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A PROCESS MODEL FOR FACILITATING AND ANALYSING CHANGE IN COGNITIVE THERAPY: THE COGNITIVE CIRCUMPLEX

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Abstract. Despite a marked expansion in the methods and applications of cognitive therapy, few specific models exist that delineate the process and means of psychotherapeutic change within cognitive therapy. In the present model, three core conceptual components of change are suggested: interpersonal conscious appraisal, response procedures and therapeutic communication. The subsequent circumplex developed from the core components enables the classification and description of 16 identifiable assessment profiles. Specific hypotheses drawn from the cognitive circumplex are stated concerning levels of functioning, client/problem complexity and typical client interactions. The circumplex is offered as a means of assessing, tracking and evaluating change during cognitive therapy. The structure of the model is consistent with the goals, rationale and expectations of cognitive therapy.

Keywords: Cognitive therapy, psychotherapy process, interpersonal problems.

Introduction

Circumplex theory has been proposed as a means of conceptualizing a wide range of individual and group behaviour from personality assessment (Wiggins, 1982) to family functioning (Olson, 2000). An experiential learning circumplex (Milne, Claydon, Blackburn, James, & Sheikh, 2001) has been developed in the context of indexing competence for practitioners of cognitive therapy. Such applications of circumplex methodology share a common characteristic of identifying key dimensions and then hypothesizing the consequence when such dimensions are *in interaction*. A primary aspect of circumplex theory is the importance of identifying the continua that are nested within key dimensions (Leary & Coffey, 1955). For example, within a dimension of ''closeness'' there is the possible range of distant (maladaptive), close (adaptive) and stifled (maladaptive) and all the integers between these points. Within cognitive therapy, a key intervention tool is developing client insight into the possible range of coping available to suit situational demands (Padesky, 1994) and the recognition that the extreme poles of continua are likely to reflect dysfunctional cognitive schema and associated mental health difficulties.

The cognitive circumplex was developed through clinical practice with clients with enduring psychopathology in the context of chronic interpersonal problems and is intended as a

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model to stimulate theoretical debate and invite empirical examination. The current climate of research into the effectiveness of the cognitive psychotherapies has shifted from that of illustrating outcome (examining whether clients change) to that of illuminating process (examining how clients change). Therefore the cognitive circumplex contributes to the examination of therapeutic process, a field within which cognitive therapy is beginning to place increasing significance on understanding dynamics within the therapeutic relationship (Milne et al., 2001). This has been influenced by a variety of factors including, centrally, studies demonstrating the quality of the therapeutic relationship as a strong predictor of therapeutic outcome (Muran, Gorman, Safran, & Twining, 1995). A further factor has been the extension of cognitive therapy to clients experiencing chronic interpersonal difficulties. Despite the acknowledged importance of the therapeutic relationship in traditional cognitive therapy (via processes such as transparency), clients with interpersonal difficulties typically struggle to form, maintain and hence benefit from positive therapeutic encounters (Newman, 1998). Currently, the possible mechanisms by which the therapeutic relationship may influence therapeutic outcome have not been fully explored or evaluated (Waddington, 2002). There is a marked need for consideration of the factors within the therapeutic relationship that may contribute to, effectively facilitate and hence enhance client change processes. The current model is proposed as a clinical tool that provides a conceptualization of possible change mechanisms and how such change mechanisms may interact. It is hypothesized that the model could be particularly useful whilst working with clients with interpersonal difficulties, an ever expanding field of CBT enquiry (Leary, 2001).

Core components of the model

The cognitive circumplex provided has three key dimensions: interpersonal conscious appraisal, response procedure, and therapeutic communication. These three dimensions emerged from key concepts from evolutionary psychology (Gilbert, 2001), cognitive psychotherapy (Linehan, 1993) and family systems theory (Olson, 2000). Although the model's components are well developed and represented within respective orientations and associated therapies, the concepts have not been previously integrated. The approach therefore has much in common with other attempts at integrating key theories of psychopathology such as cognitive-analytic therapy (Ryle, 1997) and interpersonal-cognitive therapy (Gilbert, 1997). The cognitive circumplex provides a new language and system of analysis for describing the interaction of self and self-other schema. The importance of the model's components is underpinned by evidence from each orientation that the respective dimensions are critical in the assessment, conceptualization and treatment of psychopathology.

Interpersonal conscious appraisal

The conscious appraisal of preceptions of interpersonal safety and defence has previously been defined as ''fundamental basic psychobiological organizing systems that guide the development of interpersonal schemata and strategies'' (Gilbert, 1993, p. 132). This definition suggests that in therapeutic relationships that are perceived as safe enough, co-operation, risk taking, affiliation and exploration are likely to follow (Eisenberg & Mussen, 1989; McCollough-Vaillant, 1997). The therapeutic relationship within cognitive therapy therefore needs to be ''safe enough'', without being so safe that it prevents or precludes the therapist

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from accessing and challenging unhelpful beliefs, patterns of behaviour or interactional styles. Conversely, within therapeutic relationships that arouse defensive interpersonal appraisals in the client, then attempts at interaction may produce restrictive behaviour, circumscribed areas of discussion/reflection and stereotypical automatic defensive responses (Gilbert, 1993). For clients with interpersonal problems, cognitive anticipation (and associated catastrophic beliefs/assumptions) rather than actual experiences of difficult feelings or new means of interacting are sufficient to trigger defensive safety behaviours (Fosha, 2000).

The focus of the construct of interpersonal conscious appraisal relates to the manner in which the individual balances and integrates the dialectical positions of safety and defence. There are four proposed levels of interpersonal conscious appraisal ranging from ''disengaged'' (too safe) to ''separated'' (low to moderate safety) to ''connected'' (moderate to high defence) to ''threatened'' (high defence). The four possible positions on the conscious appraisal dimension are presented in Figure 1. The model predicts that the central areas of interpersonal conscious appraisal (separated and connected) are the therapeutic positions in which the client is able to recognize, reflect on and resolve the procedures that underpin poor mental health. Conversely, the extreme poles (disengaged or threatened) are the positions in which adaptation and change are least likely, as these positions involve attentive sensitivity and marked vigilance to potential interpersonal threats and losses, with associated activation of psychobiological systems (Gilbert, 2001). The threatened position involves active–energized defence behaviours (e.g. fight, flight), whilst the disengaged position entails passive-inhibited behaviours (e.g. submission, demobilization and passive avoidance). Both the disengaged and threatened positions reflect the general cognitive distortion of ''better safe than sorry'' (Gilbert, 1998).

The task of the cognitive intervention is to facilitate shifts in defence or safety responses towards the central, integrated positions. When the client operates in the disengaged position, the therapeutic input is likely to be made impotent by the client being unwilling and uninterested in psychological processes and disinclined to describe self schema in detail (Leary, 2001). The anticipation of shame (Kaufman, 1989) and the anxiety associated with exposing negative aspects of self (which may be rejected or ridiculed) both promote concealment, safety and disengagement (Gilbert, 1993). The extreme positions are likely to trigger an array of safety behaviours (Salkovskis, 1991) that can operate within the therapeutic relationship constraining progress. Salkovskis (1991) described such behaviours as actions that are believed by the client to avert the anticipated feared event. Within the therapeutic relationship the feared event may, for example, involve the experience of distressing affect or disclosure of a previously concealed shameful secret. Clients at both poles of the interpersonal conscious appraisal continuum are likely to perceive therapy and the therapist as frightening, exposing and potentially damaging. Wakefield (1999) terms such extremes ''harmful dysfunctions'' as clients are either overly sensitive to threats and fail to exploit opportunities or are not sensitive enough to threats when it is appropriate and are, as a result, exposed to risks of physical and psychological harm.

There would seem to be similarities between the construct of interpersonal conscious appraisal and Attachment Theory (Bowlby, 1978). The absence or loss of secure attachment figures in early childhood has been associated with long term effects, especially interpersonal difficulties (Streppa, 1996). The current model, which conceptualizes how individuals respond to interpersonal relationships via the dialectical positions of safety and defence, can be seen as fitting alongside the principles underpinning attachment theory.

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Response procedure

Response procedure in the cognitive circumplex model represent the breadth and range of flexible dialectic coping responses available to the client when responding to stressors and provides information to the clinician about possible alternative responses that may broaden/strengthen existing coping strategies. This continuum focuses on the typical manner in which the client may or may not be integrating cognitive and affective coping strategies and how such proclivities are classically mirrored within the therapeutic relationship. Where therapeutic relationships contain purely cognitive information, clients will tend towards consistently disallowing and suppressing emotional responses (McCollough-Vaillant, 1997). Expression of affect is being increasingly acknowledged as a vital and authentic aspect of therapeutic progression in cognitive therapy (Milne et al., 2001). Conversely, within therapeutic relationships that arouse primary and intense emotional responding, in-session interactions can be defined by marked cognitive distortions, with the client being overwhelmed by overly emotional responses. This form of relating runs a heightened risk of clients being retraumatized by disclosures and interactions (Fosha, 2000). The facilitation of appropriate within session expression of affect, and integration of both cognitive and emotional means of understanding, reflecting and responding is widely reflected in the Cognitive Therapy Scale Revised (Newcastle CBT Centre and University of Newcastle upon Tyne, 1999).

The focus of the construct of response procedure is to assess how the individual integrates the dialectical responses of either cognition or affect. The four levels of response procedure range from ''rigid'' (high cognition) to ''structured'' (moderate to high cognition) to ''flexible'' (moderate to high emotion) to ''engulfed'' (high emotion). The four possible positions on the response procedure dimension are presented in Figure 1. Clearly, there will be a cognitive component to all responses on the continuum; however, in some situations where an individual is highly distressed the processing of cognitive information may be out of conscious awareness. Where this is the case and the clients' experience of the therapeutic encounter appears overwhelmingly affective in content, the client may well be functioning in the engulfed position.

As with conscious appraisal, it is hypothesized that the central areas of response procedures (structured or flexible) are conducive to effective forms of coping and enable psychotherapeutic progression. The extremes of the poles (rigid or engulfed) are the most problematic for problem-solving and general coping due to the absence of alternative complementary forms of experiencing and processing problems.

The task of the cognitive intervention is to facilitate shifts in the cognitive or affective responses towards the balanced and central responses of either structured or flexible. Within the model's balanced areas of response procedure clients are able to access, tolerate and integrate both cognitive and affective forms of relating and coping. Linehan (1993) has developed the term ''wise-mind'' to summarize the state in which the client is able to effectively integrate cognitive and affective information. Within the structured or flexible range, Linehan (1993) would predict that the client was: (a) more able to tolerate emotional stimuli; (b) less overtly responsive to emotional stimuli; and (c) more able to return to emotional baseline stability after emotional arousal. Within the mid-range responses the client therefore also has a wider behavioural repertoire of responses ranging from: (a) inhibition of inappropriate behaviour; (b) more goal and less mood directed behaviour; (c) self-soothing; and (d) refocusing of attention away from extreme distress.

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Therapeutic communication

Therapeutic communication is the third dimension of the cognitive circumplex. Therapeutic communication is the vehicle for assisting identification, reflection and movement on the conscious appraisal and response procedure dimensions. It is a facilitation dimension and therefore cannot be graphically included with the other dimensions. The facilitation skills required dovetail with traditional cognitive therapy techniques of on-going assessment and collection of current behaviours, clear and definable treatment targets and a collaborative working alliance. The core components of cognitive therapy (problem solving, exposure, skills training, contingency management and cognitive modification) can be integrated into the anticipated changes on the circumplex. The circumflex enables the reciprocal influence between the therapist and client to be mapped by providing a focus on the contingencies that operate within the therapeutic relationship. For example, if the moment in therapy is exposure to abuse memories, then the client's anticipated place on the circumplex can be assessed and a judgement made as to whether exposure is possibly beneficial or probably re-traumatizing. Similarly, post-exposure the client can be encouraged to place their experience on the circumplex as a means of self-reflection and cognitive modification of previously held beliefs regarding exposure.

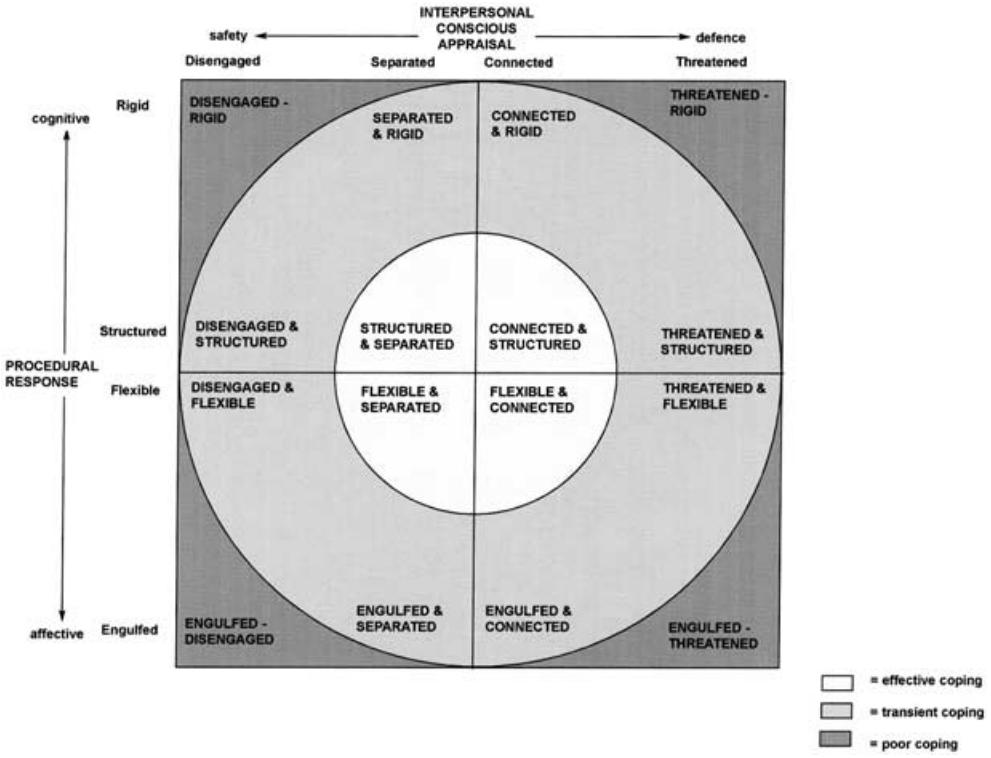


Figure 1. The cognitive circumplex

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Hypotheses drawn from the cognitive circumplex

A major asset of a theoretical model is that clear hypotheses can be deduced. The most basic hypothesis derived from the cognitive circumplex is that clients who display integrated interpersonal conscious appraisal and response procedures (the central area of the circumplex) will generally function more effectively than clients in the extreme positions across the life cycle. Negative life events can force a person previously operating in the balanced central area of the circumplex into the mid-range or extremes on one or both dimensions for a period. Therapeutic intervention is indicated when the individual does not adjust effectively to the life event and fails to naturally return to the balanced position.

Clients with mid-range problems will exist on the circumplex in the balanced area on one of the dimensions but in an extreme position on the other dimension. An example of this may be a client in the separated sector on the cognitive appraisal dimension and in the engulfed sector on the response procedure dimension. The client is not fearful of the therapeutic encounter and is able to form the relationship effectively, but typically responds to situations and stressors with high affect. Similarly, a client may exist in the threatened sector of the conscious appraisal sector but interacts on the structured pole of the response procedure. The client is fearful of the therapeutic encounter and likely to be behaviourally inhibited (Gilbert, 1993), but relatively able to integrate cognitive and emotional factors without stimulating the fear avoidance response.

Four separate dysfunctional extremes are possible on the cognitive circumplex: disengaged-rigid, threatened-rigid, engulfed-disengaged and engulfed-threatened (these positions exist in the corners of the circumplex in Figure 1). Clients that chronically function in the four dysfunctional extremes are predicted to be likely to report psychological distress and interpersonal difficulties existing across the life cycle and hence the greatest degree of therapeutic challenge.

Clinical descriptions of positions on the cognitive circumplex

The aim of this section is to provide clinical descriptions of the various positions on the circumplex. It is hypothesized that the manner in which the client responds to the therapeutic situation and the associated affect produced will be indicative of the activation of underlying schema (McCulloch-Vaillant, 1997). The client's response on the interpersonal conscious appraisal dimension is likely to be due to the activation of ''self-other'' schema (for example, dependent or vulnerable to control schemas; Leary, 2001). The procedural response observed in the client (for example, risk-aversion and self-handicapping strategies; Leary, 2001) is hypothesized to index self-schema due to the self-management countenance. An important consideration is the manner in which the client may experience the therapeutic encounter and the therapist's associated observations of the client on the continua. Table 1 provides positional descriptors of the interpersonal conscious appraisal continuum, both in terms of what therapists are likely to observe and correspondingly what clients are likely to experience (and should be asked to report on). Similarly, Table 2 provides predictions of the corresponding positional descriptors of response procedures observed by therapists and experienced by clients. It is possible to analyse both client experience and therapist observation in terms of four core aspects of CBT: cognition, alignment, affect, and engagement. These core aspects of CBT were chosen from the Cognitive Therapy Rating Scale-Revised

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Table 1. Interpersonal Conscious Appraisal: Descriptors of predicted therapist observations and predicted client experience

	Therapist observed			
	Disengaged	Separated	Connected	Threatened
Cognition	Intellectual	Rational	Connective	Impulsive
Alignment	Passive	Involved	Mutual	Exit
Affect	Suppressed	Aware	Explorative	Frozen
Engagement	Neutralized	Variable	Consistent	Avoided
	Client experienced			
	Disengaged	Separated	Connected	Threatened
Cognition	Important	Pressured	Challenged	Punished
Alignment	Devalued	Aligned	Contained	Over-powered
Affect	Unfeeling	Supported	Ventilating	Exposed
Engagement	Unwanted	Endured	Sought	Aversive

Table 2. Procedural response: Descriptors of predicted therapist observations and predicted client experience

	Therapist observed			
	Rigid	Structured	Flexible	Engulfed
Cognition	Concrete	Thoughtful	Reflective	Catastrophic
Alignment	Unaligned	Boundaried	Relational	Dependant
Affect	Avoidant	Expressive	Emotional	Over-whelmed
Engagement	Distant	Autonomous	Sociotrophic	Chaotic
	Client experienced			
	Rigid	Structured	Flexible	Engulfed
Cognition	Absolutest	Options	Choices	Obsessional
Alignment	Unnecessary	Connected	Understood	Over-powered
Affect	Endangering	Painful	Cathartic	Devastating
Engagement	Fearful	Tolerable	Enjoyed	Traumatized

(Newcastle CBT Centre and University of Newcastle upon Tyne, 1999). The four extreme positions are described in detail below.

Disengaged-rigid

Within the disengaged-rigid category the client is likely to be highly avoidant of affect, detached from close interpersonal relationships, and likely to over intellectualize problems and difficulties at the expense of emotional expression. The therapist may have the experience of not being able to truly reach the client with emotional reactions and a valid therapeutic relationship both conspicuous by their absence. The client may hold beliefs such as

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''I need to be totally self sufficient'' and ''my feelings are too painful to contemplate'' and assumptions such as ''if I allow somebody close then I risk being hurt''.

Threatened-rigid

Within the threatened-rigid category the client is likely to exhibit marked anxiety in being required to disclose personal information due to being hypervigilent of interpersonal threat and possible put-down. The client responds to the perception of interpersonal threat by keeping the conversation away from areas of true difficulties (avoidance of embarrassment) and at a cursory, surface and overly intellectual level. The therapist may have the experience of being watched carefully by the client. The client may hold beliefs such as ''I've never fitted in'' or ''I'm totally inadequate and unlovable'' and assumptions such as ''if I show my true self in therapy, my therapist will reject me like all the rest did''.

Engulfed-disengaged

Within the engulfed-disengaged category the client is likely to exhibit excessive emotionality and finds it difficult to truly gauge the depth of relationships. The client may seek or crave to be the centre of attention whilst never truly engaging with people. Emotions can be rapidly shifting in the session. The therapist may have the experience of watching somebody perform and possibly may feel a need to rescue the client. The client may hold beliefs such as ''I can never reassure myself'' or ''all my needs need to be met by others'' and assumptions such as ''unless I am holding people's attention at all times then I am truly worthless''.

Engulfed-threatened

Within the engulfed-threatened category the client is likely to respond with high expressed emotion to relatively innocuous cues and will be very untrusting and hence hypervigilant of the therapist. The client is likely to react with marked emotionality and impulsivity to the slightest therapeutic rupture. The therapist may have the experience of never accessing the client's true difficulties, but being faced with a barrage of ever changing distress. The client may hold beliefs such as ''I'll be alone forever'' or ''I deserve to be punished'' and assumptions such as ''I am powerlessness to make any positive changes to my life'' or ''if I take a risk, then it will totally backfire''.

Three-dimensional mapping: defining types of change

A three-dimensional representation of the cognitive circumplex has the benefit of clearly illustrating the similarities within the differences between the integrated, mid-range and extreme positions. The 3-D representation of the model is presented in Figure 2. The integrated, mid-range and extreme positions are hypothesized to be capable of differing types of change in the model. There are two types of change proposed: uni-continuum and bi-continuum change.

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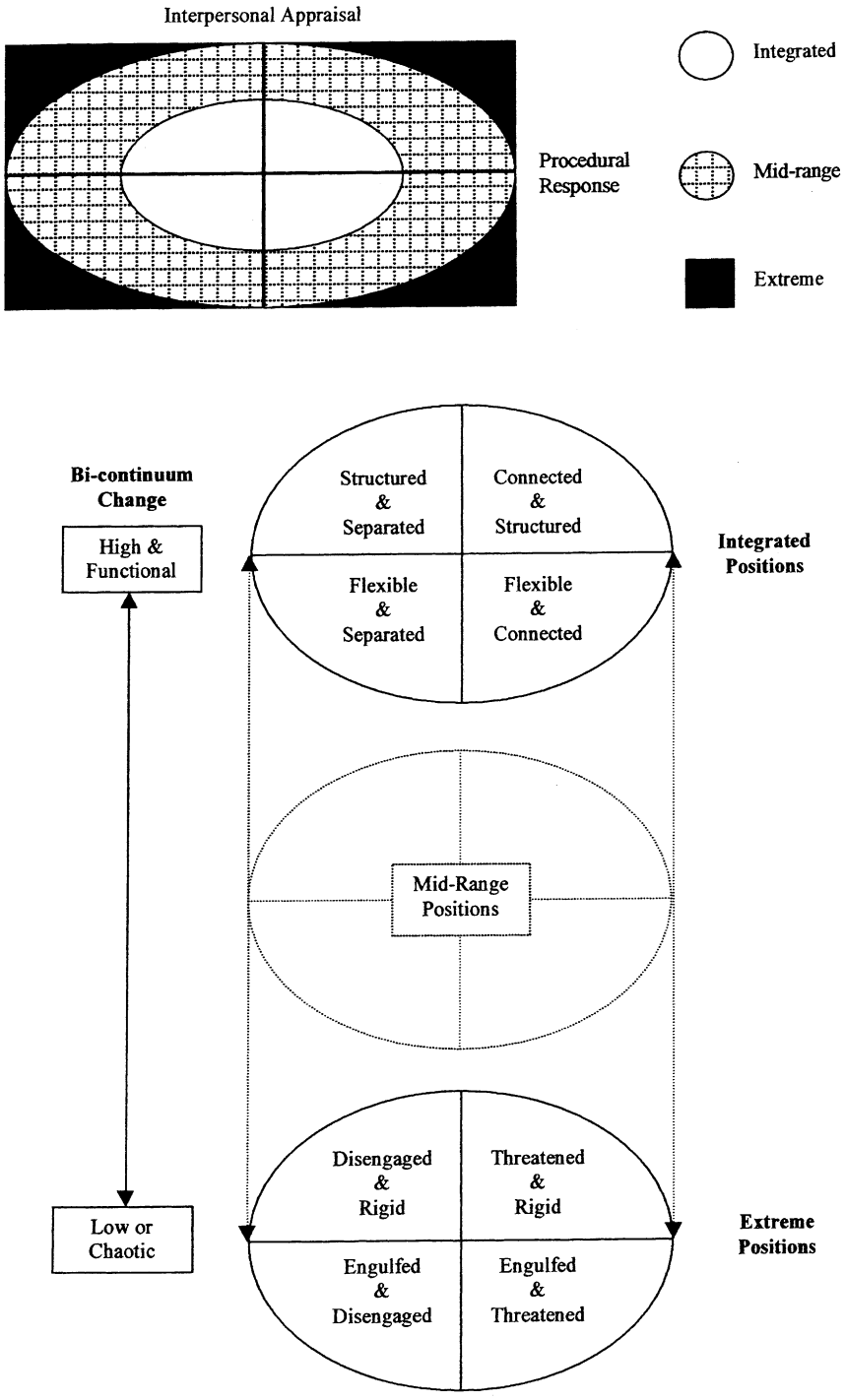


Figure 2. Three dimensional cognitive circumplex

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Uni-continuum change

Uni-continuum change is defined as a shift from one position on an individual continuum to another position on the same continuum. Graded shifts towards the central positions on either continuum are evidence of progress. Uni-continuum change, however, can be either functional or dysfunctional. Dysfunctional uni-continuum change consists of movement from one extreme position on a continuum to the other extreme. A further example of dysfunctional uni-continuum change would be movement from a central position to either of the extreme positions. Uni-continuum change is by definition curvilinear, in that too much change on a continuum can be as dysfunctional as too little. We hypothesize that while this could and may happen in the early stages of therapy, it would be likely that such clients would have sufficient psychological resources to return to a central position fairly rapidly. Such change is in keeping with the predictions of the assimilation model (Stiles et al., 1990).

Bi-continuum change

Bi-continuum change is linear and consists of simultaneous movement on both continua. Olson (2000) highlights that pre-morbidly balanced systems are more able and likely to engage in bi-continuum change than pre-morbidly unbalanced systems. As such, balanced systems will change in order to adapt to new/difficult circumstances, whilst those functioning at the extremes will remain stuck and stranded in their existing positions. We extend this statement to propose that clients existing in the extreme positions may engage in over-exaggerated bi-continuum change. Therefore whilst clients with enduring interpersonal problems are likely to remain stuck in their existing positions, a possibility is oscillation between the four extreme positions on the model. Killorin and Olson (1984) recognized that in especially dysfunctional families the family system was prone to lurching about the circumplex from dysfunctional extreme to dysfunctional extreme. Such families were termed ''chaotic flippers''. Oscillation between the extreme positions on the proposed circumplex is a clear example of dysfunctional bi-continuum change. Such sudden and dramatic changes in mood and relational abilities (often observed in the session) have been termed ''state shifts'' by Ryle (1997) during the course of cognitive-analytic therapy. The 3-D model illustrates that the four integrated positions are similar in terms of abilities to engage in functional bi-continuum change. The four extreme positions are united in typically struggling with bi-continuum change abilities or, at times, becoming typically chaotic.

Clinical implications

In the assessment phase the information provided by the client concerning their interpersonal relationships and current difficulties enables the therapist to position the client on the circumplex. The nature of the interaction between the client and therapist in these early sessions provides valuable information concerning the individual's position on the circumplex. A client's position on the model in the assessment phase will indicate the type of change necessary to enable more effective functioning. Goal setting on a continuum is conceptualized as a hierarchy of relevant activity that gradually expands and increases in scope towards the central positions. Visually this can be presented to clients as ladders of cognitive, behavioural, affective and relational activities that increase in height as they pro-

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gress towards the central positions. For clients with self-other schematic problems, progress within the therapeutic relationship can be similarly presented on the interpersonal conscious appraisal dimension. In planning appropriate goals, it is important to be aware that clients with chronic interpersonal problems (i.e. those who occupy the extreme positions on the circumplex model) may experience therapy as particularly threatening or overwhelming and hence any goal setting is required to reflect such anxieties.

A valuable concept in treatment planning in cognitive therapy concerns the zone of proximal development (ZPD). ZPD has been defined as ''the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers'' (Vygotsky, 1978). In order to facilitate functional uni or bi-continuum change clients need to augment existing cognitive, behavioural, affective and relational capacities. However, such capacity shifts are hierarchical and associated in-session and homework activities are naturally limited by the clients' ZPDs. Setting distal developmental tasks on the circumplex will result in therapeutic rupture and failure. If a client successfully completes an *in vivo* or homework task, then such progress needs to be assimilated into existing positive schema or labelled as firm evidence to challenge negative schema. At this point the ZPD expands hierarchically and the client will be ready to attempt a new task that challenges them further. Another period of consolidation will then be required. This process can continue until the client feels satisfied that they have reached the negotiated goal of therapy. The recognition, management and negotiation of the client's ZPD is a crucial component of the cognitive circumplex and associated treatment plans.

Clinical example

The aim of the following section is to illustrate the manner in which the circumplex can be used clinically in order to aid the assessment, conceptualization and treatment of clients experiencing interpersonal difficulties. A case is described of an 18-session CBT intervention for OCD with associated interpersonal problems with a 53-year-old client named Mary (name changed to protect confidentiality) conducted using the cognitive circumplex. Mary presented with an over 30 year history of OCD and had previously received an individual course of CBT that had slightly reduced her high frequency hand washing. Mary presented with problems relating to allowing herself to have any contact with people for fear that she may infect them with a ''deadly virus'' that she presumed she was carrying. Reciprocally, she avoided other people having contact with her in order to protect them from presumed harm and avoid the inevitable tremendous guilt such an outcome would create. Interpersonal contact was an additional source of anxiety for Mary as such contact was a perceived source of contamination that would increase the potency of the presumed super virus that she carried. She would particularly avoid sexual contact with her husband due to being swamped with phobic anxiety. Mary presented with chronic interpersonal problems such as avoidance of social contact, inability to achieve emotional closeness, and disdain for general human interaction.

Circumplex assessment phase: Sessions 1–4

With respect to the Interpersonal Conscious Appraisal dimension, the therapist experienced Mary as describing obviously painful issues in an intellectual fashion, focusing exclusively

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on cognitive appraisals of situations. Mary did not initiate topics for exploration and seemed passive and unengaged, so neutralizing the therapeutic relationship's facilitative properties (see Table 1, therapist observed). Procedural responses to the assessment process included awareness of a concrete cognitive style and avoidance of emotional experiencing or expression (see Table 2, therapist observed). Consequently, the therapeutic relationship initially appeared devalued, unaligned and turgid.

Mary provided feedback of her experience of the assessment process, which was conceptualized using the circumplex dimensions. With respect to the Interpersonal Conscious Appraisal she emphasized the fear she experienced when in social contact with people and the heightened fear that she experienced in relation to attending therapy. She was particularly keen to describe a fear that she would be made to do things that she didn't want to do. Mary experienced the therapist's attempts to engage her in a therapeutic relationship as aversive and unwanted, resulting in the devaluation/incomprehension of collaborative working (see Table 1, client experienced). In regards to the within session Procedural Responses, she experienced the therapist's attempts to evoke affective responses as confusing, endangering and, to some extent, cruel. Attempts by the therapist to create a collaborative environment were seen as unnecessary and Mary experienced deep dread at the prospect of further and possibly deeper engagement (see Table 2, client experienced).

Following consideration of both the therapist's observations during the initial assessment sessions and feedback from Mary regarding her experience of the therapeutic process, she was conceptualized as being in the Disengaged-Rigid position on the cognitive circumplex (see Figure 1). Identification of the position on the circumplex provided valuable information to supplement the formulation and enable effective intervention.

Circumplex intervention phase: Sessions 5–18

As bi-continuum change has been conceptualized as difficult for clients occupying an extreme position, it seemed appropriate to focus initially on achieving uni-continuum adaptive change within the Interpersonal Conscious Appraisal dimension. Mary's initial ZPD was conceptualized as facilitating appropriate engagement, whilst being aware that over engagement would be experienced by the client as aversive (dysfunctional uni-continuum change). Mary was encouraged to describe her fears of engagement and associated fears of being over-whelmed and ashamed by strong in session emotions. Mary began to describe a learnt pairing between interpersonal connectiveness and abuse. The ZPD was widened to enable Mary to experience connectiveness within the sessions without feeling abused. This enabled Mary to disclose experiences of childhood sexual abuse by local shopkeepers, which she had kept a shameful secret in her previous CBT and life in general. The super virus she presumed she carried was traced back to represent the semen of the abusers and the associated shame of the abuse. At this point the Interpersonal Conscious Appraisal ZPD was expanded to introduce behavioural hierarchies of exposure to touch and personal contact.

Due to the behavioural and interpersonal progress exhibited on the Interpersonal Conscious Appraisal dimension from sessions 5–12, sessions 13–18 were focused around the Procedural Response dimension. Tasks included Mary practising identifying and describing mood shifts, first in session and then outside the session; becoming more aware of her strategies to avoid affect; helping her remain with painful emotions in the sessions; and

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encouraging Mary to challenge negative cognitions about emotional expression. During these sessions the sexual abuse was described in a much more cathartic and emotional manner. Mary maintained a high degree of autonomy within the relationship, but the alignment was sufficient to enable emotional expression and effective challenges regarding beliefs relating to self-blame.

Outcome of therapy

After 18 sessions of CBT the client reported a reduction in symptons of obsessive-compulsive and phobic anxiety. She reported being able to tolerate contact from other people and no longer believed herself to be a source of contamination. The client began sexual contact with her husband that contained aspects of initiation, enjoyment and a lack of phobic anxiety that had previously been reported. The client's hand washing was dramatically reduced. These shifts were traced on the circumplex to exhibit signs of a shift from the Disengaged-Rigid position to the Structured and Separated position. Follow-up at 3 months illustrated maintenance of the gains made in the CBT and persistent functioning in the integrated areas of the circumplex. Completion of the Beck Depression Inventory (BDI-II, Beck, Steer, & Brown, 1995), Brief Symptom Inventory (BSI; Derogatis, 1993) and Inventory of Interpersonal Problems (IIP-32; Barkham, Hardy, & Startup, 1996) at assessment, termination and follow-up enabled psychometric evaluation of outcome via the Reliable Change Index (RCI; Jacobson & Traux, 1991). The psychometrics indicated clinically significant reductions on the BDI-II and across the nine subscales of the BSI between assessment and termination, with gains being maintained at follow-up. In terms of interpersonal functioning, RCI analysis revealed between assessment and termination a significant reduction in the overall IIP-32 and more specifically significant reductions in the hard to be involved, hard to be supportive and hard to be sociable sub-scales. Gains were maintained at 3-month follow-up. Clinically significant change on the IIP-32 appeared consistent with the *in vivo* and homework exercises conducted according to the cognitive circumplex.

Circumplex psychometric assessment

As has been mentioned in an earlier section of this paper, the function of the model at present is theoretical and aims to increase insight into the complexities of CBT with people with interpersonal difficulties. However, the development of a structured and standardized psychometric measure is the only means by which the model can be empirically rather than clinically evaluated. Within the Olson (2000) family systems theory, the family circumplex has been subject to extensive psychometric evaluation. The empirical endeavour has, in turn, seen the evolution of two measures: a clinical rating scale (Olson, 1990; clinician's assessment) and the Family Adaptability and Cohesion Evaluation Scales (Olson, Portner, & Lavee; FACES III self-rating scale, 1985).

Obviously, within the current battery of psychometric tests there are no extant tests of interpersonal conscious appraisal and procedural responses. An important psychometric consideration is the hypothesized curvilinear relationship between interpersonal conscious appraisal and response procedures. Because of curvilinear hypothesis parametric statistics that rely on calculation of measures of central tendency are not appropriate. The most appropriate psychometric development techniques will be based on frequency distributions

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such as chi-square, discriminant analysis and circumplex-derived distance from centre scores. Within the development process the ultimate aim is to produce independent orthogonal continua to consummate theoretical criteria. It would be appropriate to develop both clinician rated and client perceived measures of appraisal and response. A likely candidate for adaptation for the interpersonal conscious appraisal dimension is the Inventory of Interpersonal Problems (Barkham et al., 1996) whilst a measure of procedural response may be the Psychological Mindedness Questionnaire (Shill & Lumley, 2002).

Conclusions

The cognitive circumplex has been developed in an effort to address the call for more emphasis to be placed on therapeutic process within cognitive therapy (Milne et al., 2001) and to support cognitive theory for clients with interpersonal difficulties (Leary, 2001). It is offered as a clinical tool to facilitate a focus on process issues within the cognitive therapy by acknowledging the self and self-other schema triggered within therapeutic relationships (Young & Lindeman, 1992). The model attempts to capture the ''dynamic interactive process'' (Llewelyn & Hardy, 2001) of therapy and assist in the formulation of complex cases and evaluation of the impact of the cognitive and behavioural interventions offered.

The circumplex model would appear to have clinical face validity and the dimensions of response procedure and conscious appraisal have been demonstrated as important in other fields of psychopathology. However, further work is needed to demonstrate the utility of integrating the dimensions in the manner proposed. The hypotheses drawn from the circumplex need to be evaluated. This would entail assessing whether clients' experiences of therapy, such as their progress and setbacks, the nature of the therapeutic relationship and the length of treatment contracts, are correlated with the predictions posited given initial starting positions on the circumplex. Additionally, as previously noted, the creation and validation of psychometric assessment measures corresponding to the dimensions of the circumplex would support further the use of the model as a useful tool in therapy with clients' interpersonal difficulties.

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