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CHAPTER 4

A STUDY OF THE DIFFERENTIAL EFFECTS OF TOMM'S QUESTIONING STYLES ON THERAPEUTIC ALLIANCE

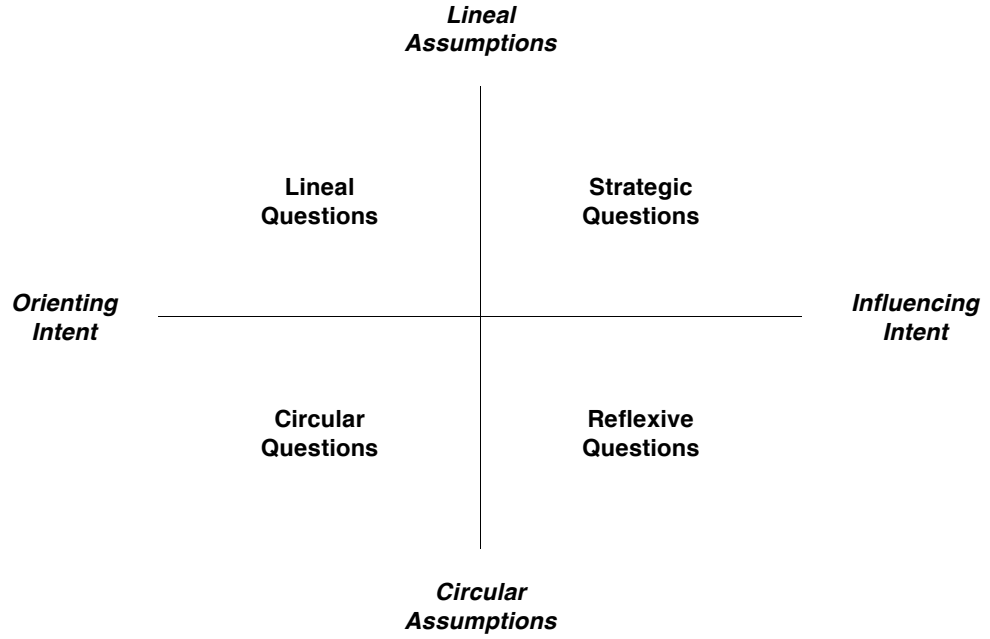
Dermot Ryan & Alan Carr

INTRODUCTION

This study examined the impact of Tomm's (1988) four questioning styles on the therapeutic alliance in family therapy using an analogue method devised by Dozier (1992; Dozier *et al*., 1998) in which families viewed videotaped scenes from simulated family therapy sessions portraying each of Tomm's questioning styles and rated the alliance between the therapist and family. The study replicated that conducted by Dozier *et al.* insofar as Dozier's videotapes were used. It refined Dozier *et al.'s* study by incorporating a repeated-measures rather than a between-groups design, so that the same group of participants viewed all tapes. We also used a procedure to insure that our results were not a reflection of the order in which the videotapes were shown. Our study extended that

conducted by Dozier *et al.* insofar as we used three measures of therapeutic alliance, while in their study only one measure of alliance was used.

Figure 1. Tomm's 4 questioning styles.



Source: Adapted from Tomm (1988).

Tomm (1987a, 1987b, 1988) distinguished between four questioning styles in terms of the intentions and assumptions that they embody. With respect to intentions, according to Tomm, therapists may pose questions with a view to *orienting* the therapeutic system through information gathering or *influencing* the therapeutic system so as to bring about therapeutic change. With respect to assumptions, according to Tomm, therapists may ask questions based on *lineal/cause-and-effect* assumptions, or *circular/cybernetic* assumptions. Lineal assumptions break the ongoing flow of events into discrete segments, where A causes B causes C. Circular assumptions, on the other hand, emphasise the interconnectedness and recursiveness of human actions. An intersection of the two continua of intent (with the poles of orienting and influencing intent) and assumptions (with the poles of lineal and circular assumptions) constitutes a framework for distinguishing between Tomm's four types of questions (see Figure 4.1). There are two types of information-gathering or orienting questions,

with one based on lineal assumptions (i.e. *Lineal* questions) and one based on circular assumptions (i.e. *Circular* questions). Similarly, two types of change-focused or influencing questions emerge from each type of assumption: *Strategic* questions are lineal in nature, while *Reflexive* questions are based on circular reasoning.

Lineal Questions

Lineal questions seek clearly defined causes or explanations of actions, events, feelings etc. Tomm has illustrated this style of questioning with the following sequence of Lineal questions from a family therapy intake interview:

> 'What problems brought you in to see me today?' (It's mainly depression); 'Who gets depressed?' (My husband); 'What gets you so depressed?' (I don't know); 'Are you having difficulty sleeping?' (No); 'Have you lost or gained any weight?' (No); 'Do you have any other symptoms?' (No); 'Any illnesses lately?' (No); 'Are you down on yourself about something?' (No); 'There must be something troubling you. What could it be?' . . . (Tomm, 1988, p. 7)

This short exchange conveys that the therapist has specific intentions in that he or she is seeking certain information, as well specific assumptions about the cause of the client's depression. Tomm argues that lineal questions reinforce a presupposition that certain characteristics, such as depression, are intrinsic to the person. (The except given here, and those given below in the next three sections, are also transcripts of the questions posed by the therapist in the videotaped scenarios used in the study described later in the paper.)

Circular Questions

Circular questions are also used to gather information but they do so in an exploratory manner, as distinct from the investigative approach of lineal questions. They are based on the assumption that everything is somehow connected to everything else. The questions seek to reveal recurrent patterns rather than discrete causes or lineal causal chains. Tomm has illustrated the circular questioning style with the following short scenario:

> 'How is it that we find ourselves together today?' (I called because I am worried about my husband's depression); 'Who else worries?' (The kids); 'Who do you think worries the most?' (She does); 'Who do you imagine worries the least?' (I guess I do); 'What does she do when she worries?' (She complains a lot, mainly about money and bills); 'What do you do when she shows you that she is worrying?' (I don't bother her, just keep to myself) . . . (Tomm, 1988, p. 7)

This type of questioning invites the family to be more aware of the circular nature of their interactions, thereby making it easier for them to disrupt such patterns than when they view them from their own lineal-based personal perspectives (Tomm, 1987b). This is the rationale that Tomm gives for the relative superiority of circular questions in promoting a therapeutic alliance compared with lineal questions.

Strategic Questions

When a therapist wants to take an active and decisive role in bringing about change in a family, he or she can employ a *Strategic* style of questioning. The intent behind this lineal-based approach to questions is primarily *corrective*. However, the directiveness of the therapist is tempered by the fact that change is sought through questions rather than statements. Since influencing questions will not emerge in the therapy process until some hypotheses have been formed regarding the presenting problem, it is more difficult to provide generic examples of them. However, following on with the same hypothetical family from the

orienting scenarios, Tomm has given some examples of strategic questions a therapist might use to bring about change:

> 'Why don't you talk to him about your worries instead of the kids?' (He just won't listen, and stays in bed); 'Wouldn't you like to stop worrying rather than being so preoccupied by them?' (Sure, but what am I going to do about him?); 'What would happen if for the next week at 8 a.m. every morning you suggested he take some responsibility?' (It's not worth the effort); 'How come you're not willing to try harder to get him up?' (He won't move and it gets me more frustrated) . . .
>
> (Tomm, 1988, p. 8)

Strategic questions may be useful, Tomm argues, when the therapy process becomes stuck. However, their confrontational nature is a double-edged sword, as it can mobilise the therapist/client system, but it can also jeopardise the therapeutic alliance.

Reflexive Questions

Reflexive questions aim to influence clients but not in the directive or confrontational manner of strategic questions. The therapist does not try to impose his or her views but facilitates the family's ability to reflect on its own belief systems and make new connections. An important part of the resolution of a problem is the family's ability to reframe difficulties it in a novel manner and mobilise its own problem-solving resources. Using the scenario of the depressed husband/father, Tomm gave the following examples of Reflexive questions:

> 'If you were to share with him how worried you were and how it was getting you down, what do you imagine he might think or do?' (I'm not sure); 'Let's imagine there was something he was resentful about, but didn't want to tell you for fear of hurting your feelings, how could you convince him that you were strong enough to take it?' (Well, I'd

> just have to tell him I guess); 'If there was some unfinished business between the two of you, who would be the most ready to apologise?' . . .(Tomm, 1988, p. 9)

Reflexive questions are therapist's key tool in helping families resolve their problems (Tomm, 1987b)..

Because reflexive questions mobilise a family's own problem-solving resources without running the risk of being construed as confrontational (like strategic question), Tomm's theory holds that reflexive questions are probably superior to strategic questions in promoting a therapeutic alliance.

The effects of questioning styles: Theory and evidence

Tomm's hypothesis concerning the differential effects of lineal-based and circular-based questions is summed up in the following assertion: 'It is *more likely* that family members will experience respect, novelty, and spontaneous transformation as a result of circular questioning and reflexive questioning, and judgement, cross-examination and coercion as a result of lineal and strategic questioning.' (Tomm, 1988, p. 14).

In order to test Tomm's hypothesis about the differential effects of questioning styles on therapeutic alliance, Dozier (1992) carried out a clinical analogue study. He presented short scenes from videotaped simulated family therapy sessions to families and invited them complete the Family Therapy Alliance Scale-Individual Form (FTAS-IF, Pinsof & Catherall, 1986). Each of Tomm's four questioning styles was portrayed separately in five-minute scenarios of an intake interview in which the presenting problem is the father's depression. Actors played the roles of the therapist and of a family composed of a father, a mother and a teenage son. Forty family triads with the same composition as the videotaped family were randomly assigned to one of the four experimental conditions (i.e. ten families rated each questioning style). They were asked to identify with the client whose role corresponded to theirs (i.e. father, mother or

son) and, on the basis of this, to rate the client's alliance with the therapist. Dozier and colleagues (1998) found that circular and reflexive questions based on circular assumptions yielded significantly higher alliance scores on the FTAS-IF than lineal-based questions.

The present study aimed to replicate and extend Dozier's seminal investigation. However, we wished to determine the impact of questioning style on alliance at both an individual and family-system level. We also wanted to determine the comparative effects of questioning style on alliance. To achieve these aims, our study differed from that of Dozier's in two key respects. First, participants were asked to rate the alliance between individual family members and the therapist and also to rate the overall alliance between the family and the therapist. Second, all participants viewed all four video scenarios and were invited to compare the effects of different questioning styles on perceived alliance. A third difference between our study and Dozier's was its location. Our study was conducted in Ireland, not the US, and so afforded an opportunity to explore the cross-cultural validity of Tomm's views on the effects of different questioning styles.

The main hypothesis tested in this study was that questions based on circular assumptions (i.e. Circular and Reflexive questions) would yield significantly higher alliance scores than questions based on lineal assumptions (i.e. Strategic and Lineal questions) on an individual client-therapist level, at a therapists-family-system level, and comparatively.

METHOD

Design

A 4 × 3 mixed model Latin Square design was used to investigate the effects of Tomm's (1988) questioning styles and family roles on therapeutic alliance. The

two independent variables were: questioning style and family role. There were four levels of questioning style (i.e. circular, reflexive, strategic and lineal) and three levels of family role (i.e. son, mother and father). The independent variable of 'questioning style' was assessed 'within subjects' as a repeated measure, while the variable of 'role' was measured 'between subjects'. Since each participant was presented with all of the four questioning style conditions, it was necessary to balance for a potential order effect. The Latin Square balancing technique was adopted for this purpose (Shaughnessy & Zechmeister, 1997). In the Latin Square each condition appears at each ordinal position once, and each condition precedes and follows each other condition exactly once. The participants were randomly assigned to view the four family therapy scenarios in one of four selected orders. Each questioning style was presented at each ordinal position (i.e. first, second, third or fourth) an equal number of times. Since a total of twenty-eight families participated in the study, each of the four videos was presented to seven families.

Participants

The participants in this study were eighty-four volunteers from twenty-eight intact white, Irish families. The family triads consisted of adolescent or young adult males, and their mothers and fathers. Male children were chosen in order to be consistent with the composition of the family presented in the videotaped family therapy scenes. Such consistency was important since part of the task requires the participants to identify with the client on the video whose family role corresponds to theirs. The mean age of the sons was 15.5 years (SD = 1.9). The mean age of the mothers was 45.3 (SD = 3.9). Th mean age of the fathers was 47.1 (SD = 5.5). With respect to social class (O'Hare et al., 1991) 36% of families were from social class 1 (higher professional and higher managerial; proprietors and farmers owning 200 or more acres); 46% were from social class 2

(lower professional and lower managerial; proprietors and farmers owning 100-199 acres);11% were from social class 3 (other non-manual work and farmers owning 50-99acres); and 7% were from social class 4 (skilled manual and farmers owning 30-49 acres).

Videotaped Family Therapy Scenarios

The videotaped family therapy scenarios of the four scenes portraying Tomm's (1988) questioning styles were those developed by Dozier (1992). The duration of each scene (in minutes and seconds) was as follows: Circular 6:54; Reflexive 5:37; Strategic 5:25; and Linear 5:48. The actors who played the parts of the male therapist and the parents were in their late 30s, while the son was an 18-year-old. All the actors were white and North American. They were instructed to maintain a constant tone of voice and affect in each of the four scenes. The scripts of the video scenarios closely followed, but extended, the examples that Tomm (1988) used as illustrations of his questioning styles reproduced in the introduction above. Dozier (1998) extended each of these scenarios, with each having a logical endpoint or finishing at a pause. To ensure that the scenes were representative of Tomm's questioning styles, validity checks were carried out. First, Dozier invited Tomm to review and endorse the written scripts as valid representations of his model. Second, Dozier designed a validity-checklist which consisted of a summary of the intentions and assumptions of the therapist for each scene. He found that using this checklist, the assumptions and intentions associated with each questioning style were accurately identified by the actors and family therapists.

Instruments

Family Therapy Alliance Scale - Individual Form (FTAS-IF, Pinsof and Catherall, 1986). The FTAS-IF is a self-report scale designed to measure an

individual family member's perception of the quality of the therapeutic alliance that he or she experiences with a therapist in family therapy. The instrument is a 29-item balanced scale, with 14 positively phrased items and 15 negatively phrased ones. For each item, responses are given on 7-point Likert-type scales which ranges from 'completely agree' (7) to 'completely disagree' (1), with a 'neutral' (4) midpoint. Higher scores indicate greater levels of perceived therapeutic alliance. The FTAS-IF yields a total scale score and scores on three content subscales (i.e. Tasks, Goals, and Bonds) and three Interpersonal subscales (i.e. Self-Therapist, Other-Therapist, and Group-Therapist). Since the subscales are highly correlated with the total scale (Hetherington and Friedlander, 1990) analyses of individual subscales was not carried out in the present study. In the present study Cronbach's Alpha internal reliability coefficients of the FTAS-IF were acceptably high (above .9) in all conditions. The following are some sample items from this instrument: 'I trust the therapist'; 'The therapist understands my goals in therapy'; and The therapist is helping my family.

Family Therapeutic Alliance Scale-Team form (FTAS-TF, Martin & Allison, 1993). Whereas the FTAS-IF was used to measure participants' perceptions of therapeutic alliance from an 'insiders' perspective, the FTAS-TF measured therapeutic alliance between the therapist and the family as a unit from an 'outsiders' perspective. That is, it measured therapeutic alliance at a family-system level from the perspective of an observer. The scale was originally designed for use by teams of family therapists, who observe interactions between families and therapists through one-way mirrors or on video. Thus the scale items are worded from an 'outsider' rather than an 'insider' perspective. The FTAS-TF has 13 items, with 10 positively phrased and three negatively phrased statements. For each item, responses are given on 7-point Likert-type scales which ranges from 'all the time' (7) to 'not at all' (1). Higher scores indicate greater levels of therapeutic alliance. In the present study Cronbach's Alpha internal reliability coefficients of the FTAS-TF were acceptably high (above .9)

in all conditions. . The following are some sample items from this instrument: ‘The therapist had a good relationship with this family’; ‘The family appeared to like the therapist; and ‘The conversation flowed easily in this interview’.

Unidimensional Alliance Scale (UAS). The UAS is a single item self-report instrument designed to measure an individual family members' perceptions of the quality of the therapeutic alliance they observe when viewing therapists engaging families in family therapy. The single item is: 'If you feel the therapist has been successful in establishing excellent rapport, circle number 10. If you feel that the therapist has failed to establish rapport, circle 0. Use the in-between numbers to describe variations between these extremes.'

Procedure

The records of a pre-school playgroup were used in order to identify and contact 28 families with teenage sons.

The experimental procedure of presenting videotaped scenes to the families and asking them to rate their perceptions of therapeutic alliance was conducted in participants' own homes. The following protocol was followed during data collection. Family members were informed that they would be shown four scenes from simulated family therapy sessions in which actors played the roles of a son, a mother, a father and a therapist. After each scene they would be asked to fill out two questionnaires. In completing the first questionnaire (FTAS-IF) they were asked to evaluate the alliance between the person occupying the role that corresponded to their own family role (i.e. son, mother, or father) and the therapist. It was pointed out that this would require them to identify with the person on the video that occupied a family role similar to their own. In completing the second questionnaire (FTAS-TF) they were asked to evaluate the overall alliance between the therapist and the family from the point of view of an objective observer, rather than a person in a particular family role. They were

then informed that after viewing all four scenarios, they would be asked rate the rapport between the therapist and the family member in the role corresponding to their own family role (i.e., son, mother father) on a 10 point scale (UAS). To facilitate this final rating procedure they were asked to take a mental or written note of how the rapport in each scene compared to that in others they had seen.

Before being shown the first scene, the following statements (which are based on those used by Dozier (1992) in his study) were read to the family: 'The family you are about to view has just come in for a therapy session. The interaction you are about to view is part of the first therapy session. Their reason for attending therapy is that the husband or father is depressed." After viewing the first scene participants were reminded of the perspectives (i.e. family role or fly on the wall) from which they were to complete the FTAS-IF and FTAS-TF. This procedure was repeated for the remaining three scenes. After completing the two questionnaires for the final scene, participants were asked to rate all four scenes on the UAS.

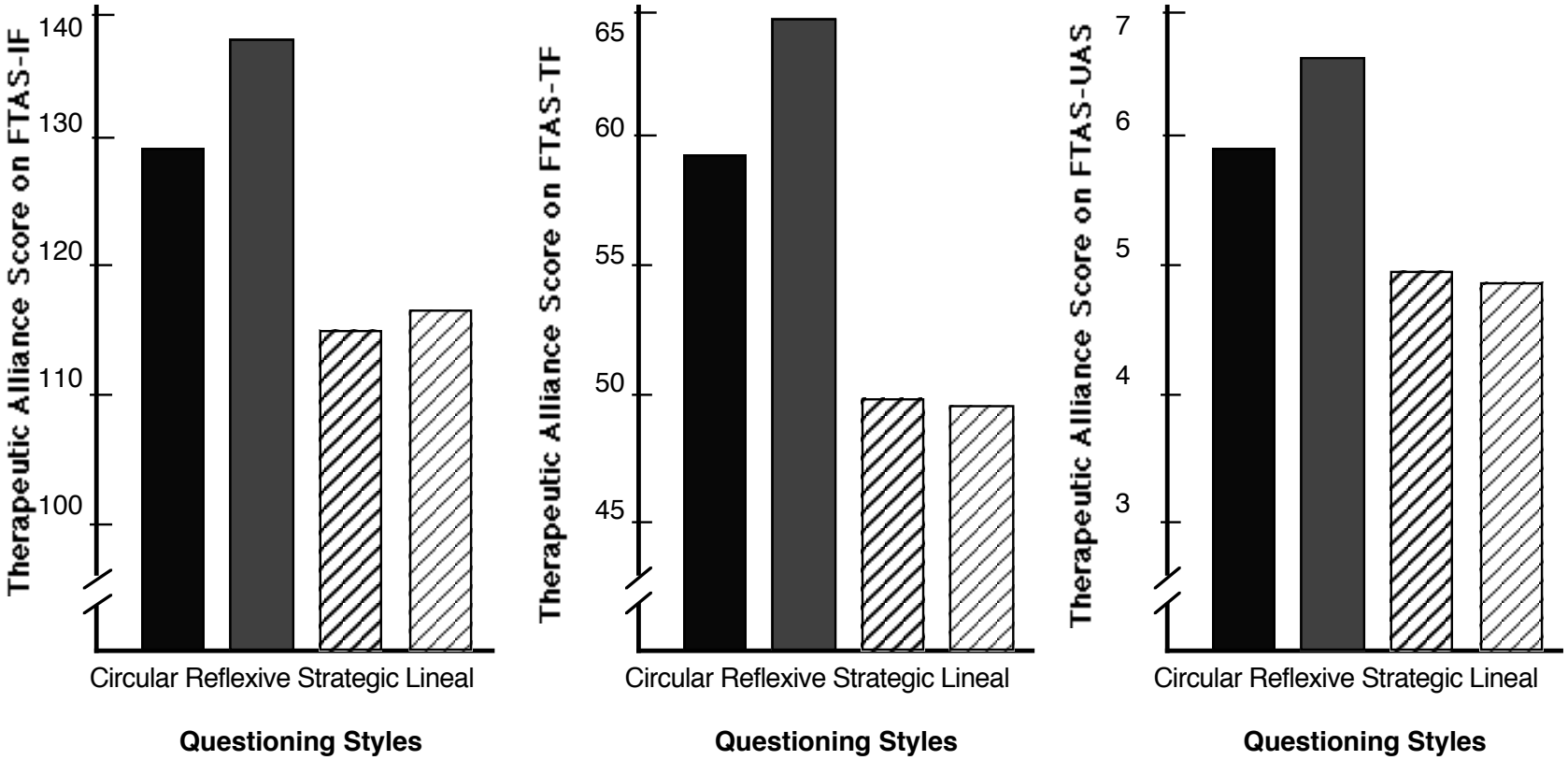
All participants completed a consent form and demographic sheet prior to the experimental procedure and were debriefed afterwards.

RESULTS

For the FTAS-IF, the FTAS-TF and the UAS, 4 × 3 mixed model ANOVAs were conducted. In these ANOVAs questioning style was a within-subjects variable with four levels (i.e. Circular, Reflexive, Strategic and Lineal) and role was a between-subjects variable with three levels (i.e. son, mother and father). The results of the three ANOVAs along with means and standard deviations are presented in Table 1. In all three ANOVAs a significant main effect for 'questioning style' occurred, while the effects of 'role' and the effect of the interaction between 'role' and 'questioning style' were not significant. The

statistical significance of differences between pairs of means for the four questioning styles was evaluated with Bonferroni dependent *t*-tests.

Figure 4.2. Impact of questioning style on three indices of therapeutic alliance



Note: For the FTAS-IF, the range is 29-203. For the FTAS-TF, the range is 13-91. For the FTAS-UAS, the range is 1-10. In all instances N=28.

Table 4.1. Impact of questioning style and role on therapeutic alliance

		Questioning Style														
Scale		**Circular**			**Reflexive**			**Strategic**			**Lineal**			**ANOVA**		
	Role	S	M	F	S	M	F	S	M	F	S	M	F	QS	R	Q × R
FTAS-IF																
	Mn	132.79	128.11	125.32	143.46	140.50	134.79	117.29	113.36	114.07	126.18	113.29	109.25	45.54*	2.05	1.15
	SD	17.66	24.88	21.06	16.80	23.13	22.68	24.38	21.58	24.87	20.04	23.02	21.05			
FTAS-TF	Mn	58.25	58.75	57.32	64.00	63.39	62.64	40.43	50.64	48.93	52.61	49.25	47.00	34.60*	.20	.49
	SD	13.05	17.08	16.97	10.67	15.23	15.40	15.27	15.22	17.77	12.70	16.93	16.85			
UAI	Mn	6.57	5.39	5.43	7.54	6.36	6.29	4.68	4.46	4.82	5.11	4.21	4.11	15.63*	3.07	3.12
	SD	2.03	2.70	2.66	2.17	2.88	2.71	2.88	2.44	2.91	1.87	2.36	2.96			

Note: FTAS-IF= Family Therapy Alliance Scale-Individual Form. FTAS-TF= Family Therapy Alliance Scale-Team Form. UAI= Unidimensional Alliance Scale. S=Son. M=Mother. F=Father. F values are from a series of 4 X 3 (Questioning Style (QS) X Role (R)) ANOVAs. For Questioning Style (QS) effect: *df* = 3, 243. For Role (R) effect: *df* = 2,81. For Questioning Style × Role (Q × R) effect: *df* = 6, 81. In all cells, N=28. *p < .001.

For all three instruments, these post-hoc comparisons confirmed the impression given by graphs of mean scores contained in Figure 2. Compared with Strategic and Lineal questioning styles, Circular and Reflexive questions led to higher alliance scores on the FTAS-IF, the FTAS-TF and the UAS.

DISCUSSION

The results of this study support Tomm's hypothesis, that circular and reflexive questioning styles based on circular assumptions lead to a better perceived therapeutic alliance at an individual and systemic level than lineal and strategic questions which are based on lineal assumptions. It is a central tenet of Tomm's therapeutic approach that a strong therapeutic alliance underpins effective family therapy, and that therefore, on balance, questioning styles based on circular assumptions are preferable to those based on lineal assumptions.

This study had a number of methodological strengths which allow us to place considerable confidence in the results obtained. First, both the FTAS-IF and the FTAS-TF proved to be highly reliable measures in this study and yielded reliability coefficients greater than .9. Second, content validity checks showed that the videotaped scenarios were accurate portrayals of Tomm's four questioning styles. Third, the potential effects of the order in which videotapes were viewed were controlled for by using a Latin Square design to balance the order in which the videotaped scenarios were seen by participants. Fourth, a repeated measures design was used, which eliminated variance associated with individual differences entailed by between groups designs. In the light of both the consistency of the significant results across all three measures of alliance (i.e. the FTAS-IF, the FTAS-TF and the UAS) and the methodological rigour of the study, it may be argued that a high degree of confidence can be placed in the results obtained. Moreover, our results replicate and extend the findings obtained in Dozier *et al.*'s (1992) seminal investigation.

However, it is important to highlight that this was an analogue study and so entails the methodological shortcomings of such investigations. Participants constituted a middle class convenience sample. They were not families referred with clinical difficulties. Furthermore they rated their perceptions of alliances formed in simulated family therapy video scenarios rather than their experience of an alliance formed in their own therapy. Further research is needed in which clinically referred families rate perceptions of alliances of simulated or genuine video scenarios and their experiences of therapeutic alliance in their own therapy under the four different questioning styles.

The present study focused on the impact of the four questioning styles during an intake session. Circular and Reflexive questions may have led to a stronger therapeutic alliance during this phase of therapy because questioning styles based on circular assumptions are theorised to elicit feelings of freedom and acceptance (Tomm, 1988). Future research should compare the effects of questioning styles at different points in the therapy process, i.e. during engagement, during the mid-phase of therapy, in therapeutic situations that have become 'stuck', and during the disengagement phase of therapy. It may be that questions based on circular assumptions which promote alliance building and the exploration of possibilities are particularly useful during the engagement phase of therapy, while strategic and lineal questions may promote active problem-solving during the mid-phase of therapy or when therapy becomes 'stuck'.

It is also important to highlight that not all forms of circular questioning may promote the development of a therapeutic alliance and not all forms of lineal questions may be less conducive to alliance building. Some circular questions may seem perverse, nonsensical or intrusive to clients while some lineal questions may engender a strong relationship between therapists and family members. However, Tomm has argued that lines of questioning based on circular assumptions will typically be experienced as creating a stronger alliance than lines of questioning based on lineal assumptions and it is this hypothesis that was tested in the present study. The degree to which the lines of questioning on the

videotapes used in this study reflect Tomm's theory is supported by his endorsement of the tapes as valid exemplars of the four questioning styles.

Major reviews of family therapy process research show that when clients perceive therapists to be collaborating and empathising with them in addressing their difficulties, a strong therapeutic alliance is fostered, clients co-operate more with the therapeutic process and engage in less resistance (Alexander, Holtzworth-Munroe & Jameson, 1994; Carr, 2000; Friedlander 1998; Frielander, Wildman, Heatherington, & Skowron, 1994). The results of the present study suggest that in the early stages of therapy, questions based on circular assumptions may engender a sense of empathy and collaboration for clients.

In the present study, a single family therapist featured in all four videotaped scenarios. Since family therapy often involves more than one therapist, future studies should investigate the impact of questioning styles on the therapeutic alliance between families and individual members of a family therapy team or the team as a whole.

In the present study, the videotaped families and therapists were white North Americans and the participants in the study were also white but Irish. It is significant that, despite the ethnic differences, our results were similar to those obtained by Dozier *et al.* (1992). It would be valuable to further examine the interaction of other types of ethnic differences with question types and their effects on therapeutic alliance.

One interesting finding deserving mention, is the fact that the role of the family member (mother, father, and son) had no statistically significant impact on therapeutic alliance. Thus, differences between therapists and participants in age and gender did not have a significant impact on the strength of the therapeutic alliance.

This study showed that the type of questions posed by a family therapist may have an important impact on the establishment and maintenance of therapeutic alliance. This conclusion has direct implications for clinical practice, since therapeutic alliance can affect not only whether or not clients initially

engage with the therapist, but also the nature of the outcome of the therapy process (Pinsof & Catherall, 1986; Martin & Allison, 1993). A therapist's skill in using different questioning styles will of course depend largely on his or her training. Family therapy training programmes should, therefore, place a premium on the teaching of questioning techniques. The present study underlines the importance of training therapists to include circular and reflexive questions in their repertoire of questioning styles.

SUMMARY

To replicate and extend Dozier et al's (1992) test of Tomm's hypothesis about the differential effects of questioning styles on therapeutic alliance an analogue study was conducted. Twenty-eight family triads, each including a son and his parents, viewed four videotaped simulated family therapy scenarios in which Tomm's four questioning styles were separately portrayed. Participants were asked to identify with the client whose role corresponded to theirs (i.e. father, mother, or son) and, on the basis of this, to rate the client's alliance with the therapist. They were also asked to rate the overall alliance between the family and the therapist. Finally, having viewed all four scenarios, they were invited to comparatively rate the quality of the therapeutic alliance across the four questioning styles. Compared with strategic and lineal questioning styles, circular and reflexive questions led to higher ratings of therapeutic alliance on all three measures. The results of this study support Tomm's hypothesis that questioning styles based on circular assumptions lead to a better a therapeutic alliance at an individual and systemic level than questions based on lineal assumptions.

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Table 8.2. Results of ANOVAs for CBCL scales

		Group					ANOVA Effects				Differences between means	
		Treatment Group			Control Group		Group Effect	Time Effect	Group By Time Interaction	Time Effect for Treatment Group	Between treatment & Control Groups	Within Treatment Group & within Control Group
Variable		Time 1	Time 2	Time 3	Time 1	Time 2	F	F	F	F		
Total	**M**	61.52	52.65	65.58	73.67	72.04	76.96***	38.76***	19.89***	46.07***	$TGT_1 < CGT_1$	$TGT_3 > TGT_1 > TGT_2$
	SD	14.12	11.81	10.94	06.68	09.15					$TGT_2 < CGT_2$	$CGT_1 = CGT_2$
Internalising	**M**	62.07	53.58	64.36	72.63	69.87	55.01***	38.30***	12.05***	31.59***	$TGT_1 < CGT_1$	$TGT_1 = TGT_3 > TGT_2$
	SD	10.91	11.59	11.97	08.86	11.18					$TGT_2 < CGT_2$	$CGT_1 = CGT_2$
Externalising	**M**	58.39	51.32	63.71	72.59	70.85	71.98***	33.25***	11.24***	30.86***	$TGT_1 < CGT_1$	$TGT_3 > TGT_1 > TGT_2$
	SD	12.13	11.28	12.53	09.95	12.15					$TGT_2 < CGT_2$	$CGT_1 = CGT_2$
Withdrawn	**M**	64.61	57.45	67.94	74.09	72.15	36.33***	26.42***	10.13**	26.81***	$TGT_1 < CGT_1$	$TGT_1 = TGT_3 > TGT_2$
	SD	10.76	10.45	13.47	10.88	12.55					$TGT_2 < CGT_2$	$CGT_1 = CGT_2$
Somatic complaints	**M**	56.61	53.61	58.90	64.13	60.98	14.86***	11.65***	00.13	04.33*	$TGT_1 < CGT_1$	$TGT_1 = TGT_3 > TGT_2$
	SD	08.68	07.12	10.31	12.31	11.98					$TGT_2 < CGT_2$	$CGT_1 > CGT_2$
Anxious depressed	**M**	63.07	56.81	64.65	72.70	69.09	41.35***	44.60***	03.36	21.39***	$TGT_1 < CGT_1$	$TGT_1 = TGT_3 > TGT_2$
	SD	08.36	07.88	11.26	10.92	11.95					$TGT_2 < CGT_2$	$CGT_1 > CGT_2$
Social problems	**M**	59.94	56.97	62.58	64.94	63.87	10.54**	09.82**	03.01	05.55**	$TGT_1 < CGT_1$	$TGT_1 = TGT_3 > TGT_2$
	SD	10.48	08.67	11.17	11.82	10.78					$TGT_2 < CGT_2$	$CGT_1 = CGT_2$
Thought problems	**M**	59.48	54.74	58.58	65.28	65.11	24.19***	09.99**	08.64**	10.57***	$TGT_1 < CGT_1$	$TGT_1 = TGT_3 > TGT_2$
	SD	09.82	07.49	11.31	09.80	10.31					$TGT_2 < CGT_2$	$CGT_1 = CGT_2$
Attention problems	**M**	64.42	58.26	66.77	70.65	70.30	20.00***	15.04***	12.05***	15.97***	$TGT_1 < CGT_1$	$TGT_1 = TGT_3 > TGT_2$
	SD	11.68	09.78	12.69	11.08	12.40					$TGT_2 < CGT_2$	$CGT_1 = CGT_2$
Delinquent behaviour	**M**	59.48	54.74	63.07	71.44	71.33	61.32***	08.45**	07.59**	11.78***	$TGT_1 < CGT_1$	$TGT_3 > TGT_1 > TGT_2$
	SD	08.20	06.68	10.88	11.89	12.41					$TGT_2 < CGT_2$	$CGT_1 = CGT_2$

Aggressive	**M**	60.97	55.71	65.52	73.41	71.48	47.82***	12.57***	01.85	17.00***	$TGT_1 < CGT_1$	$TGT_3 > TGT_1 > TGT_2$
behaviour	**SD**	10.84	07.81	12.09	13.30	14.58					$TGT_2 < CGT_2$	$CGT_1 = CGT_2$

Notes: M =Mean. SD=Standard Deviation. ANOVA effects are from a 2 X 2, Groups X Time ANOVA and a repeated Measures ANOVA for Time 1, Time 2 & Time 3 on the Treatment Group only. TGT1 = Mean Of Treatment Group at Time 1, N = 47. TGT2 = Mean Of Treatment Group at Time 2, N = 46. TGT3 = Mean Of Treatment Group at Time 3, N = 31. CGT1 = Mean Of Control Group at Time 1, N = 47. CGT2 = Mean Of Control Group at Time 2, N = 46. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 8.3. Results of ANOVAs for mothers' GHQ-28 scales

		Group					ANOVA Effects				Differences between means	
		Treatment Group			Control Group		Group Effect	Time Effect	Group ByTime Interaction	Time Effect for Treatment Group	Between treatment &Control Groups	Within Treatment Group & within Control Group
Variable		Time 1	Time 2	Time 3	Time 1	Time 2	F	F	F	F		
Total	**M**	7.84	4.65	9.23	10.94	10.07	14.02***	11.44***	4.24*	8.24***	$TGT_1 < CGT_1$	$TGT_1 = TGT_3 > TGT_2$
	SD	6.71	7.03	8.35	07.25	08.56					$TGT_2 < CGT_2$	$CGT_1 = CGT_2$
Somatic symptoms	**M**	2.77	1.68	2.71	3.09	3.04	07.55**	05.76*	4.94*	4.64*	$TGT_1 = CGT_1$	$TGT_1 = TGT_3 > TGT_2$
	SD	2.22	2.34	2.49	2.32	2.33					$TGT_2 < CGT_2$	$CGT_1 = CGT_2$
Anxiety insomnia	**M**	2.94	1.36	3.16	3.76	3.22	14.62***	15.80***	3.67	8.61***	$TGT_1 < CGT_1$	$TGT_1 = TGT_3 > TGT_2$
	SD	2.73	2.18	2.92	2.32	2.69					$TGT_2 < CGT_2$	$CGT_1 = CGT_2$
Social dysfunction	**M**	1.32	0.84	1.61	1.80	1.74	05.80*	02.89	1.84	3.53*	$TGT_1 = CGT_1$	$TGT_1 = TGT_3 > TGT_2$
	SD	1.83	1.85	2.09	2.12	2.40					$TGT_2 < CGT_2$	$CGT_1 = CGT_2$
Depression	**M**	0.81	0.77	1.74	2.26	1.98	13.58***	02.00	0.00	4.89*	$TGT_1 < CGT_1$	$TGT_1 = TGT_2 < TGT_3$
	SD	1.64	1.88	2.16	2.28	2.63					$TGT_2 < CGT_2$	$CGT_1 = CGT_2$

Notes: M =Mean. SD=Standard Deviation. ANOVA effects are from a 2 X 2, Groups X Time ANOVA and a repeated Measures ANOVA for Time 1, Time 2 & Time 3 on the Treatment Group only.TGT1 = Mean Of Treatment Group at Time 1, N = 47. TGT2 = Mean Of Treatment Group at Time 2, N = 46. TGT3 = Mean Of Treatment Group at Time 3, N = 31. CGT1 = Mean Of Control Group at Time 1, N = 47. CGT2 = Mean Of Control Group at Time 2, N = 46.
* $p < .05$. ** $p < .01$, *** $p < .001$