

Effects of Functional Analytic Psychotherapy Therapist Training on Therapist Factors Among Therapist Trainees in Singapore: A Randomized Controlled Trial

Shian-Ling Keng,^{1*} Emma Waddington,¹ Xiangting Bernice Lin,^{1†} Michelle Su Qing Tan,^{1†} Clare Henn-Haase¹ and Jonathan W. Kanter²

¹Department of Psychology, National University of Singapore, Singapore

²Department of Psychology, University of Washington, Seattle, WA USA

Functional Analytic Psychotherapy (FAP) is a behavioral psychotherapy intervention that emphasizes the development of an intimate and intense therapeutic relationship as the vehicle of therapeutic change. Recently, research has provided preliminary support for a FAP therapist training (FAPTT) protocol in enhancing FAP competency. The present study aimed to expand on this research by examining the effects of FAPTT on FAP-specific skills and competencies and a set of broadly desirable therapist qualities (labelled *awareness*, *courage* and *love* in FAPTT) in a sample of therapist trainees in Singapore. The study also evaluated the feasibility and acceptability of FAP in the Singaporean context. Twenty-five students enrolled in a master's in clinical psychology program were recruited and randomly assigned to receive either eight weekly sessions of a FAPTT course or to a waitlist condition. All participants completed measures assessing empathy, compassionate love, trait mindfulness, authenticity and FAP-specific skills and competencies pre- and post-training, and at 2-month follow-up. A post-course evaluation was administered to obtain participants' qualitative feedback. Results indicated that compared with the waitlisted group, FAPTT participants reported significant increases in overall empathy, FAP skill and treatment acceptability from pre- to post-training. Improvements were observed on several outcome variables at 2-month follow-up. Participants reported finding the training to be both feasible and acceptable, although several raised issues related to the compatibility of the treatment with the local cultural context. Overall, the findings suggest that FAPTT is effective for improving specific FAP competencies and selected broadly desirable therapist qualities among therapist trainees. Copyright © 2016 John Wiley & Sons, Ltd.

Key Practitioner Message:

- Functional Analytic Therapy (FAP) therapist training protocol was effective in improving empathy and FAP skills among Singaporean therapist trainees.
- These improvements were maintained at 2-month follow-up.
- The training was found to be acceptable in the Singaporean context, although several adaptations were suggested to increase the compatibility between FAP principles and local cultural norms.

Keywords: Functional Analytic Psychotherapy, Therapist Training, Randomized Controlled Trial, Culture

Functional Analytic Psychotherapy (FAP; Kohlenberg & Tsai, 1991) is a relationally intense, behavioral principle-based psychotherapy intervention targeting patients'

transdiagnostic relational and interpersonal problems (Tsai *et al.*, 2009). Regarded originally as a clinical behavior analytic intervention (Madden, Hanley, & Dougher, 2016), FAP is viewed as one of the primary interventions described as part of a 'third wave' of behavior therapy focused on issues of mindfulness, acceptance, the relational qualities of the therapist and transdiagnostic constructive change rather than symptom alleviation (Hayes, 2004). Over 30 years of development, FAP has accumulated research support across a range of

*Correspondence to: Shian-Ling Keng, Box 39, Department of Psychology, National University of Singapore, Singapore 129800, Singapore.

E-mail: psykeng@nus.edu.sg

†Xiangting Bernice Lin and Michelle Su Qing Tan contributed equally to this work and are both considered as third authors of this manuscript.

case studies, single-subject designs and mechanism studies, and group designs (Mangabeira, Kanter, & Del Prette, 2012).

In FAP, the therapist creates an emotionally intense and safe relationship with the patient and then applies behavioral principles, such as reinforcement and generalization, to shape the patient's interpersonal improvements in the context of this relationship. Two types of patients' clinically relevant behaviors (CRB) are identified in FAP sessions: CRB1s (instances of patients' daily life problems that occur in session) and CRB2s (instances of patients' improvements that occur in session). An example of a CRB1 is a patient's avoidance and defensiveness related to becoming vulnerable with the therapist; and an example of a CRB2 is a patient's ability to remain vulnerable when the therapist expresses care. The goals of FAP are to reduce CRB1s and increase CRB2s. In brief, FAP encourages therapists to observe, evoke and naturally reinforce in-session CRB2s, notice the impacts they make on patients and facilitate the generalization of in-session improvements to the patient's daily life.

FAP may be seen as an assimilative integrative approach (Lampropoulos, 2001; Messer, 1992) rooted in behavioral theory and principles. FAP's primary mechanism of change is the evocation and reinforcement of in-session CRB2s, but a variety of techniques may be borrowed from other approaches to do this. For example, in the service of increasing accurate observation of patients' CRBs (labelled 'therapeutic awareness'), FAP therapists may incorporate and practice a variety of meditative or mindfulness exercises in session. FAP therapists take strategic, therapeutic risks (labelled 'therapeutic courage') in the service of creating powerful in-session experiences that evoke CRB2s, and are encouraged to borrow techniques from other approaches to do so, depending on the particular goals of individual patients. These techniques may include free association to help a patient with spontaneous self-expression, creative writing exercises to help a patient with expressing difficult emotions or empty chair work to help patients with self-compassion or empathy for others (Tsai *et al.*, 2009). When these patients' CRB2s are evoked and observed by the therapist in the moment, the therapist attempts to respond with natural reinforcement to strengthen these repertoires. This natural reinforcement, sometimes referred to as 'therapeutic love' in FAP (Tsai *et al.*), may involve authentic expressions of empathy and positive regard for the patient or vulnerable disclosures of the emotional impact the patient is having on the therapist in the moment (i.e., therapist self-disclosure).

Findings are accumulating in support of the efficacy of FAP. Clinical case studies suggested that FAP is effective in improving ideographically defined interpersonal problems for patients with histrionic and narcissistic personality disorders (Callaghan, Summers, & Weidman, 2003), chronic pain (Vandenberghe, Ferro, & Furtado da Cruz,

2003), obsessive compulsive disorder (Kohlenberg & Vandenberghe, 2007) and depression (García, Aguayo, & Montero, 2006). Controlled single-subject designs with multiple patients have demonstrated that FAP improves patients' problems when added to baseline conditions consisting of CBT (Kanter *et al.*, 2006), non-specific supportive therapy (Landes, Kanter, Weeks, & Busch, 2013) and behavior analytic therapy (Esparza, Muñoz-Martínez, Santos, & Kanter, 2015; Oshiro, Kanter, & Meyer, 2012). A trial comparing cognitive therapy to FAP-enhanced cognitive therapy found the latter to be incrementally more efficacious in decreasing depression symptomatology and improving interpersonal functioning among patients with depression (Kohlenberg, Kanter, Bolling, Parker, & Tsai, 2002). Recently, a small randomized trial comparing FAP to a brief, supportive condition with a transdiagnostic college-counseling patient sample found significant improvements in interpersonal functioning and significant decreases in overall psychiatric symptom severity for FAP compared with the supportive control (Maitland *et al.*, 2016). While the majority of studies have been conducted in the United States, a small number of studies found evidence that FAP benefitted clients from other countries, such as Brazil (Vandenberghe *et al.*, 2003), Spain (Esparza *et al.*, 2015) and Columbia (Ferro *et al.*, 2006).

Awareness, Courage and Love and FAPTT

Recently, there has been preliminary effort to evaluate FAP therapist training (FAPTT) protocols (Kanter, Tsai, Holman, & Koerner, 2013). These protocols, designed to be delivered in-person or online, entail a highly structured group environment and closely parallel FAP treatment concepts. As opposed to an emphasis on formal didactic instructions, FAPTT is largely experiential and personal, emphasizing behavioral change processes consistent with active learning strategies such as deliberate practice and feedback that have been identified as necessary for successful therapist training (Beidas & Kendall, 2010). A primary goal of FAPTT is to improve therapist's competence in FAP by focusing largely on skill-building around repertoires related to therapeutic *awareness, courage and love (ACL)* as defined above. Generally, the training group in a FAPTT protocol meets weekly over the course of 8 weeks. During each meeting, the group engages in a series of experiential exercises with each other in the context of conceptualizations that defines each trainee's CRB1s and CRB2s related to their growth as FAP therapists. During each exercise, the trainers and other trainees observe each other's CRBs, evoke additional CRBs and provide naturally reinforcing feedback to each other. In a small pilot randomized trial of FAPTT ($n = 16$), a sample of largely Caucasian, American mental health professionals and

trainees demonstrated significant improvements in self-rated FAP competency and observer-coded FAP skill compared with a wait-list (WL) control group (Kanter *et al.*, 2013).

In addition to specific benefits with respect to improved competence of FAP therapists, FAPTT may have additional, broadly desirable benefits. Specifically, the focus on shaping the personal therapist repertoires of ACL in FAPTT protocols suggests that such training may enhance several key therapist qualities that contribute positively to the therapeutic alliance, a well-established and strong predictor of treatment outcome across therapeutic modalities (Arnow & Steidtmann, 2014; Baldwin, Wampold, & Imel, 2007; Horvath, Del Re, Flückiger, & Symonds, 2011). FAP's ACL-focus, in fact, has been discussed as a way to enhance the therapeutic alliance (Tsai, Kohlenberg, & Kanter, 2010). FAP sessions have been shown to produce higher therapeutic alliance ratings than supportive listening sessions (Maitland & Gaynor, 2016), and higher therapeutic alliance has been shown to mediate outcomes in FAP (Maitland *et al.*, 2016). The repertoires of ACL targeted in FAPTT parallel many of the characteristics associated with positive therapeutic alliances, including being honest, trustworthy, confident, warm, interested and open, attending to the client's experience, and facilitating affective expression (Ackerman & Hilsenroth, 2003). These qualities also correspond to several specific therapist facilitative interpersonal skills (i.e., verbal fluency, emotional expression, persuasiveness, warmth/positive regard, hopefulness, empathy, alliance bond capacity and alliance-rupture-repair responsiveness), which Anderson *et al.* (2009; 2016) have established as predictors of both the therapeutic alliance and treatment outcome. In particular, FAP's therapeutic awareness and love repertoires are posited by FAP authors (Tsai *et al.*, 2009) to be functionally very similar to two of the most important, established therapist characteristics: empathy and positive regard (Rogers, 1957), which have been shown in meta-analyses to account for 9% (Elliott, Bohart, Watson, & Greenberg, 2011) and 7% of outcome variance (Farber & Doolin, 2011), respectively. These parallels are made explicit in FAPTT protocols (Kanter *et al.*, 2013).

The Current Study

The present study aimed to replicate findings of previous research that demonstrated the effects of FAPTT on FAP-specific skills and knowledge (Kanter *et al.*, 2013) with an independent research team and a new training context (Singapore). We chose Singapore as a location for the study as no previous research has yet examined the application of FAPTT in an Asian context. Further, a trained FAP facilitator was available to provide training at the site where the study was carried out. Another goal of the

study was to extend previous research by examining the effects of FAPTT on several broadly desirable, personal therapist qualities characteristic of strong therapeutic alliances and targeted by FAPTT's ACL focus, specifically qualities of trait mindfulness, authenticity, compassionate love and empathy. Trait mindfulness, referring to non-judgmental awareness and acceptance of one's moment-to-moment experience (Keng, Smoski, & Robins, 2011), corresponds to FAPTT's target of awareness and has been shown to predict a positive therapeutic alliance (Ryan, Safran, Doran, & Moran, 2012). Therapist mindfulness also has been linked with various therapy-specific outcomes, such as increased counseling self-efficacy (confidence in the ability to perform counseling tasks; Gockel, Burton, James, & Bryer, 2012) and lower compassion fatigue (emotional exhaustion experienced by therapists working with clients; Adams, Boscarino, & Figley, 2006). Authenticity, which may be conceived as the ability and willingness to let others see one's 'true-self' (Carson & Langer, 2006), corresponds to FAPTT's target of courage and has been linked with both improved therapeutic alliance (Ackerman & Hilsenroth, 2003; Goldfried, Burckell, & Eubanks-Carter, 2003; Knox, Hess, Petersen, & Hill, 1997) and general relational outcomes (Brunell *et al.*, 2010; Reis *et al.*, 2010). Finally, mapping on to the FAP target of therapeutic love, compassionate love and empathy both have important influences on the therapeutic alliance and outcomes (e.g., Norcross & Wampold, 2011; Rogers, 1957). In FAPTT, the key therapeutic behavior of providing natural reinforcement in response to observed CRB2s is seen as a form of loving, compassionate and empathic responsiveness, consistent with both behavioral views of love and reinforcement (Skinner, 1948) and well-researched models for how intimate relationships develop (Reis, 2007).

The study was designed as a randomized trial that compared the effects of FAPTT versus a WL control condition on trait mindfulness, authenticity, compassionate love and empathy. The current study also provides the first randomized assessment of maintenance of gains after FAPTT, assessing outcomes immediately after and two months following the intervention.

Additionally, the current study also aimed to explore the feasibility of FAP in Singapore, with a particular focus on assessing the acceptability of a treatment that encourages authentic self-disclosure in a cultural context that values self-restraint, hierarchy and power distance, due to the influence of Confucian values¹ (Hofstede, 1984; Kim, Atkinson, & Umemoto, 2001). As a country that consists

¹Confucian values refer to a set of principles and beliefs taught by Confucius (an ancient Chinese philosopher), which have influenced attitudes towards life as well as norms for social relationships and interactions among Chinese people (Bond, 1996).

of Chinese as the majority ethnic group (approximately 74% of the ethnic composition; National Population and Talent Division, 2014), Singapore represents a culture that values pragmatism, discipline and control of emotions in the service of achievement (e.g., see Tan, 2012). We aimed to explore the implications of such a cultural environment on acceptability of a treatment modality that emphasizes taking interpersonal risks and expression of emotions.

We hypothesized that FAPTT participants would report significantly greater increases in self-reported trait mindfulness, authenticity, compassionate love and empathy compared with those in the waitlist (WL) control condition. We further predicted that FAPTT would bolster existing FAP-specific skills and knowledge among the participants, relative to those in the WL condition. We also predicted that a majority of these effects would be maintained at 2-month follow-up. As an ancillary analysis, we examined if there was an association between amount of homework completed and any of the outcomes observed among FAPTT participants.

METHOD

Participants

Participants in this study were recruited through an invitation email sent to all first and second year students enrolled in National University of Singapore (NUS)'s master's in clinical psychology programs. All enrolled students were eligible to participate in the present study. There were no exclusion criteria. Of all 34 students invited to participate, 25 responded to indicate interest.

The study was approved by the NUS Institutional Review Board. Informed consent was obtained from all participants of the present study. Although FAPTT constituted a part of their curriculum, participants were not graded formally on their participation in the training.

PROCEDURE

Participants were stratified according to their year in clinical training program (first or second year) and then randomly assigned to the FAPTT program ($n = 13$) or a WL condition ($n = 12$). All FAP and WL participants were assessed at the same time periods, including pre-training (time 1), post-training (time 2) and at a 2-month follow-up (time 3). At all assessment time points, participants completed a battery of questionnaires online (see below). Time 1 assessment also comprised of demographic information and previous experiences with FAP. All 25 participants completed the pre-training assessment. All 13 FAP participants completed the training program, with all except two having attended all eight weekly sessions.

The other two individuals attended seven of the eight sessions. Twelve FAP participants and 11 WL participants completed the time 2 and time 3 assessments. One from each group was lost at follow-up and did not complete both time 2 and 3 questionnaires. Participants were paid SG\$30 upon completing the time 3 assessment. Following the study's design, WL participants attended FAPTT groups within six months after the time 3 assessment. Attendance of the groups was part of the students' curriculum.

Trainers

The program was delivered by two doctorally trained clinical psychologists (second and fifth author, respectively). The lead trainer had 3 years of experience training in and implementing FAP prior to the current study and had participated in an 8-week FAP intensive training using protocols similar to the one employed in the current study. The trainer also received supervision from a FAP expert (last author) while delivering the training course for this study. The second trainer received on-going supervision from the lead trainer when facilitating the course.

Description of the Training Course

The FAPTT course in this study was modeled after Tsai's eight-week online course (Kanter *et al.*, 2013). The training program comprised eight weekly group sessions, each spanning 1.5 h. Participants allocated to the FAP condition were split into two smaller groups that ran concurrently. All training sessions were held at the university's training clinic. The training was delivered at no monetary cost to participants.

The content of the training program included provision of feedback about the previous training session, brief informal mindfulness exercises, various experiential exercises designed as opportunities to practice courage and love, minimal didactic instructions, case discussions, readings and completion of homework logs and assignments. Readings and tasks were assigned a week before each session to facilitate in-session discussion and participation. Prior to each weekly session, all participants were instructed to email their homework logs to all participants in their group. In the homework logs, participants recorded the number of interpersonal risks they took daily, and rated the level of risk taken (on a 0–7 scale) for each interpersonal encounter. Participants were paired up each week to respond to their partner's homework logs, and one pair each week was selected to share their responses to the group. Pairs were changed every week throughout the training course. Each session began with a brief mindfulness exercise led by either trainers or trainees. These exercises ranged from visual imagery to poetry, depending

on individual choice. Participants then took turns sharing life stories and providing feedback. This was followed by an experiential exercise. Early sessions focused on sharing and responding to individual life histories and later sessions worked through various issues such as sharing hopes and expectations, personal missions, inner fears and shame, grief and loss, avoidance, expression of gratitude and appreciation, or intimacy and attachment styles.

In contrast to the experiential learning described above, didactics were minimal. In the first session, a brief introduction on FAP and the ACL model (lasting approximately 20 min) was given to participants. In the second session, participants were given a 15-min presentation on how to conceptualize a typical FAP workshop exercise (such as the life history) using the ACL model. In this instance, the participants were guided through the antecedents that may be present when waiting to do their life history (the first exercise), the behaviors they may engage in (e.g., avoidance) and the consequences to these. The participants were then asked to explore the various alternative preferred behaviors they could engage in which were more in line with demonstrating ACL. Instead of assuming an authoritative teaching role, FAP trainers participated with trainees in the same activities and discussions most of the time. Each session closed with bridging questions that sought participants' feedback on the training session itself.

Measures

The Interpersonal Reactivity Index (IRI; Davis, 1983) is a multidimensional scale that assesses cognitive and emotional components of empathy. It consists of four subscales: perspective-taking (PT), fantasy (FS), empathic concern (EC) and personal distress (PD). Each subscale is comprised of seven items. All items are rated on a 5-point Likert-type scale (1 = *does not describe me very well*, 5 = *describes me very well*). Examples of items include: 'When I'm upset at someone, I usually try to "put myself in his shoes" for a while' and 'I am often quite touched by things that I see happen'. In this study, the overall scale's Cronbach's alpha was 0.74. The internal consistencies for the PT, FS, EC and PD subscales were 0.58, 0.71, 0.74 and 0.58, respectively.

The Compassionate Love Scale: Stranger-humanity Version (CLS; Sprecher & Fehr, 2005) is a 21-item questionnaire that measures compassionate love for humanity. The scale assesses one's thoughts, feelings and behavior with regard to care, concern and support for any stranger. Each item is rated on a 7-point Likert-type scale (1 = *not at all true of me*, 7 = *very true of me*). Examples of scale items include: 'When I hear about someone (a stranger) going through a difficult time, I feel a great deal of compassion for him or her' and 'I would rather engage in actions that

help others, even though they are strangers, than engage in actions that would help me'. Sprechner and Fehr reported high internal consistency for the total scale score. The internal consistency of the scale in this study was 0.95.

The Five Facet Mindfulness Questionnaire—Short Form (FFMQ-SF; Bohlmeijer, ten Klooster, Fledderus, Veehof, & Baer, 2011) comprises 24 items rated on a 5-point Likert-type scale, ranging from 1 (*never or very rarely true*) to 5 (*very often or always true*). It provides a total score and sub-scores on five facets of mindfulness: observing, describing, acting with awareness, nonjudging and nonreactivity. Sample items include: 'When I take a shower or bath, I stay alert to the sensations of water on my body' and 'I make judgments about whether my thoughts are good or bad.' In this study, the internal consistency of the overall scale was 0.86.

The Authenticity Scale (AS; Wood, Linley, Maltby, Baliouis, & Joseph, 2008) consists of 12 items rated on a 7-point Likert-type scale (1 = *does not describe me at all*, 7 = *describes me very well*). The questionnaire captures three aspects of dispositional authenticity: self-alienation (e.g., feeling out of touch with one's true self), authentic living (e.g., living in accordance with one's values and beliefs) and acceptance of external influence (e.g., believing that one has to conform to others' expectations). Sample items include: 'I am true to myself in most situations' and 'I live in accordance with my values and beliefs'. In this sample, the internal consistency of the scale was 0.86.

The FAP Impact Scale (FAPIS; Kanter *et al.*, 2013) is a 46-item questionnaire created to measure the impact of FAPTT on trainees' self-reported competencies related to FAP, including self-awareness, courage/risk taking, therapeutic love/reinforcement, values, self-disclosure and in-session focus (Kanter *et al.*, 2013). Items are rated on a 7-point Likert-type scale (1 = *strongly disagree*, 7 = *strongly agree*), and higher scores represent a more FAP-consistent approach to therapy reported by the therapist. Examples of items are: 'I take strategic and therapeutic risks with my clients' and 'With clients, I have permission to not always act supportive. I can express disappointment, anger, frustration as well'. The total scale score has an internal consistency of $\alpha=0.94$. The internal consistency of the scale in this study was 0.93.

The FAP Vignettes (Kanter *et al.*, 2013) are two brief vignettes which measure the impact of FAPTT on trainees' written responses to hypothetical therapy situations, described as an objective assessment of therapeutic skill with key FAP techniques by Kanter *et al.* In Vignette 1, a 13-line transcript of a therapy interaction is provided to the trainee. In this interaction, a client expresses nervousness in response to the therapist's question about the previous session. The instructions ask the trainee to read the transcript and respond to two questions: (Item 1) 'give a FAP-informed therapist response to the client's nervousness', and (Item 2) 'give an example of a brief FAP

rationale that the therapist may provide to the client'. In Vignette 2, a single client statement is provided to the trainee (i.e., 'I really need your support'). The instructions ask the trainee to interpret the statement as a CRB2 and provide a FAP-informed therapist response (Item 3). A blind coder gives a scholastic grade ranging from A+ to F (A+=ideal FAP response, C=pass, F=very poor response). Grades are converted to numbers for statistical analysis (A+=12, F=0). Kanter *et al.* reported inter-rater reliability using intraclass correlations (ICC): Item 1 (ICC=0.88), Item 2 (ICC=0.91) and Item 3 (ICC=0.91).

The Treatment Evaluation Inventory (TEI; Kazdin, 1980) is comprised of 15 items rated on a 7-point Likert-type scale (1=very negative response, 7=very positive response). The TEI computes a total score that reflects the level of acceptability of the treatment (FAP in the present study) to the respondent. All items loaded highly on one principal factor before and after varimax rotation. The internal consistency of the scale in this study was 0.89.

The Marlowe–Crowne Social Desirability Scale—Short Form C (MC-SDS Short Form C; Reynolds, 1982) consists of 13 items that are rated dichotomously as true or false. It provides a measure of individuals' tendencies to endorse socially desirable characteristics. The scale was administered to control for social desirability effects on participants' responses to the other self-report questionnaires. In this study, the scale has an internal consistency of 0.83.

The FAPTT Course Evaluation is a 7-item questionnaire adapted from Kanter *et al.* (2013) that was administered at time 2. The first item is an overall rating of course satisfaction: 'On a scale of 1–5, how satisfied or unsatisfied were you with your experience in the FAP group?', with response options ranging from 1 (*poor*) to 5 (*excellent*). This is followed by six open-ended questions: (1) 'What have you liked or found to be most helpful about this group?'; (2) 'How have you been affected professionally and personally as a result of your participation in this group?'; (3) 'What have you not liked/what suggestions do you have for change?'; (4) 'Do you have any thoughts on the compatibility of FAP with norms in the local (Singaporean/Asian) culture? In what ways are the contents taught consistent or inconsistent with local norms?'; (5) 'Are there any adaptations that you would recommend to make the training more culturally sensitive or attuned?' and (6) 'Is there anything else you want to say?'

Statistical Analyses

All analyses were performed using SPSS. Because of the relatively small sample size and the lack of interim assessments between pre-training and post-training, we did not perform intent-to-treat analyses but instead included only participants who completed the study. Two-tailed

independent-samples *t* tests or chi-squared tests were used to compare baseline characteristics of FAPTT versus WL participants. Bivariate analyses were used to examine potential redundancy among the dependent measures. Potential covariates were then identified from among 14 baseline characteristics—sex, age, ethnicity, marital status, education level, number of years of education, whether one was seeing patients at the time of the study, year in clinical training program, number of years of clinical experience, history of clinical supervision with FAP component, current clinical supervision with FAP component and social desirability. This was achieved by evaluating whether each variable significantly predicted change on any of the dependent measures in a series of hierarchical linear multiple regressions of post-training scores, while controlling for the corresponding pre-training scores.

In the primary analyses, a series of hierarchical linear multiple regressions were conducted to investigate the effects of group (FAPTT versus WL) on change in each of the dependent measures from time 1 to time 2. Post-training scores were regressed on the corresponding pre-training scores, then on any identified covariate(s), and finally on group assignment. If the effect on the overall scale was significant, analyses at the level of subscales would be conducted. Within group analyses were also conducted using paired sample *t*-tests to examine changes in each outcome variable from pre- to post-training. Another series of hierarchical linear multiple regressions were then conducted to investigate the effects of group on change in each of the dependent measures at time 3, followed by within-group analyses examining changes from pre-training to 2-month follow-up within both conditions. Descriptive analyses were carried out for responses on the FAPTT course evaluation.

Results

Twenty-five students consented to participating in the study. Their mean age was 28.08 years ($SD=3.57$; range = 24 – 39). The majority were female (72%) and Chinese (84%). More than half (64%) were married or in an intimate relationship. Most participants (76%) obtained a bachelor's degree as the highest level of education, while the rest completed some graduate work or had a graduate degree. All except one participant (96%) were full-time students.

Attrition

Dropouts were defined as participants who did not complete time 2 and/or time 3 assessment. Due to the fact that the number of participants who dropped out from the study was relatively small ($n=2$), formal statistical analyses comparing characteristics of dropouts versus

completers were not conducted. All participants in the FAP condition completed the program (defined as having attended at least seven out of eight sessions). One participant in the FAP condition and one WL participant did not complete the questionnaires at time 2. Mean age of drop-outs was 33 years (SD=0.71), with an average of 17 years of education. Both dropouts were first year graduate students who had no prior experience with FAP-oriented supervision.

Randomization Check

Table 1 presents the demographic and other baseline variables for each condition at pre-training. Chi-square tests for categorical variables or independent samples *t*-tests for continuous variables were used to compare the FAPTT and WL groups on all demographic and baseline

Table 1. Sample characteristics

Variable	Value	FAP (n = 12)	WL (n = 11)
Sex	Male (%)	25.0	27.3
	Female (%)	75.0	72.7
Age	Mean (range)	27.8 (24–39)	27.6 (25–33)
Ethnicity	Chinese (%)	83.3	90.9
	Malay (%)	8.3	
	Indian (%)		9.1
	Others (%)	8.3	
Marital status	Married with spouse (%)	25.0	36.4
	In an intimate relationship but not living together (%)	25.0	36.4
	Never married (%)	50.0	27.3
Years of education	Mean (range)	16.8 (15–20)	16.5 (16–19)
Student status	Full time (%)	100.0	100.0
Seeing patients at time of study	Yes (%)	50.0	54.5
	No (%)	50.0	45.5
Year in clinical training program	First year (%)	50.0	45.5
	Second year (%)	50.0	54.5
Years of clinical experience	<1 year (%)	58.3	36.4
	1–2 years (%)	8.3	9.1
	2–3 years (%)	8.3	27.3
	3 years or more (%)	25.0	27.3
History of FAP training	Yes (%)		9.1
	No (%)	100.0	90.9
History of experience in FAP supervision	Yes (%)	25.0	18.2
	No (%)	75.0	81.8
Current FAP supervision	Yes (%)	41.7	36.4
	No (%)	58.3	63.6

FAP = functional analytic psychotherapy. WL = waiting list.

variables. There were no significant differences between the FAPTT and WL groups on any of these variables.

Correlations Among Dependent Measures

Correlations among the dependent measures at time 1 are shown in Table 2. Most were in the low range, with the highest being between the FFMQ-SF total score and the IRI total score at $r=0.57$. As the measures tap related constructs, some redundancy among the measures was expected.

Potential Covariates

To determine whether changes on any dependent measures were predicted by any of the demographic or other baseline variables (including social desirability), a series of hierarchical linear multiple regressions were performed. None of the demographic or other baseline variables predicted changes on any of the dependent measures.

Effects of FAPTT: Pre- to Post-Training

Table 3 shows the descriptive and test statistics from the hierarchical linear multiple regression analyses of the total scores on each dependent measure. Group effects on residualized change scores indicated significantly greater increases in overall empathy (IRI) in the FAPTT group relative to the control group. Analyses at the level of subscales for the IRI showed that the FAPTT group, versus the control group, demonstrated significant increases in perspective taking (PT), $\beta = 0.37, p = 0.01, f^2 = 0.39$, as well as trend-level increases in empathic concerns (EC), $\beta = 0.26, p = 0.09, f^2 = 0.16$, and decreases in personal

Table 2. Inter-correlations of outcome measures at time 1 (n = 25)

Variable	IRI	CLS	FFMQ-SF	AS	FAPIS	VIG	TEI
IRI	1.00	.57**	-.04	-.29	.33	.28	.008
CLS		1.00	.25	-.12	.32	.02	.43
FFMQ-SF			1.00	.51**	.36	-.09	.07
AS				1.00	.04	-.17	-.25
FAPIS					1.00	.16	.15
VIG						1.00	.31
TEI							1.00

IRI = Interpersonal Reactivity Index. CLS = Compassionate Love Scale: Stranger-humanity Version. FFMQ-SF = Five Facet Mindfulness Questionnaire—Short Form. AS = Authenticity Scale. FAPIS = Functional Analytic Psychotherapy Impact Scale. VIG = Functional Analytic Psychotherapy Vignettes. TEI = Treatment Evaluation Inventory.

* $p < 0.05$.
** $p < 0.01$.

Table 3. Mean (and SD) values of FAP and WL groups at time 1 and time 2 and test statistics for the effects of group on change in outcome variables

Outcome	FAPTT (n = 12)			WL (n = 11)			Group effect (time 1 to time 2)			Group effect (time 1 to time 3)		
	Pre-intervention	Post-intervention	2-month follow-up	Pre-intervention	Post-intervention	2-month follow-up	β	p	f^2	β	p	f^2
	IRI	95.67 (8.02)	99.83 (6.59)	99.08 (8.87)	98.82 (8.69)	97.55 (7.71)	98.09 (7.92)	.33	.02	.32	.21	.15
CLS	99.75 (20.11)	107.67 (16.98)	109.75 (19.26)	97.36 (18.92)	98.27 (17.94)	109.91 (20.49)	.22	.07	.18	.15	.24	.07
FFMQ-SF	78.83 (10.38)	83.17 (9.91)	82.58 (6.88)	79.18 (2.79)	78.36 (6.35)	79.82 (3.49)	.27	.19	.09	.27	.16	.02
AS	62.17 (7.52)	62.67 (7.72)	61.08 (5.92)	63.18 (8.86)	57.00 (5.75)	60.09 (6.19)	.34	.09	.16	.11	.63	.01
FAPIS	204.58 (14.88)	216.25 (21.45)	220.33 (16.54)	200.09 (24.82)	203.27 (21.22)	212.36 (20.96)	-.25	.20	.09	-.20	.37	.04
VIG	4.61 (2.60)	6.78 (1.43)	6.63 (1.97)	4.55 (3.11)	4.67 (3.22)	4.58 (2.49)	.41	.04	.23	-.55	.02	.44
TEI	68.83 (11.64)	78.83 (8.07)	NA	69.09 (8.46)	67.73 (10.10)	NA	.54	.008	.42	NA	NA	NA

Note: Test statistics are for the last step of regression equations predicting time 2 scores, with time 1 scores and covariates entered at the first step and group assignment entered at the second step.

IRI = Interpersonal Reactivity Index. CLS = Compassionate Love Scale. Stranger-humility Version. FFMQ-SF = Five Facet Mindfulness Questionnaire—Short Form. AS = Authenticity Scale. FAPIS = Functional Analytic Psychotherapy Impact Scale. VIG = Functional Analytic Psychotherapy Vignettes. TEI = Treatment Evaluation Inventory.

distress (in response to difficulties experienced by others) (PD), $\beta = -0.32$, $p = 0.06$, $f^2 = 0.20$. The effect sizes for these outcome variables ranged from moderate to large. The FAPTT group also reported marginally significant increases in compassionate love (CLS). There were no differences on changes in trait mindfulness (FFMQ-SF), and trend-level differences on changes in authenticity between FAPTT and WL. Both groups did not differ significantly on changes in self-reported FAP competency (FAPIS). The FAPTT group also demonstrated significantly greater improvements in FAP skill (as assessed by the vignettes), over and above those demonstrated by the control group.

Table 4 reports the test statistics for within-group analyses of changes in each outcome measure from pre- to post-training, for both groups. The analyses showed that participants in the FAPTT group reported significant increases in overall empathy (IRI) from pre- to post-training. There were also nonsignificant trends for increases in empathic concern (EC), $t(11) = -1.85$, $p = 0.09$, Cohen's $d = 0.53$, perspective taking (PT), $t(11) = -1.79$, $p = 0.10$, Cohen's $d = 0.52$, and no significant changes in fantasy (FS) and personal distress (PD). The FAPTT group also demonstrated significant increases in compassionate love (CLS). There were no significant changes in trait mindfulness (FFMQ-SF) and authenticity (AS) from pre- to post-training. The FAPTT group also demonstrated marginally significant increases in self-reported FAP competency (FAPIS), as well as significant increases in FAP skill (as assessed by the vignettes) and treatment acceptability (TEI).

As for the WL group, as expected, there were no significant changes from pre- to post-training on any of the outcome measures, with the exception of authenticity (AS). In particular, there was a trend-level decrease in authenticity (AS) among participants in this group.

Effects of FAPTT: Pre-Training to 2-Month Follow-Up

Another series of hierarchical linear multiple regressions were conducted to examine the effects of FAPTT at 2-month follow-up (see Table 2). For each measure, the dependent variable was the corresponding score at time 3. The analyses showed that FAPTT and WL groups did not differ significantly on changes on overall empathy (IRI). Subscale-level analyses, however, showed that there were a nonsignificant trend for greater increases in perspective taking (PT), $\beta = 0.33$, $p = 0.08$, $f^2 = 0.67$, and decreases in personal distress (PD), $\beta = -0.30$, $p = 0.07$, $f^2 = 0.91$, in the FAPTT group versus the WL group. The effect sizes for these outcomes were large. Both groups did not differ on changes in compassionate love (CLS), trait mindfulness (FFMQ-SF), authenticity (AS) and FAP competency (FAPIS) from time 1 to time 3. Controlling

Table 4. Test statistics for within-group analyses of change in outcome variables in both conditions

Variable	FAPTT						WL					
	Pre- versus post-training			Pre-training versus 2-month follow-up			Pre- versus post-training			Pre-training versus 2-month follow-up		
	<i>t</i>	<i>p</i>	Cohen's <i>d</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
IRI	-2.78	.02	.80	-2.27	.04	.66	.99	.34	.30	.40	.69	.12
CLS	-2.42	.03	.70	-2.58	.03	.74	-.31	.76	.09	-1.57	.15	.47
FFMQ-SF	-1.3	.20	.40	-1.41	.19	.37	-.18	.86	.05	-.91	.38	.27
AS	-.22	.83	.31	.52	.61	.15	1.93	.08	.58	1.05	.32	.31
FAPIS	-1.83	.09	.53	-2.44	.03	.71	-.53	.61	.16	-1.43	.18	.43
VIG	-2.63	.02	.76	-2.52	.03	.73	-.13	.89	.04	-.03	.97	.01
TEI	-2.27	.04	.66	NA	NA	NA	.59	.56	.18	NA	NA	NA

CLS = Compassionate Love Scale: Stranger-humanity Version. IRI = Interpersonal Reactivity Index. FFMQ-SF = Five Facet Mindfulness Questionnaire—Short Form. AS = Authenticity Scale. FAPIS = Functional Analytic Psychotherapy Impact Scale. VIG = Functional Analytic Psychotherapy Vignettes. TEI = Treatment Evaluation Inventory.

for scores at pre-training, the FAP group demonstrated significantly higher levels of FAP skill (as assessed by vignettes) compared with the control group at time 3.

Table 4 lists the test statistics of within-group analyses for changes on each outcome measure from pre-training to 2-month follow-up, for both groups. The analysis showed that FAPTT participants reported significant improvements in overall empathy (IRI) from time 1 to time 3. Subscale-level analyses showed that there were significant increases in empathic concern (EC), $t(11) = -2.68$, $p = 0.02$, Cohen's $d = 0.77$, and decreases in personal distress (PD), $t(11) = 3.97$, $p = 0.002$, Cohen's $d = 1.15$. There was also a marginally significant trend for increases in perspective taking (PT) from pre-training to follow-up, $t(11) = -1.78$, $p = 0.10$, Cohen's $d = 0.51$. Effect sizes for these outcomes ranged from moderate to large. There were no significant changes on fantasy (FS). The FAPTT group also demonstrated significant increases in compassionate love (CLS), and no significant changes on trait mindfulness (FFMQ-SF) and authenticity (AS). There were significant improvements in FAP competency (FAPIS) and FAP skill (as assessed by vignettes) within the FAPTT group. With regard to the WL group, there were no significant changes on any of the outcome measures from pre-training to follow-up.

FAPTT Course Evaluation

The mean satisfaction rating for the training course was 4.58 (SD = 0.52; $n = 12$) out of 5. For the open-ended questions, we summarized response themes endorsed by more than one participant. Participants highlighted the following as most helpful in the training course: the supportiveness, safety and closeness of the group; learning therapeutic skills; increasing self-knowledge; experiencing and learning the value of vulnerability; learning through

experiential means and modelling; and good facilitators. They also indicated that they took more risks in personal relationships, were more loving toward others, were more attuned to surroundings and daily interactions, and gained insight into the experience of being a client. With regard to aspects of the course they did not like and suggestions to improve the course, participants expressed that more time was needed for homework than what was initially communicated by facilitators and that they wanted more sessions or a longer session duration.

With regard to the question on the compatibility of FAP with norms in the local (Singaporean/Asian) culture, participants stated that Asians or Singaporeans might find it difficult to be emotionally expressive ($n = 7$), as well as share personal/shameful matters outside of session due to fear of criticism or 'losing face' ($n = 4$). Several also expressed that FAP might not benefit Asian clients as much as Western clients ($n = 3$). With regard to suggested adaptations to the treatment to make it more culturally sensitive, two participants suggested spending more time building rapport before asking Asian/Singaporean clients to take interpersonal risks.

Association Between Homework and Changes in Each Outcome Measure

In addition to the above analyses, we conducted ancillary analyses to examine if there was an association between amount of homework completed and changes in each outcome measures (from pre- to post-training) among FAPTT participants. Amount of homework completed was operationalized as (1) total number of out-of-session interpersonal risks taken throughout the duration of the training, and (2) average level of reported risks across all the interpersonal encounters. Correlation analyses showed that there were no significant relationships between either total

number of interpersonal risks taken or averaged risks and changes on any of the outcome measures, all $ps > 0.19$. There was, however, a trend for positive association between number of interpersonal risks taken or averaged rated risks across all interpersonal encounters, $r = 0.51$, $p = 0.09$.

DISCUSSION

The present study aimed to examine the effects of FAPTT on several therapeutic qualities related to the therapeutic alliance and ACL; namely empathy, trait mindfulness, authenticity and compassionate love. The study also aimed to replicate previous findings related to the effects of FAPTT on self-reported FAP competency and objectively assessed FAP skills, as well as examine the feasibility and acceptability of FAP in a Singaporean context. The study found that compared with the WL group, the FAPTT group reported significant increases in overall empathy, FAP skill and treatment acceptability from pre- to post-training. Within-group analyses further showed significant increases in compassionate love in the FAPTT group. At 2-month follow-up, the FAPTT group demonstrated significantly higher levels of FAP skill compared with the WL group. Within-group analyses showed that there were statistically significant improvements on overall empathy, compassionate love, self-reported FAP competency and FAP skill at 2-month follow-up. The training was found to be both feasible and acceptable, based on qualitative feedback provided by participants in the study.

The finding that participation in FAPTT was associated with improvements in empathy and compassionate love is consistent with the treatment's focus on cultivating compassionate and empathic responsiveness to authentic and vulnerable self-disclosures. As part of training, participants shared their own (often difficult) life stories and learn to offer validating and naturally reinforcing responses to others who do the same. They were further encouraged to engage in interpersonally vulnerable interactions with patients as well as loved ones in their personal lives. These aspects of training likely contributed to the trainees' ability to be loving and empathic toward others. To some extent, these findings corresponded with trainees' responses on the course evaluation post-training, which indicated that they felt more loving, or attuned toward others in their daily interactions.

The study also found trend-level differences in changes in authenticity from pre- to post-training between FAPTT trainees and WL participants, with the changes driven primarily by an unexpected reduction in authenticity among WL participants. Such a decrease may, to some extent, be reflective of increased course-related stress, as suggested by previous literature that demonstrated a negative

association between authenticity and stress (Wood *et al.*, 2008). As for the FAPTT participants, despite the fact that average scores on authenticity in this group barely shifted from pre- to post-training (i.e., from 62.17 to 62.67), most participants reported being more authentic and open in connecting with others on the qualitative feedback form. The fact that these reported changes were not reflected quantitatively may be due to the fact that the AS primarily captures intrapersonal aspects of authenticity (e.g., living in accordance with one's values), as opposed to authenticity in the context of interactions with others.

In contrast to our hypothesis, FAPTT did not result in changes on trait mindfulness. The absence of an effect could be due to the fact that explicit mindfulness training constituted only a minor aspect of the program. Particularly, each session incorporated very brief informal mindfulness practices at the beginning, and practices varied from session to session depending on the facilitator. In contrast to typical mindfulness-based interventions, no daily mindfulness practices were assigned to trainees as homework in FAPTT. The absence of more intensive mindfulness practices might explain the lack of improvements on trait mindfulness. It is also notable that the mindfulness measure used in this study (the FFMQ) conceptualizes mindfulness primarily in terms of awareness of one's own bodily sensations, thoughts and emotions, as opposed to mindfulness in the context of interpersonal interactions. Given that a significant aspect of FAPTT emphasizes awareness in interpersonal interactions, the measure may not have captured adequately this aspect of outcome in the training. Within the larger literature, the validity of assessing mindfulness using self-report methods has also been questioned on several grounds (e.g., conceptual difficulties in the understanding of mindfulness; see Grossman, 2008 for a thorough discussion on this issue).

The study replicated previous research findings that participation in FAPTT was associated with increases in competency and skills (Kanter *et al.*, 2013). Particularly, the 8-week training resulted in significant and sustainable increases in FAP skill, as assessed by an independent, blind coder using case vignettes. A comparison of means and effect sizes with Kanter *et al.* (2013) suggests that trainees in the current study started this training with much less experience, competence and skill in FAP, which is not surprising as the recruitment methods in Kanter *et al.* pulled for a sample that already had received previous training in FAP and was motivated to learn more. The current sample, in contrast, comprised students in a graduate training program who did not seek out the training due to previous interest. These participants reported significant increases in the acceptability of FAP as a treatment modality, which corresponded with the positive feedback that they provided for the training program through the course evaluation.

Importantly, the current training was not provided by one of the developers of FAP and was conducted independent of FAP treatment developers. The effect sizes in the current study are smaller than in Kanter *et al.* (2013) but still encouraging given that this study represents the first attempt to demonstrate effects of training with a less motivated sample and a less experienced set of trainers. Consistent with Kanter *et al.*, these results with respect to competency and skill are limited by the measurement strategy, and future studies will benefit from attempts to measure in-session therapeutic behaviors rather than relying on self-reported or written vignettes. It remains to be examined the extent to which the therapist trainees would utilize the skills that they learn with their clinical work with patients.

This study is the first to establish the efficacy and feasibility of FAPTT in the Singaporean context. The findings are notable from a cross-cultural perspective, considering the issue of compatibility between an intervention (or training) model that, on one hand, emphasizes self-disclosure, and a culture that, on the other hand, emphasizes self-restraint, reservation and self-effacement (Kim *et al.*, 2001). The findings overall suggest that FAP is feasible and acceptable in Singapore, even though many participants did raise the concern that Asians or Singaporeans might find it difficult to be emotionally expressive as well as disclose personal information or feelings due to fear of criticism or 'losing face'. These comments are consistent with the general cultural norms in Singapore: Expression of emotions and personal feelings is typically not strongly encouraged, as it may be viewed as a sign of weakness. A recent survey in fact rated Singapore as the country with the highest percentage of participants (64%) reporting that they do not feel positive or negative emotions on a daily basis, compared with over 150 countries (Hodal, 2012).

The issues above raised interesting considerations with regard to the application of FAP in the Singaporean cultural context. Whereas FAP has been regarded as a treatment sensitive to challenges posed by cultural issues due to its emphasis on fine-tuned functional analyses of in-the-moment therapist–client interactions (Vandenberghe, 2008), the findings suggest that some modifications to the protocol may increase its acceptability to Singaporean clients. As suggested by several participants, therapists may want to consider spending more time on rapport building before embarking on work involving taking interpersonal risks with clients. Other ideas include dealing with culturally acceptable concerns (e.g., issues related to work or academic achievement) prior to delving into more deep-seated emotional issues (Chen & Davenport, 2005). As a general principle, it would also be helpful for therapists to be mindful of the fact that basic behavioral processes such as avoidance and escape may function or be expressed differently in the local culture (Vandenberghe,

2008). For example, one reason some Singaporeans find it difficult to be emotionally expressive could be due to habitual use of suppression as an emotion regulation strategy. Whereas suppression is a strategy often used to promote self-protective purposes (especially in the context of social threats) in Western contexts, it may function primarily to promote self-restraint and interpersonal harmony in Asian cultures (Butler, Lee, & Gross, 2007). There is some evidence that use of the strategy is associated with less maladaptive psychological (Cheung & Park, 2010) and interpersonal consequences (Butler *et al.*, 2007) among individuals from Asian cultures, compared with those from Western cultures. Therapists therefore may want to consider the possibility that a client's apparent 'avoidance' of emotions may reflect a conscious effort to suppress emotions, which may serve adaptive or functional purposes in some contexts.

Overall, this study found that FAPTT may positively impact several therapist qualities that contribute to a positive therapeutic alliance, including empathy and compassionate love, which have not been investigated in previous studies of FAPTT. This suggests that FAPTT may have benefits above and beyond improved FAP competence. As it is known that therapists do not improve merely with clinical experience (Goldberg *et al.*, 2016), evidence-based strategies for therapist professional development are needed, and strategies that are not therapy-specific may be particularly useful. Many therapists seek personal therapy themselves, to facilitate their own personal and professional growth, and therapy for therapists is established as helpful and has been shown to have direct effects on outcomes as reported by clients (Gold, Hilsenroth, Kuutmann, & Owen, 2014), particularly with respect to improving empathy (Norcross, 2005). Although FAPTT is not therapy for therapists, it has some similarities in that it is a group that encourages therapists to engage in considerable vulnerable self-disclosures related to their own struggles and histories (much as clients do), produces outcomes that therapists report are consistent with the client experience (see FAPTT Course Evaluation results above) and may produce similar therapeutic benefits such as enhancing empathy and the capacity to love among therapists.

The current study presents a number of strengths. First, the study utilized a rigorous, randomized controlled trial design to examine the effects of FAPTT on therapist trainees. Inclusion of a 2-month follow-up assessment enabled us to examine maintenance of gains from the training program. Training was not provided by a FAP treatment developer, and trainees were not unusually motivated to seek the training.

There are several limitations to the present study. Importantly, the sample size was small, which reduces statistical power as well as generalizability of the findings. It remains to be examined whether several findings that were

trending would become statistically significant with a larger sample size. Further, with the exception of the vignette analysis of FAP skill, the study relied on self-report measures to assess its outcome variables, which means that the data might be susceptible to effects of demand bias or social desirability. We, however, administered a social desirability measure and found that social desirability did not predict changes on any of the outcome measures. The vignette analysis of FAP skill is limited in that responding may require some knowledge of FAP terminology; thus, the degree to which it measures acquired FAP terminology versus acquired FAP skill is confounded. This could also be one reason underlying the fact that ratings on the FAP Impact Scale did not correlate with observer ratings of the FAP vignettes at time 1. Future studies would benefit by incorporating additional modes of assessment, such as behavioral or observer-rated measures of therapy-relevant processes. More direct indices of therapist qualities related to the therapy alliance are available, such as the assessments of therapist facilitative interpersonal skills (Anderson, McClintock, Himawan, Song, & Patterson, 2016; Anderson *et al.*, 2009) or direct assessments of the therapeutic alliance. The study also has a relatively short follow-up period of 2 months. The fact that the internal consistencies of two subscales (PD and PT) of the IRI are relatively poor also limits the interpretations of the findings with regard to these outcome measures. Further, the present study employed a no-training control group, which precludes us from being able to attribute improvements observed to specific components within the FAPTT curriculum. Future research would benefit by comparing the efficacy of FAPTT with that of another active training program.

The study points to several future directions for research. As the training program consists of multiple components (e.g., sharing of life stories, case discussions, readings), dismantling studies are necessary to assess aspects of FAPTT that are most critically associated with training outcomes. Notably, the present study showed no association between amount of homework completed and any of the outcomes, which suggests that other components of the training may play a more critical role in the observed outcomes. Studies with larger samples and longer follow-ups are also required to replicate the findings in the present study as well as assess the longer term impact of FAPTT. Future research should also examine the extent to which benefits obtained through FAPTT translates into effective clinical work with patients. For example, studies could compare the extent to which patients of FAP-trained therapists report greater alliance with their therapists and improve on clinical outcomes, versus patients of therapists who are not exposed to FAPTT.

Overall, the findings suggest that FAPTT is effective for improving specific FAP competencies and selected

broadly desirable therapist qualities among therapist trainees. The findings are largely consistent with FAPTT's focus on ACL, and have implications for enhancing the quality of therapist training in the Singaporean context.

ACKNOWLEDGEMENT

This study was supported by a research grant awarded by National University of Singapore's Faculty of Arts and Social Sciences to Dr. Shian-Ling Keng. The study was also supported by thesis fund awarded by National University of Singapore to Xiangting Bernice Lin and Michelle Su Qing Tan, respectively. The authors would like to acknowledge all research participants for their participation in this study.

REFERENCES

- Ackerman, S. J., & Hilsenroth, M. J. (2003). A review of therapist characteristics and techniques positively impacting the therapeutic alliance. *Clinical Psychology Review, 23*, 1–33. DOI:10.1016/S0272-7358(02)00146-0.
- Adams, R. E., Boscarino, J. A., & Figley, C. R. (2006). Compassion fatigue and psychological distress among social workers: A validation study. *American Journal of Orthopsychiatry, 76*, 103–108. DOI:10.1037/0002-9432.76.1.103.
- Anderson, T., Ogles, B. M., Patterson, C. L., Lambert, M. J., & Vermeersch, D. A. (2009). Therapist effects: Facilitative interpersonal skills as a predictor of therapist success. *Journal of Clinical Psychology, 65*, 755–768. DOI:10.1002/jclp.20583.
- Anderson, T., McClintock, A. S., Himawan, L., Song, X., & Patterson, C. L. (2016). A prospective study of therapist facilitative interpersonal skills as a predictor of treatment outcome. *Journal of Consulting and Clinical Psychology, 84*, 57–66. DOI:10.1037/ccp0000060.
- Arnow, B. A., & Steidtmann, D. (2014). Harnessing the potential of the therapeutic alliance. *World Psychiatry, 13*, 238–240. DOI:10.1002/wps.20147.
- Baldwin, S. A., Wampold, B. E., & Imel, Z. E. (2007). Untangling the alliance–outcome correlation: Exploring the relative importance of therapist and patient variability in the alliance. *Journal of Consulting and Clinical Psychology, 75*, 842–852. DOI:10.1037/0022-006x.75.6.842.
- Beidas, R. S., & Kendall, P. C. (2010). Training therapists in evidence-based practice: a critical review of studies from a systems-contextual perspective. *Clinical Psychology: Science and Practice, 17*(1), 1–30.
- Bohlmeijer, E., ten Klooster, P. M., Fledderus, M., Veehof, M., & Baer, R. (2011). Psychometric properties of the Five Facet Mindfulness Questionnaire in depressed adults and development of a short form. *Assessment, 18*, 308–320. DOI:10.1177/1073191111408231.
- Bond, M. H. (1996). Chinese values. In Bond, M. H. (Ed.), *The handbook of Chinese psychology* (ed. pp. 208–226). New York: Oxford University Press.
- Brunell, A. B., Kernis, M. H., Goldman, B. M., Heppner, W., Davis, P., Cascio, E. V., & Webster, G. D. (2010). Dispositional

- authenticity and romantic relationship functioning. *Personality and Individual Differences*, 48, 900–905. DOI:10.1016/j.paid.2010.02.018.
- Butler, E. A., Lee, T. L., & Gross, J. J. (2007). Emotion regulation and culture: Are the social consequences of emotion suppression culture-specific? *Emotion*, 7, 30–48. DOI:10.1037/1528-3542.7.1.30.
- Callaghan, G. M., Summers, C. J., & Weidman, M. (2003). The treatment of histrionic and narcissistic personality disorder behaviors: A single-subject demonstration of clinical improvement using Functional Analytic Psychotherapy. *Journal of Contemporary Psychotherapy*, 33, 321–339. DOI:10.1023/b:jocp.0000004502.55597.81.
- Carson, S. H., & Langer, E. J. (2006). Mindfulness and self-acceptance. *Journal of Rational-Emotive and Cognitive-Behavior Therapy*, 24, 29–43. DOI:10.1007/s10942-006-0022-5.
- Chen, S. W. H., & Davenport, D. S. (2005). Cognitive-behavioral therapy with Chinese American clients: Cautions and modifications. *Psychotherapy: Theory, Research, Practice, Training*, 42, 101–110. DOI:10.1037/0033-3204.42.1.101.
- Cheung, R. Y. M., & Park, I. J. K. (2010). Anger suppression, interdependent self-construal, and depression among Asian American and European American college students. *Cultural Diversity and Ethnic Minority Psychology*, 16, 517–525. DOI:10.1037/a0020655.
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44, 113–126. DOI:10.1037/0022-3514.44.1.113.
- Elliott, R., Bohart, A. C., Watson, J. C., & Greenberg, L. S. (2011). Empathy. *Psychotherapy*, 48, 43–49. DOI:10.1037/a0022187.
- Esparza, N., Muñoz-Martínez, A., Santos, M., & Kanter, J. (2015). A within subjects evaluation of the effects of Functional Analytic Psychotherapy on in-session and out-of-session client behavior. *The Psychological Record*, 65, 463–474. DOI:10.1007/s40732-015-0122-7.
- Farber, B. A., & Doolin, E. M. (2011). Positive regard. *Psychotherapy*, 48, 58–64. DOI:10.1037/a0022141.
- Ferro, R., Valero, L., & Vives, M. C. (2006). Application of Functional Analytic Psychotherapy: Clinical analysis of a patient with depressive disorder. *The Behavior Analyst Today*, 7(1), 1–18.
- García, R. F., Aguayo, L. V., & Montero, M. C. V. (2006). Application of functional analytic psychotherapy: Clinical analysis of a patient with depressive disorder. *The Behavior Analyst Today*, 7, 1–18. DOI:10.1037/h0100143.
- Gold, S. H., Hilsenroth, M. J., Kuutmann, K., & Owen, J. J. (2014). Therapeutic alliance in the personal therapy of graduate clinicians: Relationship to the alliance and outcomes of their patients. *Clinical Psychology and Psychotherapy*, 22, 304–316. DOI:10.1002/cpp.1888.
- Goldberg, S. B., Rousmaniere, T., Miller, S. D., Whipple, J., Nielsen, S. L., Hoyt, W. T., & Wampold, B. E. (2016). Do psychotherapists improve with time and experience? A longitudinal analysis of outcomes in a clinical setting. *Journal of Counseling Psychology*, 63, 1–11. DOI:10.1037/cou0000131.
- Goldfried, M. R., Burckell, L. A., & Eubanks-Carter, C. (2003). Therapist self-disclosure in cognitive behavior therapy. *Journal of Clinical Psychology*, 59, 555–568. DOI:10.1002/jclp.10159.
- Gockel, A., Burton, D., James, S., & Bryer, E. (2012). Introducing mindfulness as a self-care and clinical training strategy for beginning social work students. *Mindfulness*, 4, 343–353. DOI:10.1007/s12671-012-0134-1.
- Grossman, P. (2008). On measuring mindfulness in psychosomatic and psychological research. *Journal of Psychosomatic Research*, 64, 405–408. DOI:10.1016/j.jpsychores.2008.02.001.
- Hayes, S. C. (2004). Acceptance and commitment therapy, relational frame theory, and the third wave of behavioral and cognitive therapies. *Behavior Therapy*, 35, 639–665. DOI:10.1016/S0005-7894(04)80013-3.
- Hodal, K. (2012, November 21). Singapore is world's least emotional country, poll finds. *The Guardian*. Retrieved from <https://www.theguardian.com>
- Hofstede, G. (1984). *Culture's consequences: International differences in work-related values*. Thousand Oaks, CA: Sage Publications.
- Horvath, A. O., Del Re, A. C., Flückiger, C., & Symonds, D. (2011). Alliance in individual psychotherapy. *Psychotherapy*, 48, 9–50.
- Kanter, J. W., Landes, S. J., Busch, A. M., Rusch, L. C., Brown, K. R., Baruch, D. E., & Holman, G. I. (2006). The effect of contingent reinforcement on target variables in outpatient psychotherapy for depression: An investigation of Functional Analytic Psychotherapy. *Journal of Applied Behavior Analysis*, 39, 463–467. DOI:10.1901/jaba.2006.21-06.
- Kanter, J. W., Tsai, M., Holman, G., & Koerner, K. (2013). Preliminary data from a randomized pilot study of web-based Functional Analytic Psychotherapy therapist training. *Psychotherapy*, 50, 248–255. DOI:10.1037/a0029814.
- Kazdin, A. E. (1980). Acceptability of alternative treatments for deviant child behavior. *Journal of Applied Behavior Analysis*, 13, 259–273. DOI:10.1901/jaba.1980.13-259.
- Keng, S. L., Smoski, M. J., & Robins, C. J. (2011). Effects of mindfulness on psychological health: A review of empirical studies. *Clinical Psychology Review*, 31, 1041–1056. DOI:10.1016/j.cpr.2011.04.006.
- Kim, B. S., Atkinson, D. R., & Umemoto, D. (2001). Asian cultural values and the counseling process current knowledge and directions for future research. *The Counseling Psychologist*, 29, 570–603. DOI:10.1177/0011000001294006.
- Knox, S., Hess, S. A., Petersen, D. A., & Hill, C. E. (1997). A qualitative analysis of client perceptions of the effects of helpful therapist self-disclosure in long-term therapy. *Journal of Counseling Psychology*, 44, 274–283. DOI:10.1037/0022-0167.44.3.274.
- Kohlenberg, R. J., Kanter, J. W., Bolling, M. Y., Parker, C. R., & Tsai, M. (2002). Enhancing cognitive therapy for depression with Functional Analytic Psychotherapy: Treatment guidelines and empirical findings. *Cognitive and Behavioral Practice*, 9, 213–229. DOI:10.1016/S1077-7229(02)80051-7.
- Kohlenberg, R. J., & Tsai, M. (1991). *Functional analytic psychotherapy*. New York: Springer.
- Kohlenberg, R. J., & Vandenbergh, L. (2007). Treatment-resistant OCD, inflated responsibility, and the therapeutic relationship: Two case examples. *Psychology and Psychotherapy: Theory, Research and Practice*, 80, 455–465. DOI:10.1348/147608306x163483.
- Lampropoulos, G. K. (2001). Bridging technical eclecticism and theoretical integration: Assimilative integration. *Journal of Psychotherapy Integration*, 11, 5–19. DOI:10.1023/A:1026672807119.
- Landes, S. J., Kanter, J. W., Weeks, C. E., & Busch, A. M. (2013). The impact of the active components of Functional Analytic Psychotherapy on idiographic target behaviors. *Journal of Contextual Behavioral Science*, 2, 49–57. DOI:10.1016/j.jcbs.2013.03.004.
- Madden, G. J., Hanley, G. P., & Dougher, M. J. (2016). Clinical behavior analysis. In Norcross, J. C., VandenBos, G. R., Freedheim, D. K., & Rodríguez, M. D. (Eds.), *APA handbook of*

- clinical psychology: Roots and branches, Vol. 1* (ed. pp. 351–368). Washington, DC, US: American Psychological Association DOI: 10.1037/14772-018.
- Maitland, D. W. M., & Gaynor, S. T. (2016). Functional Analytic Psychotherapy compared to supportive listening: An alternating treatments design examining distinctiveness, session evaluations, and interpersonal functioning. *Behavior Analysis: Research and Practice, 16*, 52–64. DOI:10.1037/bar0000037.
- Maitland, D. W. M., Petts, R., Knott, L., Briggs, C. A., Moore, J., & Gaynor, S. T. (2016). A randomized controlled trial of Functional Analytic Psychotherapy versus watchful waiting: Enhancing social connectedness and reducing anxiety and avoidance. *Behavior Analysis: Research and Practice, 16*, 103–122. DOI:10.1037/bar0000051.
- Mangabeira, V., Kanter, J. W., & Del Prette, G. (2012). Functional Analytic Psychotherapy (FAP): A review of publications from 1990 to 2010. *International Journal of Behavioral Consultation and Therapy, 7*, 78–89. DOI:10.1037/h0100941.
- Messer, S. B. (1992). A critical examination of belief structures in integrative and eclectic psychotherapy. In Norcross, J. C., & Goldfried, M. R. (Ed.), *Handbook of psychotherapy Integration* (ed. pp. 130–165). New York: Basic Books.
- N. Population and T. Division, Singapore Government (2014). *2014 population in brief*. Retrieved September 26, 2016, from Singapore Government Website: <http://www.nptd.gov.sg/portals/0/news/population-in-brief-2014.pdf>
- Norcross, J. C. (2005). The psychotherapist's own psychotherapy: Educating and developing psychologists. *American Psychologist, 60*, 840–850. DOI:10.1037/0003-066X.60.8.840.
- Norcross, J. C., & Wampold, B. E. (2011). Evidence-based therapy relationships: Research conclusions and clinical practices. *Psychotherapy, 48*, 98–102. DOI:10.1037/a0022161.
- Oshiro, B., Kanter, J., & Meyer, S. (2012). A single-case experimental demonstration of Functional Analytic Psychotherapy with two clients with severe interpersonal problems. *International Journal of Behavioral Consultation and Therapy, 7*, 111–117. DOI:10.1037/h0100945.
- Reis, H. T. (2007). Steps toward the ripening of relationship science. *Personal Relationships, 14*, 1–23. DOI:10.1111/j.1475-6811.2006.00139.x.
- Reis, H. T., Smith, S. M., Carmichael, C. L., Caprariello, P. A., Tsai, F., Rodrigues, A., & Maniaci, M. R. (2010). Are you happy for me? How sharing positive events with others provides personal and interpersonal benefits. *Journal of Personality and Social Psychology, 99*, 311–329. DOI:10.1037/a0018344.
- Reynolds, W. M. (1982). Development of reliable and valid short forms of the Marlowe–Crowne Social Desirability Scale. *Journal of Clinical Psychology, 38*, 119–125. DOI:10.1002/1097-4679(198201).
- Rogers, C. R. (1957). The necessary and sufficient conditions of therapeutic personality change. *Journal of Consulting Psychology, 21*, 95–103. DOI:10.1037/h0045357.
- Ryan, A., Safran, J. D., Doran, J. M., & Moran, J. C. (2012). Therapist mindfulness, alliance and treatment outcome. *Psychotherapy Research, 22*, 289–297. DOI:10.1080/10503307.2011.650653.
- Skinner, B. F. (1948). 'Superstition' in the pigeon. *Journal of Experimental Psychology, 38*, 168–172. DOI:10.1037/h0055873.
- Sprecher, S., & Fehr, B. (2005). Compassionate love for close others and humanity. *Journal of Social and Personal Relationships, 22*, 629–651. DOI:10.1177/0265407505056439.
- Tan, K. P. (2012). The ideology of pragmatism: Neo-liberal globalisation and political authoritarianism in Singapore. *Journal of Contemporary Asia, 42*, 67–92. DOI:10.1080/00472336.2012.634644.
- Tsai, M., Kohlenberg, R. J., Kanter, J. W., Kohlenberg, B., Follette, W. C., & Callaghan, G. M. (2009). *A guide to Functional Analytic Psychotherapy: Awareness, courage, love and behaviorism*. New York: Springer.
- Tsai, M., Kohlenberg, R. J., & Kanter, J. W. (2010). A functional analytic psychotherapy (FAP) approach to the therapeutic alliance. In Muran, J. C., & Barber, J. P. (Ed.), *The therapeutic alliance: An evidence-based guide to practice* (ed. pp. 172–190). NY: Guilford Press.
- Vandenberghe, L. (2008). Culture-sensitive Functional Analytic Psychotherapy. *The Behavior Analyst, 31*, 67–79.
- Vandenberghe, L., Ferro, C. L. B., & Furtado da Cruz, A. C. (2003). FAP-enhanced group therapy for chronic pain. *The Behavior Analyst Today, 4*, 369–375. DOI:10.1037/h0100127.
- Wood, A. M., Linley, P. A., Maltby, J., Baliousis, M., & Joseph, S. (2008). The authentic personality: A theoretical and empirical conceptualization and the development of the Authenticity Scale. *Journal of Counseling Psychology, 55*, 385–399. DOI:10.1037/0022-0167.55.3.385.