
<td>1.09</td>
<td>.12</td>
<td>9.02**</td>
<td>.86–1.13</td>
</tr>
<tr>
<td>Follow-up</td>
<td>I</td>
<td>24</td>
<td>248</td>
<td>1.00</td>
<td>.14</td>
<td>7.22**</td>
<td>.73–1.28</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>14</td>
<td>252</td>
<td>1.17</td>
<td>.14</td>
<td>8.46**</td>
<td>.90–1.44</td>
</tr>
</tbody>
</table>

According to the aforementioned sensitivity analysis, this meta-analysis respectively conducted a meta-analysis on the sub-groups I and II for both the immediate and follow-up effects. From the resulting values of each overall effect size, confidence interval, and corresponding Z-score for the respective groups, the meta-analysis results of the remaining research was consistent with our original results, thus showing that the internal threat is small.

**THE ANALYSIS OF FACTORS INFLUENCING THE EFFECTIVENESS OF SFGT**

- The homogeneity test found that the immediate effect of SFGT was strongly homogeneous, Q(23) = 37.68, p < .02. Whereas the follow-up effects of SFGT did not appear significantly different, Q(15) = 14.67, p = .34. This suggests that the immediate effect of SFGT was regulated by other factors. Therefore, this meta-analysis investigated the relationship between some factors and effect size for all materials.
- First, the relationship of group size and publication year to the immediate effect of SFGT was separately examined by using a correlation analysis method. The results showed that group size and the immediate effect of SFGT did not achieve significant correlations (r = -.19, p = .36). One reason may be that the group size of each study is close in number: Except for one study whose group size was 36 people, the others were all around 5–12 people.
- Publication year also had no significant correlation with the immediate effect of SFGT (r = .22, p = .39). Combined with the results of Stans et al. (2006), we infer that 2000 year may be a cut-off point in the development of SFBT. Up to this point, the techniques of SFBT become more mature.

**THE EFFECTIVENESS OF SFGT IN DIFFERENT POPULATION**

<table>
<thead>
<tr>
<th>Population</th>
<th>K</th>
<th>N</th>
<th>Overall effect size</th>
<th>SE</th>
<th>Z</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>7</td>
<td>106</td>
<td>1.16</td>
<td>.61</td>
<td>.21</td>
<td>1.39**</td>
</tr>
<tr>
<td>J</td>
<td>4</td>
<td>123</td>
<td>.32</td>
<td>.18</td>
<td>5.40**</td>
<td>.74–1.58</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.25–0.97</td>
</tr>
<tr>
<td>M</td>
<td>6</td>
<td>130</td>
<td>.54</td>
<td>.16</td>
<td>.18</td>
<td>5.14**</td>
</tr>
<tr>
<td>C</td>
<td>7</td>
<td>183</td>
<td>.16</td>
<td>.16</td>
<td>7.12**</td>
<td>.58–1.29</td>
</tr>
</tbody>
</table>

*Second, the studies were divided into several groups based on school year and analyzed separately. The results showed that the immediate effect of SFGT was significant for each group, except for junior high school students. The group of junior high school students showed a moderate effect size while all other groups achieved effect sizes above .80. One reason may be because within this Meta-analysis materials investigating junior high school students were smaller in number, and thus the results were less stable. This is a potential avenue of research for future scholars to explore.*

**THE EFFECTIVENESS OF SFGT IN DIFFERENT CATEGORIES**

<table>
<thead>
<tr>
<th>Category</th>
<th>K</th>
<th>N</th>
<th>Overall effect size</th>
<th>SE</th>
<th>Z</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>16</td>
<td>325</td>
<td>1.06</td>
<td>.12</td>
<td>8.84**</td>
<td>.83–1.30</td>
</tr>
<tr>
<td>R</td>
<td>9</td>
<td>205</td>
<td>.94</td>
<td>.33</td>
<td>2.87**</td>
<td>.30–1.57</td>
</tr>
</tbody>
</table>

*Third, The category of externalizing behavior problems had too few entries to properly analyze. The other two, internalizing behavior problems, and family and relationship problems both demonstrated average effects above .80. The result was that SFGT had a significant, large overall effect size when treating internalizing behavior problems such as self-esteem and self-efficacy issues, depression, and so on. SFGT seems less effective at dealing with the family and relationship problems of junior high school students than at dealing with their internalizing behavior, indicating the existence of unknown moderating factors. Because there were only 9 studies examining family and relationship problems included in our meta-analysis, we could not further examine moderating variables. This is of course another avenue for future research.*
RESULTS

- This meta-analysis reviewed the effectiveness of SFGT in ethnic Chinese school settings in Taiwan and Mainland China. The results found that SFGT yielded an overall immediate and follow-up combined effect of 1.03 and 1.09, respectively. The results showed that SFGT’s immediate and follow-up effects were positive and large. These effect sizes can be considered large, which means, as a counseling intervention, SFGT has a significant immediate and follow-up effect.

- The effectiveness of SFGT wasn’t affected obviously by group size or the year of publication. SFGT seems less effective at dealing with the family and relationship problems of junior high school students than at dealing with their internalizing behavior. For different school level groups and outcome variables, SFGT had positive and significant effects. In other words, SFGT does very well in schools overall, but had a weaker effect for junior high school students than other students.

DISCUSSION

- Five, from the results of our meta-analysis, we can see that the combined follow-up effect of SFGT also achieved a large effect size. This shows strong support for the long-term positive effects of SFGT, which is very meaningful for its application.

- Influenced by postmodernism, solution-focused approaches presuppose that clients are the experts of their own lives. In these approaches the counselors and their clients are cooperating while on the path to build solutions step-by-step. The counselors’ position is to lead clients from one step behind, to let clients define their own goals with full recognition of where their own strengths and resources lie, and to help them practice how to figure out what methods are needed to achieve resolution.

- In other words, one focus of solution focused approaches is to develop the ability of the client to self-help, not just to solve the current dilemma, and, praise worthily this ability can be enhanced and exist long-term (Hsu, 2014b; Macdonald, 2007).

- SFBT beliefs differ from traditional Confucian beliefs, such as that people should continuously pursue upward mobility, that individual achievement should be emphasized, and that one should continually reflect on one’s sophistication while maintaining a humble demeanor (Li, Lin, & Hung, 2006).

- SFBT therapists usually actively direct clients to exploring past successful exceptions, coping strategies and progress in therapy facilitate greater willingness of Chinese people (especially for the teenagers) to reflect upon the reality they face, increase their readiness to engage in more productive and mature behaviors, prevent the situation from worsening, and be cognizant of their own limitations and attributions to the existing difficulties, which leading to increased sense of self-efficacy and confidence when facing other authority figures and stressful circumstances. This usually works better than a hard-hitting approach in most situations in Chinese society and in line with pragmatic cultural practice (Hsu, 2009; Hsu & Wang, 2011).
One core of Chinese value is interdependence and collectivism. The intentions and values behind SFBT interventions are quite different from most Western counseling approaches which typically focus on clients' personal stance and development of clear interpersonal boundaries in significant relationships where the conflicts reside (Hsu & Wang, 2011; Kuo, Lai, Hus, 2011).

- Being respective clients' own goals and perceptions, SFBT therapists actively embraces the relationship-based cultural values and increases clients' understanding of the interdependent nature and reciprocal influence between themselves and significant others with a goal to develop "win-win" solutions, instead of challenging the hierarchy of the social relationship.

- Although the SFBT was developed and validated in the United States, its philosophical frame is rather inclusive and client-centered which leave plenty of room for culturally sensitive practice. We believe Solution-focused approach not only provides therapists in Taiwanese/Chinese societies a practical guide in assisting young clients in schools to deal with their challenges in groups, but also helps to widen the cross-cultural application of the U.S.-based SFBT.