


# Empowering caregivers: Impact analysis of FamilyLink Education Programme (FLEP) in Hong Kong, Taipei and Bangkok

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## Abstract

**Background:** Education and support for caregivers is lacking in Asia and the peer-led FamilyLink Education Programme (FLEP) is one of the few provisions to address this service gap. This study aims to evaluate quantitatively its efficacy in reducing subjective burdens and empowering the participants.

**Method:** One hundred and nine caregiver participants in three Asian cities were successfully surveyed at pre-intervention, post-intervention and six-month intervals with a number of standard inventories. Mixed analysis of variance (ANOVA) procedures showed significant programme impact over time intervals for all sites, and subsequently an empowerment measurement model was tested.

**Results:** FLEP was found effective in reducing worry and displeasure, significantly improving intra-psychic strain, depression and all empowerment measures. The measurement model had an acceptable good fit. Baseline difference showed no interference with the programme efficacy.

**Conclusions:** Apart from the initial support for FLEP, the current study also provides some hindsight on the empowerment practice in mental health for Asia, whose sociocultural political contexts are vastly different from that of the developed countries. It remains to be seen whether qualitative data or more stringent research design will yield consistent results and whether FLEP can also work in rural areas.

## Keywords

Psycho-education, empowerment, caregivers, mental illness

## Introduction

The psychological hazards linked to family members who have taken care of people suffering from severe mental illness (SMI) is well entrenched (Karp & Tanarugsachock, 2000; Lohrer, Lukens, & Thorning, 2007; Mak, 2005; Ohaeri, 2003; Oyebode, 2003; Tarricone, Leese, Szmukler, Bassi, & Berardi, 2006). It has been estimated that one in three relatives of patients with SMI suffer from some kind of emotional disorder (Cannuscio et al., 2002; Gibbons, Horn, Powell, & Gibbons, 1984; Schulz, O'Brien, Bookwala, & Fleissner, 1995). The role of caregiver is often tied to a large amount of emotional work such as meeting patients' emotional needs, improving their well-being and maintaining harmony (Strazdins & Broom, 2004). The tasks of caregiving are psychologically draining, yet often unacknowledged, devalued and even stigmatized. Adjunctive programmes like family psycho-education have been proposed to relieve caregiving burdens (Parabiaghi et al., 2007; Pollio, North, & Osborne, 2002; Reinares, Colom,

Martinez-Aran, Benabarre, & Vieta, 2002; Sherman, 2006) with the expectation that these interventions may reduce expressed emotion or likelihood of relapse (Pharoah, Mari, Rathbone, & Wong, 2006). There is evidence that even short-term peer-led family education programmes are effective in reducing subjective burdens and increasing mastery (Dixon et al., 2001; Dixon et al., 2004; Pickett-Schenk, Lippincott, Bennett, & Steigman, 2008), although their

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efficacy in reducing the psychiatric morbidity of caregivers has yet to be established.

From the evidence available, the effectiveness of these family education programmes has much to do with respectful and democratic participation in the group process where knowledge is provided for the understanding and acceptance of the illness as well as the community resources and mental health services. Instead of passive service recipients, the contribution of caregivers to the recovery of the illness is being recognized and the enhancement of caregivers' self-efficacy has become one of the prime objectives in these programmes. This empowering process recognizes the need for change in the health care system (Bachrach & Botwinick, 1992) and commands the strengths and resources required both inside and outside the family to cope with the demand and problems associated with severe mental illness, and therefore could impact the long-term outcomes of caregivers (Bickman, Heflinger, Northrup, Sonnichsen, & Schilling, 1998). The transformative nature of the empowerment approach not only brings about better personal adaptation and self-efficacy, but also a broadened perspective from family misfortune to social injustice (Birkenmaier, 2011; Mezirow & Taylor, 2009).

Although the general circumstances of under-resourced welfare and health care systems and widespread stigma (Struening et al., 2001) may be similar for caregivers in Asian societies and in other parts of the world, family responsibility and burden might be interpreted differently according to different sociocultural contexts (Jenkins & Schumacher, 1999). In certain societies, cultural interpretation might exacerbate the family burden (Lefley, 1998). One study has shown that the effect of knowledge gained from family educational programmes was strongly mediated by cultural factors in an African society (Sefasi et al., 2008). Another African study found unexpectedly, after controlling other variables, that caregivers with better knowledge regarding schizophrenia had higher family burden (Anthony et al., 2008). This is contrary to the usual assumption that knowledge is inversely related to family burden. There is much to learn about how different cultures could constitute different environments for ill individuals and their families.

All would agree that Asian societies have contexts different from those in the West. Family rather than individualistic values are preferred and gender roles are demarcated more clearly in functional complementarity (Yu & Chau, 1997). More women are engaged in the care of people with disabilities. Stigma and affiliated stigma against people with SMI and their family members is prevalent even in major Asian cities like Hong Kong (Chiu & Chan, 2007; Lee, Chiu, & Ching, 2003; Lee, Lee, Chiu, & Kleinman, 2005; Tsang, Tam, Chan, & Cheung, 2003). While it is commonly assumed that close familial bonds and strong support from kinsmen are resources for families in trouble, there is an indication that unemployed fathers of Chinese

patients also manifest strong emotions toward their sons and daughters with psychosis (Mo, Chung, Wong, Chun, & Wong, 2007). It is common for caregivers to have little illness knowledge, to be perplexed with self-guilt, to feel shameful because of the illness and to be filled with a sense of helplessness and hopelessness (Chiu, Wei, & Lee, 2006). This particular context makes psycho-educational efforts in Asia all the more necessary, but challenging.

The present study posed an important research question about the applicability of the empowerment concept in the Asian context, and in practical terms whether peer-led and empowerment-oriented programmes such as FLEP are also feasible in Asia. Its aim was to validate the general efficacy of peer-led family education programmes (PFEP) in Asia where many families used to shoulder the responsibility of caring for the ill with little or no adequate community support (Pearson, 2008; Rudnick, 2004).

### **FamilyLink Education Programme (FLEP) in Asia**

FLEP is a structured psycho-education programme that originated in Hong Kong. It was designed with the advice of a task force that consisted of a mental health social worker, a recovered patient who had editorial experience and a caregiver. It consisted of eight weekly classes covering major areas of study such as symptom recognition and treatment, crisis intervention, rehabilitation and services, communication skills, handling psychological burdens and advocacy. In designing the programme, the authors referenced all available related local education materials and the National Alliance on Mental Illness (NAMI)'s Family-to-Family (F2F) programme. Different from other local programmes that were mostly information and knowledge based, FLEP adopted a peer-led, interactive and empowerment approach that aimed to untangle participants from guilt and emotions while improving knowledge, self-efficacy, family coping and advocacy awareness. The Hong Kong version was translated and adopted in other Asian sites. Each site set up its own task force for the translation after receiving a training package from the authors. Sites integrated local materials to cover aspects of the process such as resources and advocacy. Many caregivers who have completed the programme have become active members of the major family advocacy groups in their own countries, such as the national family groups in Malaysia, Bangkok and Taipei. Qualitative study of the effectiveness of the programme is underway and this paper only reports the quantitative results.

### **Conceptual framework**

There were two major approaches explaining how family caregivers experience burden in caring for relatives with SMI. The first approach suggested that caregivers' response

to stress was guided by a set of beliefs concerning their responsibility, roles, obligations and caring goals (Hall, 1990; Karp & Tanarugsachock, 2000; Perlick et al., 1999). The implicit assumptions to which caregivers were held not only influenced their emotional involvement with patients but also affected their own psychological well-being. Thus, subjective burdens of caregivers can be moderated by modifying personal beliefs and goals associated with caregiving. The second approach proposed a macro-framework for understanding caregivers' coping mechanisms. Pearlin identified four types of factors that influenced the well-being of family caregivers: (1) *contextual factors*, such as socioeconomic status, cultural norms, and values; (2) *mediators (or buffers)*, such as empowerment, internal resources or coping; (3) *stressors*, such as subjective stress, role strains and intra-psychic strain; and (4) *outcome*, manifested in caregivers' psychiatric state and physical health (Oyebode, 2003; Pearlin, Lieberman, Menaghan, & Mullan, 1981; Pearlin, Mullan, Semple, & Skaff, 1990). According to this model, an intervention that enhanced the coping resources by empowering family caregivers would lead to a reduction in stressors and an improvement in caregivers' psychological health. Based on such an understanding, we initially proposed a simultaneous enhancement of mediators, a decline in stressor level and improvement of psychological well-being among participants as the indication of programme success.

The conceptual framework was operationalized in this study as an empowerment-oriented measurement model in which four major outcome variables of psychological well-being (worry, displeasure, self-esteem and global mastery) were supposed to be variedly influenced by empowerment and depressive moods. We deliberately chose more conservative and stringent criteria for the model: the use of post-intervention factor variables (empowerment and depression) and six-month follow-up outcome variables, which are supposed to have a weaker effect than if used immediately following the intervention. There were two reasons for this. First, the post-intervention effects have already been found statistically significant prior to model building, and therefore measurement models on post-intervention data alone would have a better chance of good fit as well as a higher risk of post hoc bias. The fading effect over the six-month follow-up period was considered more reliable, although a harsher requirement. Second, biases, unless systematic, would be less likely to re-occur over time. We believed these considerations would help further the validity of the measurement model given the small sample size.

## Methods

### Setting and samples

This study chose to conduct the evaluation in three Asian cities: Hong Kong, Taipei and Bangkok. The major

rationale was that the programmes of these three sites were purely peer led without the direct participation of mental health professionals. The analysis would therefore be reflective of this. Other cities might have modified the delivery mode with different extents of professional participation. In this study, all sessions of the FLEP were led by trainers who were themselves family members of people with SMI. The trainers received training and the trainer manual, while others in the group received a trainee textbook. The group size was between 12 and 16. At the time of research, three to four consecutive cohorts were followed up with the same set of self-administered questionnaires at three different time points: pre-intervention, post-intervention and six-month follow-up. The indexed subjects were surveyed via questionnaire in gatherings with trained research staff to provide necessary assistance to those with reading or literacy problems. Since assistance was needed only for a few older subjects, inter-rater reliability was not assessed. Altogether 13 cases (10.7%) were excluded from the indexed targets of 122 caregivers because of failure to complete the survey at any one of the three time points. Ethics approval was obtained from the University Research Ethics Committee of the first author, and endorsed by the collaborating caregiver groups/associations in each site. Informed consent was also obtained from individual participants. As participants were eager to enrol in the programme and most of them did not receive any other support, the research team did not consider it ethically sound to have a delay-treatment group as control subjects for six months.

### Instruments measuring caregiver burden and psychological well-being

Outcomes of participants were measured in four areas: (1) subjective stress (or subjective burden, including worry and displeasure in caring); (2) depression; (3) intra-psychic strain (including self-esteem and global mastery); and (4) family empowerment.

Subjective burden associated with caregiving was measured using the Family Experience Interview Schedule Affective Response Module with Worry and Displeasure subscales (Tessler & Gamache, 1993). The two seven-item subscales are rated on Likert-type scales with a higher score indicating a higher level of worry and displeasure. Depression was measured by a 14-item CES-D scale (Radloff, 1977). This short version of the CES-D has been tested in a previous caregiver study (Struening et al., 1995). All items in the CES-D were rated on a four-point Likert scale (1 = 'never', 2 = 'some of the time', 3 = 'about half of the time', 4 = 'most of the time'), with a higher score indicating more severe depression. To make the final score comparable with the original 20-item CES-D scale, the total score was transformed into the range of 0–60 by subtraction (subtracting 1 from each item) and multiplication

**Table 1.** Reliability of scales and baseline statistics ( $N = 109$ ).

| Outcomes                        | Overall baseline value $M$ (SD) | Reliability $\alpha$ | Reliability in previous studies $\alpha$ |
|---------------------------------|---------------------------------|----------------------|--|
| <b>Subjective burden/stress</b> |                                 |                      |  |
| Worry                           | 2.75 (0.76)                     | .88                  | .89 <sup>1</sup>                         |
| Displeasure                     | 2.75 (0.91)                     | .88                  | .85 <sup>1</sup>                         |
| <b>Intra-psychic strain</b>     |                                 |                      |  |
| Self-esteem                     | 2.88 (0.41)                     | .77                  | .81 <sup>2</sup>                         |
| Global mastery                  | 2.64 (0.44)                     | .73                  | .74 <sup>3</sup>                         |
| <b>Depression</b>               |                                 |                      |  |
| CES-D (14 items)                | 18.61 (9.39)                    | .85                  | .84–.90 <sup>4</sup>                     |
| <b>Family empowerment</b>       |                                 |                      |  |
| Family Empowerment Scale        | 3.20 (0.68)                     | .96                  | .78–.89 <sup>5</sup>                     |
| FES: system advocacy            | 3.08 (0.75)                     | .87                  | .89 <sup>5</sup>                         |
| FES: knowledge                  | 3.07 (0.81)                     | .92                  | .89 <sup>5</sup>                         |
| FES: competence                 | 3.32 (0.71)                     | .87                  | .85 <sup>5</sup>                         |
| FES: self-efficacy              | 3.44 (0.66)                     | .69                  | .78 <sup>5</sup>                         |

1 From Tessler and Gamache (1993).

2 From Schmitt and Allik (2005).

3 From Pearlin et al. (1981).

4 Cronbach  $\alpha$  of 14-item CES-D not reported, Cronbach  $\alpha$  of the original 20-item CES-D was reported in Radloff (1977).

5 From Singh and Curtis (1995).

(multiplying the scale mean by 20). Intra-psychic strain was assessed by the 10-item Rosenberg's Self-Esteem Scale (Rosenberg, 1965; Schmitt & Allik, 2005) and the seven-item Pearlin's Mastery Scale (Pearlin, et al., 1981) measuring caregivers' global sense of self-esteem and control in daily life. Finally, the degree of empowerment in caregivers was measured by the 34-item Family Empowerment Scale (FES; Koren, Dechillo, & Friesen, 1992). The FES revealed empowerment in four forms, corresponding to the expressions of system advocacy, knowledge, competence and self-efficacy. All FES items were rated on a five-point Likert scale (1 = 'not true at all', 5 = 'very true'), with a higher score signifying a higher degree of empowerment (Singh & Curtis, 1995).

### Statistical analysis

This paper primarily reported statistics of combined groups rather than separate groups because of the limited sample size and the concern for changes over time rather than differences between sites. The ANOVA procedure was applied to test the hypothesis that the programme empowered participants and reduced their subjective stress, intra-psychic strain and level of depression. The analysis of co-variance (ANCOVA) procedure was not preferred since controlling more than one confounding variable in such a small sample would likely be problematic. Controlling gender through ANCOVA was also not advisable since there were only 23 male caregivers. With a relatively small sample size, a straightforward ANOVA was preferred. To show a clearer picture of site difference, Table 4 includes line charts by

site and time point for variables with significant interaction effect. SPSS 16.0 General Linear Model Repeated Measures procedures were used to test whether the main effects of time and site were significant. Time was specified as a within-subject factor and site was specified as a between-subject factor in the analysis. For each outcome, a global  $F$ -value for change across time and a site  $\times$  time interaction  $F$ -value were calculated, followed by a pairwise comparison test between the pre-intervention score, the post-intervention score and the six-month follow-up using the Helmert within-subject contrast method. For any outcome with significant site  $\times$  time interaction effect, the analysis was repeated at subgroup level by site according to the similarity of its baseline outcome value.

## Results

### Reliability

The measurements of this study demonstrated satisfactory internal consistency. A comparison of internal consistency (Cronbach's  $\alpha$ ) of each scale in the present sample with the original English-speaking sample is made in Table 1. It can be seen that the internal consistency of the present data is reasonably close to the referenced  $\alpha$  levels.

### Composition of sample

Of the 109 participants, 41 were from Hong Kong, 35 from Taipei and 33 from Bangkok (Table 2). Only caregivers of people with SMI were invited to participate. The inclusion

**Table 2.** Composition of sample.

| Site                             | Hong Kong<br>(n = 41) |    | Taipei<br>(n = 35) |    | Bangkok<br>(n = 33) |    | Total<br>(N = 109) |     |
|----------------------------------|-----------------------|----|--------------------|----|---------------------|----|--------------------|-----|
|                                  | %                     | n  | %                  | n  | %                   | n  | %                  | n   |
| <b>Gender</b>                    |                       |    |                    |    |                     |    |                    |     |
| Men                              | 17.1                  | 7  | 28.6               | 10 | 18.2                | 6  | 21.1               | 23  |
| Women                            | 82.9                  | 34 | 71.4               | 25 | 81.8                | 27 | 78.9               | 86  |
| <b>Age (years)</b>               |                       |    |                    |    |                     |    |                    |     |
| M (SD)                           | 45.49 (9.8)           |    | 51.97 (11.28)      |    | 48.53 (14.73)       |    | 48.49 (12.10)      |     |
| 20–29                            | 4.9                   | 2  | 2.9                | 1  | 12.5                | 4  | 6.4                | 7   |
| 30–39                            | 16.9                  | 7  | 11.6               | 4  | 27.5                | 5  | 14.7               | 16  |
| 40–49                            | 48.6                  | 20 | 20.2               | 7  | 17.5                | 7  | 31.2               | 34  |
| 50–59                            | 19.4                  | 8  | 37.2               | 13 | 22.5                | 9  | 27.5               | 30  |
| > 60                             | 9.7                   | 4  | 28.8               | 10 | 20.0                | 8  | 20.2               | 22  |
| <b>Relationship with patient</b> |                       |    |                    |    |                     |    |                    |     |
| Father                           | 4.9                   | 2  | 25.7               | 9  | 18.2                | 6  | 15.6               | 17  |
| Mother                           | 34.1                  | 14 | 42.9               | 15 | 21.2                | 7  | 33.0               | 36  |
| Brother                          | 2.4                   | 1  | 0.0                | 0  | 0.0                 | 0  | 0.9                | 1   |
| Sister                           | 22.0                  | 9  | 20.0               | 7  | 33.3                | 11 | 24.8               | 27  |
| Husband                          | 9.8                   | 4  | 2.9                | 1  | 0.0                 | 0  | 4.6                | 5   |
| Wife                             | 9.8                   | 4  | 2.9                | 1  | 9.1                 | 3  | 7.3                | 8   |
| Other                            | 17.0                  | 7  | 5.7                | 2  | 18.2                | 6  | 21.8               | 15  |
| Total                            | 37.6                  | 41 | 32.1               | 35 | 30.3                | 33 | 100.0              | 109 |

criteria were schizophrenia spectrum disorders, mania, bipolar disorders, major depression and other psychoses (except the excluded categories). The exclusion criteria were organic brain syndromes, personality disorders and all neuroses. The mean age of participants was 48.49 (SD = 12.10). Approximately 20% of the caregivers were aged 60 or above, 28% were aged 50–59, 31% were 40–49, and 21% were younger than 40. The majority (79%) were women. Almost half were parents of the people with SMI (33% mothers, 15.6% fathers), a quarter were siblings (24.8% sisters, 1% brothers), about 12% were spouses (7.3% wives, 4.6% husbands) and the rest (21.8%) were other relatives of the patients. Based on the traditional cut-off point of 16 on the CES-D scale, 41% of the male and 62% of the female participants were at high risk for serious depression before attending the programme.

### Repeated ANOVA: Time effect and programme effectiveness spilled out to a six-month follow-up time frame

To assess whether there was a significant difference in outcomes over the time span and/or significant interaction between time and site, 10 univariate repeated ANOVA were performed. The scores of 10 outcome variables at pre-intervention, post-intervention, six-month follow-up and the *F*-value for main effect of time are presented in Table 3 together with the result of the within-subject contrast test. In addition to the main effect of time, the *F*-value for the

site × time interaction effect was also illustrated. Compared with the baseline FES score, full-scale and subscale FES scores increased at post-intervention and six-month follow-up assessment. Improvement was most remarkable in the FES knowledge domain ( $F(2,103) = 32.90, p < .001, \eta^2 = .39$ ) and least obvious in the self-efficacy domain ( $F(2,103) = 14.48, p < .001, \eta^2 = .12$ ). However, as the full-scale FES ( $F(4,208) = 3.00, p < .05, \eta^2 = .08$ ) and knowledge domain ( $F(4,208) = 4.60, p < .01, \eta^2 = .05$ ) showed significant site × time interaction effect, the analysis was repeated by splitting the data set into two groups by site: 'Hong Kong' and 'Taipei and Bangkok' (Table 4). Results of the subgroup analysis showed that the time effects remained significant and the site × time interaction effects became insignificant (Table 4). It is clear that the site difference is only due to the lower knowledge scores of Hong Kong subjects at baseline, not the confounding site difference at post-intervention intervals.

In Table 3, other measures of subject burden were also reduced substantially after the intervention, as reflected by the significant time effect of worry score ( $F(2,99) = 33.39, p < .001, \eta^2 = .25$ ) and displeasure score ( $F(2,104) = 27.18, p < .001, \eta^2 = .21$ ). Moreover, significant effect of time was also identified in the areas of intra-psychic strain (self-esteem:  $F(2,103) = 7.61, p < .01, \eta^2 = .13$ ; global mastery:  $F(2,103) = 4.02, p = .02, \eta^2 = .04$ ) and depression ( $F(2,104) = 5.59, p < .01, \eta^2 = .10$ ). These results indicate that the programme was effective in empowering participants for effective caretaking, as well

as reducing their level of worry and displeasure. Moreover, the programme also has significant effectiveness in relieving intra-psychic strain and depression.

**Testing the measurement model**

With the notion that psycho-education may not have reduced depressed moods significantly and consistently

over time, depression was taken correlated with the empowerment construct, also loading on the outcome indicators, rather than an intervening variable. The empowerment construct was hypothesized to affect three variables (worry, self-esteem and global mastery) in a positive manner and one variable (displeasure) in a negative manner. On the other hand, depression should correlate negatively with empowerment, and regress negatively

**Table 3.** Comparison of outcome measures at each time point (combined sites) (N = 109).

| Outcome measures            | Pre-intervention | Post-intervention | Six-month follow-up | Time effect F-value <sup>1</sup> | Time x Site F-value <sup>2</sup> | Time effect Significant difference <sup>3</sup> |
|-----------------------------|------------------|-------------------|---------------------|----------------------------------|----------------------------------|---|
|                             | M (SD)           | M (SD)            | M(SD)               |                                  |                                  |   |
| <b>Subjective stress</b>    |                  |                   |                     |                                  |                                  |   |
| Worry                       | 2.75 (0.76)      | 2.41 (0.72)       | 2.27 (0.75)         | 33.39***                         | 1.17                             | Pre > Post > Six-mth                            |
| Displeasure                 | 2.75 (0.91)      | 2.29 (0.79)       | 2.32 (0.80)         | 27.18***                         | 0.05                             | Pre > Post and Six-mth                          |
| <b>Depression</b>           |                  |                   |                     |                                  |                                  |   |
| CES-D (14 items)            | 18.68 (9.41)     | 16.33 (8.73)      | 15.57 (9.34)        | 5.59**                           | 0.21                             | Pre > Post and Six-mth                          |
| <b>Intra-psychic strain</b> |                  |                   |                     |                                  |                                  |   |
| Self-esteem                 | 2.87 (0.40)      | 2.94 (0.44)       | 3.01 (0.45)         | 7.61**                           | 0.55                             | Pre < Six-mth                                   |
| Global mastery              | 2.63 (0.44)      | 2.68 (0.47)       | 2.73 (0.47)         | 4.02*                            | 0.31                             | Pre < Six-mth                                   |
| <b>Empowerment</b>          |                  |                   |                     |                                  |                                  |   |
| FES: full-scale             | 3.18 (0.68)      | 3.65 (0.49)       | 3.53 (0.51)         | 28.69***                         | 3.00*                            | Pre < Post and Six-mth, Post > Six-mth          |
| FES: system advocacy        | 3.06 (0.75)      | 3.49 (0.64)       | 3.35 (0.66)         | 20.62***                         | 1.56                             | Pre < Post and Six-mth                          |
| FES: knowledge              | 3.06 (0.81)      | 3.67 (0.55)       | 3.56 (0.60)         | 32.90***                         | 4.60**                           | Pre < Post and Six-mth                          |
| FES: competence             | 3.31 (0.71)      | 3.70 (0.55)       | 3.60 (0.54)         | 20.80***                         | 2.21                             | Pre < Post and Six-mth                          |
| FES: self-efficacy          | 3.43 (0.66)      | 3.76 (0.51)       | 3.66 (0.58)         | 14.48***                         | 1.52                             | Pre < Post and Six-mth                          |

<sup>1</sup> F-value for time from mixed ANOVA model. Degree of freedom for dependent variable worry was (2,99), for displeasure and CES-D were (2,104) and for self-esteem, mastery and family empowerment were (2,103).

<sup>2</sup> F-value for time from mixed ANOVA model. Degree of freedom for dependent variable worry was (4,200), for displeasure and CES-D were (4,210) and for self-esteem, mastery and family empowerment were (4,208).

<sup>3</sup> Significant difference for test of within-subject contrast in ANOVA. Contrast type: Helmert.

\* p < .05, \*\* p < .01, \*\*\* p < .001.

**Table 4.** Comparison of outcome measures at each time point by site.

| Outcome measures                        | Pre-intervention M (SD) | Post-intervention M (SD) | Six-month follow-up M (SD) | Time effect F-value <sup>1</sup> | Time x Site F-value <sup>1</sup> | Time effect Significant difference <sup>2</sup>   |
|---|-------------------------|--------------------------|----------------------------|----------------------------------|----------------------------------|---|
| <b>Empowerment (Hong Kong)</b>          |                         |                          |                            |                                  |                                  |   |
| FES: full-scale                         | 2.87 (0.67)             | 3.49 (0.45)              | 3.46 (0.54)                | 19.87***                         | N/A                              | Pre < Post and Six-mth                            |
| FES: knowledge                          | 2.60 (0.85)             | 3.51 (0.53)              | 3.45 (0.60)                | 24.58***                         | N/A                              | Pre < Post and Six-mth                            |
| <b>Empowerment (Taipei and Bangkok)</b> |                         |                          |                            |                                  |                                  |   |
| FES: full-scale                         | 3.38 (0.61)             | 3.75 (0.49)              | 3.58 (0.50)                | 12.35***                         | 0.38                             | Pre < Post Pre < Post and Six-mth, Post > Six-mth |
| FES: knowledge                          | 3.35 (0.66)             | 3.77 (0.54)              | 3.62 (0.59)                | 16.05***                         | 2.09                             | Pre < Post and Six-mth                            |

<sup>1</sup> F-value for time from mixed ANOVA model. For Hong Kong, degree of freedom for the dependent variables were (2, 39). For Taipei and Bangkok, degree of freedom for the dependent variables was (2, 63).

<sup>2</sup> Significant difference for test of within-subject contrast in ANOVA. Contrast type: Helmert.

\* p < .05, \*\* p < .01, \*\*\* p < .001.

Illustration of Time x Site Interaction Effects

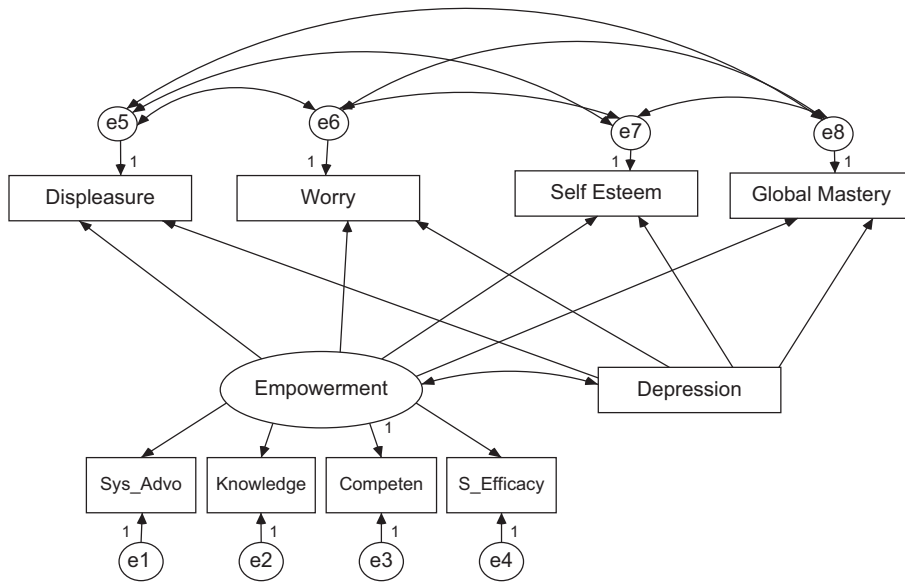
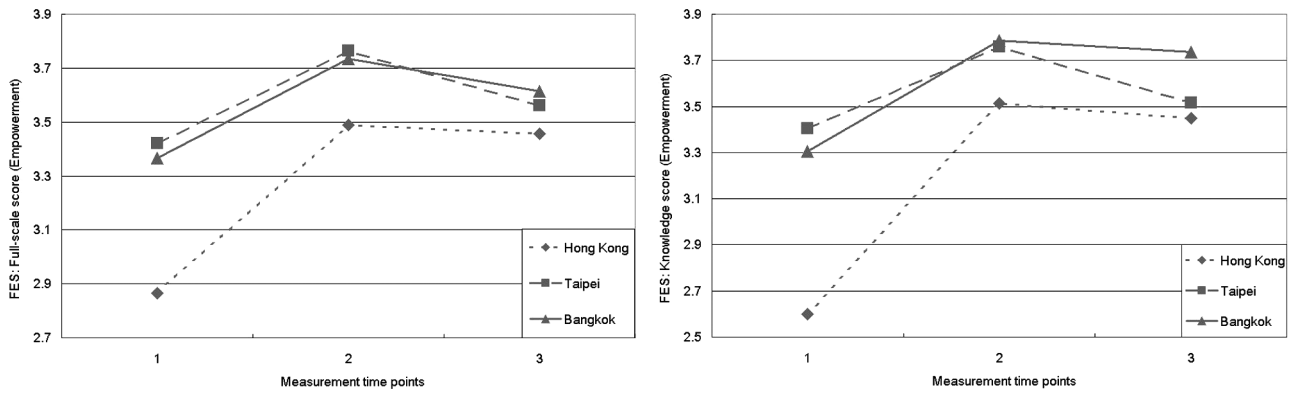


Figure 1. Proposed measurement model.

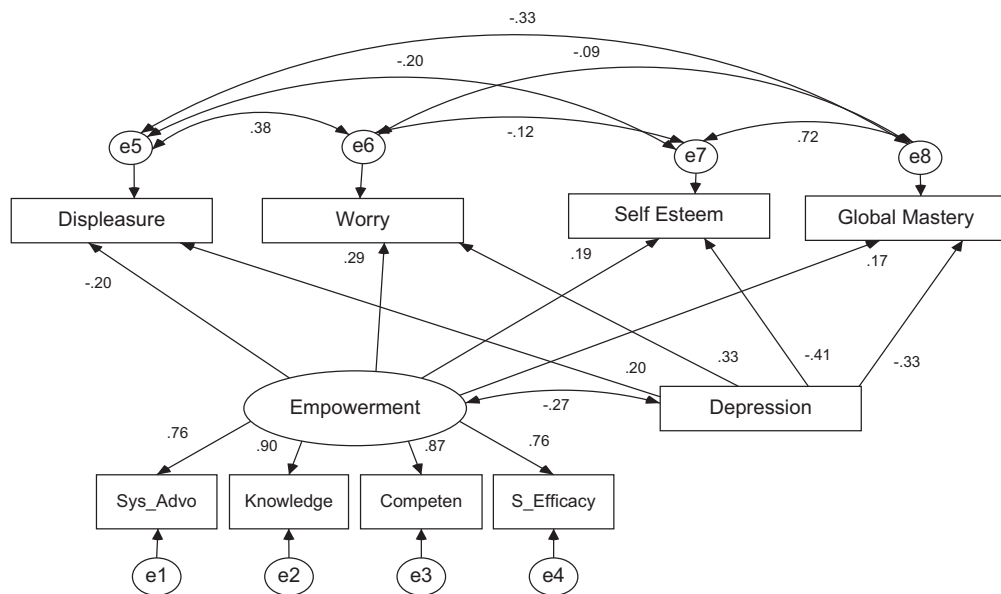


Figure 2. Actual measurement model with post-intervention data.

### Summary of Model Fit

| Structural Model | $\chi^2$ | df | $\chi^2 / df$ | TLI  | CFI  | AIC    | RMSEA | Bollen-Stine bootstrap p-value |
|------------------|----------|----|---------------|------|------|--------|-------|--------------------------------|
| Model A          | 29.436   | 17 | 1.732         | .943 | .973 | 85.436 | .081  | .186                           |

on self-esteem and global mastery, but positively on displeasure and worry.

In spite of the gender difference in some of the variables, the proposed general measurement model had an acceptable fit  $\chi^2 (17, N = 109) = 29.436, p = .00$ . A Tucker-Lewis Index of 0.943, providing a measure of incremental fit when compared to a null model, has been found acceptable. Although the root mean square error of approximation (RMSEA) of 0.081 is not low enough to claim an excellent fit, other indicators like the normed  $\chi^2$  (1.732) and Comparative Fit Index (0.973), suggest a good fit. Although the sample size was small ( $N = 109$ ), there were only nine variables involved and it was therefore within the acceptable limit of the 1-to-10 rule.

## Discussion

### General effectiveness of FLEP

Consistent with other studies on the outcome of PFEP, this evaluation study has demonstrated that FLEP in general is effective in bringing about a sustainable improvement in subjective stress and empowerment over a six-month period. However, in previous studies, peer-led psycho-education programmes like that of NAMI's F2F programme have not shown improvements in depressive moods or self-esteem (Dixon, et al., 2001; Dixon, et al., 2004). Plausible explanations for the difference could be traced back to how the programmes were delivered. Both F2F and FLEP are run by trained caregivers, but the former is more informative through text reading activities. In addition to individual topics to handle caregivers' needs and emotions, the trainee-turned-trainers of the latter programme have also received training on group dynamics and brief counselling skills. Although the caregiver trainers are never meant to provide professional services, their potential contribution to self-help under a given structure has been evident, and should not be underestimated.

In Asia, where psychiatric treatment and rehabilitation facilities are often under-funded and the needs of caregivers are largely neglected, the FLEP has provided an affordable alternative to meet at least some of their needs. Through the class led by caregiver-turned-trainers and the continuous exchange with other caregivers who were going through a somewhat similar journey, individuals were empowered to see new possibilities and solutions. This educational experience appears to be a unique one that mental health professionals cannot provide. Besides, in some countries where advocacy for caregivers or people

with severe mental illness is either absent or a potentially embarrassing topic to professional associations or government officials, advocacy by caregivers themselves rather than by mental health professionals is a more acceptable alternative. Now, with caregivers contributing as stakeholders, the health care and social care systems can become more responsive.

The effectiveness of the programme depends greatly on the quality of the trainees-turned-trainers and their knowledge and skills. It calls for the continuous contribution of mental health professionals to support these trainers and has opened up new opportunities for caregivers as well as for mental health professionals in relieving the subjective burdens for caregivers. The existing FLEP demonstrates a good example of how mental health professionals can collaborate with family members. In fact, their support for the training of trainers has been indispensable and much appreciated.

The generally low baseline empowerment scores of Hong Kong subjects when compared with that of Taipei and Bangkok was unexpected. Given that Hong Kong has the highest GDP per capita of the three sites, a modern medical service and some structured community services, we would expect Hong Kong subjects to feel in better control. The result turns out to be just the opposite. The same context has actually generated more powerlessness and helplessness. It is possible that Hong Kong subjects expected that more could have been done with their existing financial situation (i.e. huge government reserve and surplus on government budget). It is worth noting that a caregiver's subjective burden in the long run is mostly determined by their emotional involvement with the ill person and not necessarily by the amount of available community support. Generally, it has been women who cater to the daily needs of patients and bear the emotional strain that arises from close interactions with mentally ill family members (Almberg, Grafstrom, & Winblad, 1997; Almberg, Jansson, Grafstrom, & Winblad, 1998; Barusch & Spaid, 1989; Faison, Faria, & Frank, 1999; Kramer & Kipnis, 1995; Parabiaghi, et al., 2007; Sparks, Farran, Donner, & Keane-Hagerty, 1998; Stoller, 1990). Given that women (especially mothers) are usually engaged in more emotional work (Bentsen et al., 1996; Bentsen et al., 1998), the psycho-education programme, which taught new factual and emotional information, would have delivered benefits for the participants. The significant improvements found in this study may be related to the fact that female caregivers constituted the majority of the sample, and they responded better than men in emotion-related and



coping-related outcomes in family psycho-education programmes (McWilliams, Hill, Mannion, Kinsella, & O'Callaghan, 2007). The exact engendered benefits would have to be explored by better research design but the recruitment of more male caregivers is expected to be difficult in Asia. This will have to change before we can gain a better understanding of the influence of gender factors and the development of gender-sensitive practice in family education for caregivers.

### *Insights from the empowerment model*

The empowerment-oriented model of psycho-education appears to be a conceptually sound, practically viable and empirically grounded model. It challenges the long-standing notion that caregivers are helpless clients who can only be helped by mental health professionals, and that caregivers are just too burdened to be empowered. In line with the findings of studies on the caregivers of other patient groups like the elderly (Engstrom, Wadensten, & Haggstrom, 2010), cancer patients (Magill, 2009), children with asthma (Martinez, Puterez, Ramerez, Canino, & Rand, 2009) and patients with chronic health problems (St-Cyr et al., 2008), empowerment practice appears to be a viable approach for working with the caregivers of mental patients. The FLEP led by trainee-turned-trainers has provided a group process in which newcomers are being empowered to reduce or remove unnecessary guilt, see new possibilities and find better ways to make the best out of the treatment regime and the available community resources. The mutual support generated in the group process appears to be a valuable source of psychological and social support.

Another interesting issue of the tested model is its positioning of the depression variable, which has been traditionally treated as a dependent or mediating variable. In this study, the existing empowerment model did not include depression as one of the outcome variables. Rather, depression is taken as a related but different construct independently influencing the outcome variables. The interpretation makes sense in that empowerment practice does not have to start only after depression is eased. For caregivers, a depressive mood might hang on for years owing to the fluctuating course of the illness and the experience they have in coping with it. Carefully planned and well-monitored empowerment practice could bring forth good outcomes for caregivers with or without mood problems. Instead of taking the insignificant improvement of depression as a setback for empowerment practice, the empowerment model of this study sees a different angle, suggesting that the empowerment could be widely applicable to caregivers of different mood states.

The current study does not restrict empowerment to purely psychological dimensions. The FLEP, which claims to combine psycho-education with advocacy, has promised much more than a mutual support group that operates on

emotions. An effective psycho-education programme helps one to cope better with the emotions that mingle with the burden of care and to connect better with formal and informal resources, but an empowerment model goes beyond that. It extends one's horizon to recognize system failure rather than personal misfortune and maintains one's passion to help those in similar situations. The necessary result of this transformative process will be from passivity to activity. True empowerment should not stop at making caregivers feel good and comforted. Rather it goes jointly with advocacy, which in turn further strengthens one's value of being the caregiver and the notion of empowerment. It is also worth pointing out that empowerment has remained rhetoric and may mean only psychological empowerment in many Asian places. Changing how one feels without changing the situations one faces may bring about greater frustration at a later time. However, radical forms of advocacy have never taken place and are probably unwelcome in Asia. Should the participation of stakeholders like caregivers be valued, infrastructure to facilitate their participation has to be provided at both local and national levels. How empowerment practice in mental health care can proceed in a form and process that is consensual to all parties will be one of the major challenges of modern mental health care in Asia.

### *Limitations and future studies*

The participants' relationship to patients and the demographic characteristics have not been controlled due to the modest sample size. Uncontrolled situations such as being male and being younger systematically predispose patients towards having more disturbing behaviour and might cause greater burden on the caregivers' part (Chan, 1996; Jenkins & Schumacher, 1999). If a generalization is to be drawn for each site it will require a much larger sample size and a more controlled design. This will enable a more confident evaluation of the impact of the programme at a specific dimension for a particular site. The under-representation of male subjects also calls for further research. The FLEP, with the use of group dynamics, appears to be effective for caregivers in spite of some baseline differences in Asian cities. However, statistical procedures have been less able to describe and explain how the changes are made possible through the group process. A qualitative method to examine the process is warranted in the future to understand the participants as well as the trainers. The tested measurement model is the first of its kind in empowerment practice and is unavoidably simple. More comprehensive models have to be built to enrich the initial model and achieve excellent fit at the same time. Unfortunately we have not explored how the particular culture of each site in culturally diverse Asia influences the process and the outcomes, and whether the programme works successfully for rural areas where the provisions for psychiatric care and support may be far

worse than in the cities. These imperfections and shortcomings will prompt us to plan the future programme and its evaluation with sharper focuses and better methods.

## Conclusion

It has been more than two and a half decades since the first deliberation of empowerment and mental health care in the communities of developed countries (Rose & Black, 1985), but it is only in recent times that we have the first piece of empirical evidence of empowerment in East Asia. This six-month follow-up study of FLEP, irrespective of methodological imperfections, reveals that this peer-led structured and interactive programme with empowerment orientation had significant effects in reducing psychological strains and improving coping and empowerment of the participants. Apart from the initial support for FLEP, the current study also provides some hindsight on the empowerment practice in mental health for Asia, whose sociocultural political contexts are vastly different from that of the developed countries. It remains to be seen whether qualitative data or more stringent research design will yield consistent results and whether FLEP can also work in rural areas.

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