
Coping Strategies in Major Depression and Over the Course of Cognitive Therapy for Depression

Les stratégies d'adaptation associées à la dépression et leur évolution au cours d'un traitement cognitif

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ABSTRACT

Background: Cognitive therapy (CT) aims to help patients recover from depression by teaching them to restructure their distorted thinking and to resolve practical problems in their lives. While studies have examined the role of cognitive variables in the treatment of depression, less research has focused on coping. **Objectives:** This study aimed to investigate the role of coping in depression, and changes in coping over the course of CT. **Methods:** Early and late therapy sessions were selected for 45 participants who received CT. Depression was assessed using the Beck Depression Inventory, and coping was assessed using the Coping Patterns Rating Scale. **Results:** Results indicated that *information seeking*, *problem solving*, and *helplessness* were the most prevalent coping strategies early in therapy; *threat-based coping* was correlated with depression; *accommodation* increased with therapy; and change in *threat coping* was correlated with change in depression. **Conclusions:** Findings indicate the importance of *threat-based coping* and of *accommodation* and *delegation* in depression and recovery from depression. Research and clinical implications are discussed.

RÉSUMÉ

Contexte : La thérapie cognitive vise à aider les patients à se remettre de la dépression en leur apprenant à restructurer leurs distorsions cognitives et à résoudre des problèmes pratiques. Bien que des études aient examiné le rôle de plusieurs variables cognitives dans le traitement de la dépression, trop peu de recherche a mis l'accent sur les stratégies d'adaptation (*coping*). **Objectifs :** Cette étude visait à étudier les stratégies d'adaptation associées à la dépression, ainsi que les changements observés au cours d'une thérapie cognitive. **Méthode :** Les séances de thérapie cognitive en début et en fin de traitement de 45 participants ont été analysées. La dépression a été évaluée en utilisant l'inventaire de dépression de Beck, et les stratégies d'adaptation ont été évaluées en utilisant le *Coping Patterns Rating Scale*. **Résultats :** Les résultats indiquent que la recherche d'information, la résolution de problèmes, et l'impuissance sont les stratégies d'adaptation les plus utilisées au début de la thérapie; que l'adaptation fondée sur la menace est corrélée avec la

dépression; que l'accommodation augmente avec la thérapie; et que le changement dans les stratégies associées à une perception de menace est corrélé avec le changement dans la dépression. **Conclusions** : Les résultats indiquent l'importance de l'adaptation fondée sur la menace, de l'accommodation, et de la délégation dans la dépression et le rétablissement subséquent. Les implications cliniques et pour la recherche sont discutées.

Major depression is predicted to become the primary contributor to disease burden in high-income countries such as Canada by 2030 (Mathers & Loncar, 2006). While the disorder's worldwide lifetime prevalence is estimated to be in the 8–12% range, these rates are slightly higher in Canada, with a 24% lifetime prevalence among women and a 15% lifetime prevalence among men (Andrade et al., 2006; Hirschfeld et al., 1997). Beyond the individual suffering that major depression is associated with, which limits activities of daily living at home, work, and school, depression also poses a serious economic problem to society. In Canada alone, overall economic losses have been estimated at \$4.5 billion annually, making depression one of the costliest health problems in Canada (Stephens & Joubert, 2001). It is no surprise, then, that a considerable amount of attention has been given to developing effective treatments for depression.

Cognitive therapy (CT) is one such treatment; it has been shown to be both efficacious and effective in treating major depression, and is now recommended in most reputable practice guidelines (e.g., National Institute for Health and Care Excellence, 2009; Parikh et al., 2009). However, a successful treatment should not only alleviate symptoms but also alter the underlying factors theoretically linked to the onset and maintenance of a clinical condition. Hence, as support for the efficacy of CT for treating depression increased, the focus in research also shifted toward the mechanisms through which CT achieves its results (Ekers, Richards, & Gilbody, 2008; Kazdin, 2007). For example, because mood disorders are believed to be related to a person's negatively biased information-processing and to dysfunctional beliefs that influence motivation, behaviour, and affect (e.g., Beck, Rush, Shaw, & Emery, 1979), a plethora of studies have examined how core cognitive processes such as cognitive errors, dysfunctional attitudes, and negative automatic thoughts, amongst others, are related to depression (e.g., Blake, Dobson, Sheptycki, & Drapeau, 2016; Clark, Beck, & Alford, 1999; Marton, Connolly, Kutcher, & Korenblum, 1993; Pothier, Dobson, & Drapeau, 2012; Schwartzman, Stamoulos, et al., 2012).

Other studies have focused on another construct that is central to cognitive behavioural theories of depression: *coping* (see Beck, 1976), which refers to strategies that are used to respond to and produce an acceptable adaptation to stressors and situations (Perry, Drapeau, & Dunkley, 2007). Indeed, developing appropriate and adaptive coping strategies and eliminating maladaptive coping strategies are two of the aims of therapy (e.g., David, 2006; Wenzel, 2013). Over the last few decades, it has been shown that depression is related to such maladaptive coping strategies as helplessness (e.g., Pryce et al., 2011), rumination (e.g., Hong, 2007), wishful thinking and avoidance (e.g., Trew, 2011),

escape (e.g., Ottenbreit & Dobson, 2004), social isolation (e.g., Hawton et al., 2011), and other types of maladaptive coping strategies (e.g., Mahmoud, Staten, Hall, & Lennie, 2012; Morris, Kouros, Fox, Rao, & Garber, 2014). It has also been found that depressed individuals use fewer adaptive coping strategies (including problem-solving strategies) and less positive reappraisal and negotiation strategies than non- or less-depressed individuals (Garnefski, Legerstee, Kraaij, van den Kommer, & Teerds, 2002; Gloria & Steinhardt, 2014; Sinclair, Wallston, & Strachan, 2016).

However, a subset of early studies concluded that use of coping strategies that focus on problem solving are not different in individuals suffering from depression compared to nondepressed individuals (e.g., Coyne, Aldwin, & Lazarus, 1981), while others suggested that there may even be increased levels of coping involving self-reliance among participants with higher levels of depressive symptoms (see Folkman & Lazarus, 1986). Some of the more recent evidence derived from treatment studies also raises questions about the nature of the link between coping and depression. For example, Ingram, Trenary, Odom, Berry, and Nelson (2007) and Sigmon et al. (2006) have found that individuals with depression tend to use more avoidance coping, but also that these increased levels of avoidance coping remain even after depression has remitted.

In another study, a sample of moderately to severely depressed university students were randomly assigned to a control group or a CT treatment program. At termination, participants in the group that received the treatment were found to have significantly decreased their use of avoidance strategies (i.e., activity that is oriented away from threat), increased their use of approach strategies (i.e., activity that is oriented toward the threat), and significantly reduced both their perceived stress and depression scores. However, the posttest scores did not differ for the two groups on level of avoidance coping (Hamdan-Mansour, Puskar, & Bandak, 2009).

In Wong's (2008) study, participants were randomized to control or experimental conditions (10 group sessions of CT), in addition to all participants receiving pharmacotherapy. Compared to the control group at posttreatment, the CT group had lower depression scores, fewer negative emotions, more adaptive coping skills, and fewer dysfunctional attitudes. However, only change in dysfunctional attitudes, not coping, significantly predicted change in depressive symptoms, leading Wong to question the linkage between the acquisition of adaptive coping skills and reduction in depressive symptoms.

Despite efforts to better understand the possible connection between coping and depression, findings remain somewhat contradictory; clearly, too few studies have been conducted. Furthermore, there are a number of limitations in the research conducted to date. Chief among these is that previous research has relied exclusively on the assessment of coping strategies using self-report measures, which have been criticized because of (a) their reliability and validity (Fan et al., 2006; Fulmer & Frijters, 2009; Parker & Endler, 1992); (b) how they define coping (Coyne et al., 1981; Lehan, Roger, Kuntz, & Borrill, 2015);

(c) scale items that include functionally heterogeneous categories which have little to do with one another (Billings & Moos, 1984) or because of the presence of value-laden items (e.g., see the COPE scale by Carver, Scheier, & Weintraub, 1989); and (d) self-report instruments that assess how people typically or hypothetically cope with stressors, which has been found to be a poor predictor of how people actually cope with stressors (Dobson & Dozois, 2001). Another complicating factor is that more than 400 different labels have been used to define coping strategies, requiring an item-by-item analysis of scales and subscales to determine whether findings are comparable. This makes it difficult, if not impossible, to aggregate findings relevant to the same stressor and domain and to compare results across different stressors or domains (Skinner, Edge, Altman, & Sherwood, 2003). The current study aimed to take a modest step in addressing some of these issues.

AIMS AND HYPOTHESES OF THE CURRENT STUDY

With this study, we first aimed to describe the coping strategies of depressed individuals as assessed using an observer-rated method rather than a questionnaire. In addition, the relationship between coping strategies and severity of depression was examined early in therapy. Based on previous studies (Garnefski et al., 2002, Hong, 2007; Ingram et al., 2007), it was hypothesized that depression severity would be positively correlated with threat-based coping strategies (see *Measures*). It was also hypothesized that greater depression severity would be associated with elevated levels of helplessness (Garnefski et al., 2002; Hong, 2007; Ozment & Lester, 2001), escape (Folkman & Lazarus, 1986; Ingram et al., 2007; Sigmon et al., 2006), isolation (Parker & Brown, 1982), submission (Beck, 1963; Garnefski et al., 2002; Ingram et al., 2007), opposition (Folkman & Lazarus, 1986; Ingram et al., 2007), support-seeking (Coyne et al., 1981; Folkman & Lazarus, 1986), and lower levels of negotiation (Um & Dancy, 1999).

A second goal of the study was to examine change in coping during cognitive therapy. It was anticipated that threat-based coping strategies would decrease from early to late therapy, and that challenge-based coping strategies would increase from early to late therapy. Furthermore, the association between change in coping and change in depression was examined. It was hypothesized that decreases in threat-based coping strategies and increases in challenge-based coping strategies would be positively related to decreases in depression (see, e.g., Coyne et al., 1981; Folkman & Lazarus, 1986).

Finally, in order to further our understanding of how coping is related to depression, participants were divided into two groups: those who recovered from depression following CT and those who did not. In comparing those two groups, it was hypothesized (Hamdan-Mansour et al., 2009; Wong, 2008) that recovered participants would endorse fewer threat-based and more challenge-based coping strategies at the end of therapy than nonrecovered participants.

METHOD

Participants and Setting

The data were drawn from a landmark dismantling randomized clinical trial of cognitive therapy (CT) for depression (Jacobson et al., 1996, 2000). Participants were randomly assigned to one of three treatment conditions (cognitive therapy, behavioural activation, or activation and modification of automatic thoughts), controlling for the number of previous episodes of depression, the presence of dysthymia, the severity of the depressive episode, marital status, and gender. The participants were recruited from two areas: (a) the Group Health Cooperative, a large health maintenance organization (HMO) in the United States (80% of the sample); and (b) via public service announcements. Exclusion criteria included bipolar or psychotic subtypes of depression, panic disorder, current alcohol or other substance abuse, past or present schizophrenia or schizophreniform disorder, organic brain syndrome, and mental retardation. Furthermore, participants already in psychotherapy or receiving psychotropic medication, and those needing to be hospitalized due to imminent potential for harm (i.e., suicide), were not accepted into the study.

For the purposes of the present study, all 45 participants from the CT arm for whom session recordings and coping and depression ratings (see *Measures* below) were available were included. The mean age of the participants was 39.24 years ($SD = 9.06$); the majority of participants were women (78%). All participants met criteria for depression according to the *Diagnostic and Statistical Manual of Mental Disorders—Third Edition, Revised* (DSM-III-R; American Psychiatric Association, 1987; note that the diagnostic criteria of that edition are consistent with later editions), and scored greater than 13 on the 17-item Hamilton Rating Scale for Depression (Hamilton, 1967) and greater than 19 on the Beck Depression Inventory (Beck, Steer, & Garbin, 1988).

Twenty sessions of manualized cognitive therapy (Beck et al., 1979) were offered to the participants with a focus on helping them to identify and challenge their distorted ways of thinking and to increase their use of adaptive coping skills. Adherence to the manual was assessed, and the therapists attended monthly meetings to discuss treatment issues with other experts. Four therapists participated in the study. Their mean age was 43.5 years (range = 37–49 years). All had previous experience delivering CT in one or more clinical trials, and had an average of 14.8 years of postdegree clinical experience (range = 7–20 years). All sessions were audiotaped.

In order to further examine how coping is related to depression, the sample was also divided into two groups: those who recovered from depression and those who did not, as defined by Jacobson and colleagues (2000). Participants were considered to have recovered from their episode of depression if at posttest they no longer met criteria for depression using the DSM-III-R, and scored less than 9 on the Beck Depression Inventory and less than 8 on the Hamilton Rating Scale for Depression (see *Measures* below). Accordingly, 53% of participants were clas-

sified as recovered ($n = 24$), 44% as nonrecovered ($n = 20$), and one participant was not classified due to incomplete data.

While the original study (Jacobson et al., 1996, 2000) was not conducted recently, given its quality it continues to serve as the basis for studies of psychotherapy processes and outcomes in CT today. Since it was originally published, a number of studies have drawn on its data to examine psychotherapy processes as well as the relationships that exist between psychopathology and diverse measures of general functioning (e.g., Antunes-Alves, Thompson, Kramer, & Drapeau, 2014; Ekers et al., 2014; Pothier et al., 2012; Renaud, Dobson, & Drapeau, 2014; Schwartzman, Thompson, et al., 2012; Tang, DeRubeis, Beberman, & Pham, 2005).

Measures

Depression was assessed using the Beck Depression Inventory (BDI; Beck et al., 1979) and the Hamilton Rating Scale for Depression (HRSD; Hamilton, 1967). The BDI is a frequently used self-report questionnaire that has excellent psychometric properties (see Beck et al., 1988); it was used at each session. The HRSD is a clinical interview comprising 17 items; it is widely used and has excellent psychometric properties (see Clark & Watson, 1991). It was completed at intake and termination.

Coping was assessed using the Coping Strategies Rating Scale (CPRS; Perry et al., 2007). The CPRS is the first observer-rated measure of coping strategies (CS), which it defines as “strategies selected by the individual to respond to and produce an acceptable adaptation to stressors and situations taking internal motives into account, (and that) involve aspects of thinking, feeling, and behaving” (Perry et al., 2007, p. 3). The CPRS is based on the works of Skinner and colleagues (2003) who, after a critical review of the literature on coping and a number of statistical analyses, condensed more than 400 coping labels into 12 parsimonious coping strategies. Each of these 12 coping mechanisms was defined and operationalized by Perry et al. (2007; see Table 1) in order to provide observers with the means to identify coping strategies as they occur or are reported by participants.

Table 1
The Coping Patterns Rating Scale (Perry, Drapeau, & Dunkley, 2007)

Coping	Definition	Examples
Problem-solving	“Dealing with a stressor by attempting to understand and solve it as a problem and effect a desirable solution.”	<i>Affective</i> : “feeling confident in one’s efforts, determined, encouraged.” <i>Behavioural</i> : “taking instrumental action to effect an outcome, repairing, mastering, testing a hypothesis about what to do.” <i>Cognitive</i> : “strategizing, planning, forming hypotheses of what to do.” <i>Example of cognitive problem solving</i> : “When I heard this, I started thinking about what I should do to make things right, you know. I figured if I called the School Principal, we might be able to work things out ... or even make a donation to the school, I don’t know! and get him back into class.”

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Coping	Definition	Examples
Information-seeking	“Information-seeking deals with a stressor by attempting to gather information which may aid in dealing with it.”	<i>Affective</i> : “interest, hope, optimism, emphasizing the desire to know something.” <i>Behavioural</i> : “reading, observation, asking questions, testing a situation.” <i>Cognitive</i> : “having an inquisitive attitude, being open, trying to gain insight into oneself or another, self-reflection.” <i>Example of behavioural information-seeking</i> : “He just wasn’t helpful so I decided to look into this myself. I called a friend who is a teacher, then I went to the city library to find the regulations and I called a lawyer who specializes in this area. I wanted to know if they could do that, if it was even allowed.”
Helplessness	“Helplessness deals with a stressor by giving up trying to deal with it oneself, while expressing distress about the situation.”	<i>Affective</i> : “exhaustion, discouragement, feeling guilty.” <i>Behavioural</i> : “acting helpless, flailing, random unconsidered attempts to cope, giving up trying anything.” <i>Cognitive</i> : “confusion as to what to do, cognitive exhaustion, inability to think about a problem any further, self-doubt, belief that one can’t do anything about a problem, non-problem-solving rumination about problems.” <i>Example of affective helplessness</i> : “I just don’t feel like it’s worth it. I don’t have the kind of resources they have ... they have an entire team of experts working for them. What am I supposed to do? I’ve had enough. That’s it for me.”
Escape	“Escape deals with a stressor by disengaging and avoiding trying to deal with it whatsoever.”	<i>Affective</i> : “Wishful thinking.” <i>Behavioural</i> : “behavioural avoidance, fleeing, procrastination, distracting oneself by an action.” <i>Cognitive</i> : “cognitive avoidance, distracting oneself in thinking, denial, changing a topic to another topic to avoid discussing difficult material.” <i>Example of behavioural escape</i> : “Can’t we talk about something else for once? I mean we’ve been over this before and I don’t see the point.”
Self-reliance	“The individual uses his or her own personal resources to deal with a stressor.”	<i>Affective</i> : self-soothing, concern for others, accepting responsibility, venting one’s feelings in order to regulate one’s emotional responses to stressors, talking in order to experience relief. <i>Behavioural</i> : shouldering a burden, shielding, protection, self-assertion. <i>Cognitive</i> : positive self-talk with respect to one’s own capacity to deal with a problem. <i>Example of cognitive self-reliance</i> : “I know, I just know I can do this.”
Support-seeking	“Support-seeking deals with a stressor by seeking, finding, or engaging social resources which will aid in effecting a desired outcome.”	<i>Affective</i> : “seeking comfort, spiritual support.” <i>Behavioural</i> : “seeking contact, asking for help or instrumental aid.” <i>Cognitive</i> : “expressing a belief about the importance of obtaining others’ support.” <i>Example of affective support-seeking</i> : “I talked to my pastor and we prayed together. It certainly made me feel better.”
Delegation	“Delegation deals with a stressor by overtly or covertly leaving it to others rather than oneself	<i>Affective</i> : “self-pity, complaining, whining.” <i>Behavioural</i> : “abandoning efforts to cope and instead telling others that they have to do something, pestering others to do something, acting dependent, clinging.” <i>Cognitive</i> : “believing oneself helpless and that others have to do something.”

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Coping	Definition	Examples
	to deal with the stressor.”	<i>Example of behavioural delegation:</i> “I told him it was his problem. He needs to fix this because I certainly will not waste my time on this.”
Isolation	“Isolation deals with a stressor by withdrawing from it or isolating oneself.”	<i>Affective:</i> “feeling afraid to show oneself related to the stressor, feeling afraid to be around others.” <i>Behavioural:</i> “social withdrawal, concealing oneself, avoiding others, freezing.” <i>Cognitive:</i> “believing that one should avoid others.” <i>Example of behavioural isolation:</i> “I hate those events. They make me nervous and I don’t know what to say to people. So I show up, then I go for a walk during the party and only come back to say bye, you know?”
Accommodation	“Accommodation deals with a stressor by coming to some compromise or acceptance of what can and cannot be changed in the stressor or as a result of it.”	<i>Affective:</i> “acceptance of limitations, conviction, feeling committed, endorsement of an accommodation.” <i>Behavioural:</i> “cooperation, conceding to others, committed compliance.” <i>Cognitive:</i> “cognitive restructuring, reframing, cognitive distraction, minimization.” <i>Example of cognitive accommodation:</i> “Well, I guess I could think about this differently. I mean, normally, I was just be upset but then I figured maybe he’s just having a bad day so it has nothing to do with me.”
Negotiation	“Negotiation deals with a stressor by attempts to develop new options beyond those at hand.”	<i>Affective:</i> “feel like making a deal.” <i>Behavioural:</i> “bargaining, attempting to persuade, compromising to get some of what one wants.” <i>Cognitive:</i> “setting priorities, goal-setting, taking others’ perspective, decision-making.” <i>Example of behavioural negotiation:</i> “I think it’s legitimate for him to ask me to do this but it would really take a toll on my family life so, huh, I asked my boss if I could maybe come in earlier in the morning but then still leave early and beat traffic or maybe we could have some other form of arrangement that would meet both our needs.”
Submission	“Submission deals with a stressor by giving into others and giving up on effecting one’s own preferences.”	<i>Affective:</i> “self-blame, fear of engaging others or expressing oneself, hiding one’s emotions from a dominant other.” <i>Behavioural:</i> “giving in, doing what one is told without thought, failure to act as one believes one should in response to a stressor (unresponsiveness).” <i>Cognitive:</i> “believing the stressor cannot be engaged, reasoning why one should avoid expressing oneself or avoid dealing with a situation, which results in submitting to the status quo. It does not matter whether the person’s perception of the consequences of not submitting is accurate.” <i>Example of affective submission:</i> “He tends to get angry about these kinds of things so I keep it to myself, but then I worry he’ll find out so I just tell him what he wants to hear.”
Opposition	“Opposition deals with a stressor by confronting it and attempting to remove any constraints imposed on one’s preferences.”	<i>Affective:</i> “aggressive feelings toward others, venting, reacting emotionally to others as if they are the problem.” <i>Behavioural:</i> “standing and fighting, defiance, seeking revenge.” <i>Cognitive:</i> “blame others, projection, rationalizing one’s own oppositional or defiant actions.” <i>Example of cognitive opposition:</i> “These people are so not reasonable. I think they’re just dumb, plain and simple. They don’t even deserve that I respond to them. Just a waste of time.”

A detailed manual outlines the procedures for rating each of the 12 coping strategies, so that coping strategies can be coded in the verbal material generated by patients. The manual contains definitions, aims, and examples for each type of coping strategy, as well as examples for how the coping strategies can be expressed at the affective, behavioural, and cognitive level. Based on the works of Skinner and colleagues (2003), and congruent with the works of Lazarus and Folkman (1984), six coping strategies are considered to be challenge-based (the source or stimulus for coping is considered to be a challenge and is generally considered more positive), and six are considered to be threat-based (the source or stimulus for coping is considered to be a threat and is generally more negative; see Table 2).

Table 2
Medians (Range) for Coping Early and Late in Therapy (N = 45)

Coping/1,000 words	Early Therapy	Late Therapy	Z	p ^a
Total coping strategies	5.55 (2.19–11.93)	5.63 (2.52–11.18)	-.20	.84
Challenge coping	3.79 (1.28–7.99)	3.98 (.42–10.25)	-.95	.34
Problem-solving	.77 (.00–4.50)	1.02 (.00–3.90)	-.32	.75
Info-seeking	1.00 (.00–5.13)	.96 (.00–3.72)	-.48	.63
Self-reliance	.59 (.00–1.97)	1.00 (.00–2.41)	-2.07	.04
Support-seeking	.31 (.00–1.72)	.25 (.00–1.46)	-.69	.49
Accommodation	.47 (.00–3.98)	.81 (.00–4.69)	-2.57	.01*
Negotiation	.00 (.00–.36)	.00 (.00–.42)	-1.22	.22
Threat coping	1.76 (.27–5.96)	.87 (.00–7.76)	-2.15	.03*
Helplessness	.85 (.00–5.96)	.34 (.00–5.60)	-2.21	.03
Escape	.00 (.00–1.80)	.00 (.00–.86)	-1.12	.26
Delegation	.00 (.00–.98)	.00 (.00–1.98)	-.10	.92
Isolation	.00 (.00–.94)	.00 (.00–1.44)	-1.99	.04
Submission	.00 (.00–1.17)	.00 (.00–1.06)	-.85	.39
Opposition	.00 (.00–1.41)	.00 (.00–1.93)	-.32	.75

Note. Wilcoxon signed ranks test.

*Indicates a significant difference following Bonferroni corrections.

^aUncorrected *p* values are reported.

When using the CPRS, raters (for information on the training of raters in using the CPIRS, see Kramer, de Roten, & Drapeau, 2011) are instructed to read the verbatim transcript of the sessions and to identify the text using beginning and ending brackets that subsumes the coping strategy. They then need to identify which of the 12 coping strategies is reflected in the text, and to add a suffix for the modality in which the strategy is primarily expressed (affective, cognitive, behavioural).

The CPRS manual provides detailed definitions for each coping strategy and examples of ratings, including the affective, behavioural, and cognitive manifestation of each strategy. It also includes rules to help distinguish one coping strategy from another. The coping strategy that is rated can be reported by the client (e.g., the client reports that during a conflict with his partner, he preferred to leave the house and go for a walk), or can be displayed *in vivo* during the sessions (e.g., during the session, a client actively seeks information from his therapist about the nature of his difficulties, his diagnosis, and the implications and prognosis tied to this diagnosis; see Table 1 for definitions and examples of coping strategies).

This method can be used to compute a number of indices, including the proportion of challenge- or threat-based coping, or the proportion of each individual coping strategy (e.g., the frequency of one coping strategy in comparison to the frequency of all coping strategies used by an individual). In addition, the number (frequency) of each coping strategy adjusted by the number of words spoken by the participant can be computed (each coping strategy used per 1,000 words). This score reflects how often each coping strategy is reported or used by a participant, but it is adjusted to the number of words spoken by that individual in order to control for verbal productivity. Additional information about this method can be found elsewhere (Antunes-Alves et al., 2014; D'Iuso, Blake, Fitzpatrick, & Drapeau, 2009; Drapeau, 2014; Kramer et al., 2011; Kramer, de Roten, Drapeau, & Despland, 2013; Kramer & Drapeau, 2011; Kramer, Drapeau, Khazaal, & Bodenmann, 2009; Lewandowski, D'Iuso, Blake, Fitzpatrick, & Drapeau, 2011; Renaud et al., 2014).

Procedure

All sessions were audio-recorded. From these, one early (Session 3) and the penultimate therapy session were selected for analysis. The third session was preferred to earlier sessions because the first two sessions of CT aimed to negotiate the terms of the treatment contractual arrangements (e.g., duration, expectations). The penultimate session was chosen because the last session generally involved the therapist focusing on future recommendations and on options if further treatment were to be required. All sessions were transcribed, and any identifying information such as names and session numbers was removed. Session numbers were replaced by a randomly assigned code so that CPRS raters would not know if they were rating an early or late therapy transcript. Ratings were done by advanced graduate students who had completed training in the CPRS over a period of approximately 2.5–3 months (for information on training, see Kramer et al., 2011); 18% of cases were rated in consensus, and interrater reliability was good, with a mean ICC (2,1) = .82 (ranging from .68 to .90).

RESULTS

The normality of the data was assessed using the Shapiro-Wilk test. Results indicated that most coping strategies were non-normally distributed; therefore, nonparametric tests were used for all analyses.

Coping Strategies in Depression at the Beginning of Treatment

In order to facilitate comparisons with other studies, the overall proportion of each coping strategy was computed. Information-seeking accounted for a mean of 18.98% of total coping strategies ($Md = 17.65$, $SD = .12$), followed by problem-solving ($M = 17.04\%$, $Md = 14.28$, $SD = .13$), helplessness ($M = 16.87\%$, $Md = 14.29$, $SD = .13$), self-reliance ($M = 13.05\%$, $Md = 12.00$, $SD = .10$), accommodation ($M = 9.75\%$, $Md = 8.33$, $SD = .08$), and support-seeking ($M = 6.46\%$, $Md = 5.26$, $SD = .08$). These were followed by the following six coping strategies, which all had medians of 0: escape ($M = 4.10\%$, $Md = 0.00$, $SD = .06$), opposition ($M = 4.01\%$, $Md = 0.00$, $SD = .06$), isolation ($M = 3.61\%$, $Md = 0.00$, $SD = .05$), submission ($M = 3.22\%$, $Md = 0.00$, $SD = .05$), delegation ($M = 1.74\%$, $Md = 0.00$, $SD = .04$), and negotiation ($M = 1.17\%$, $Md = 0.00$, $SD = .02$). A Wilcoxon signed ranks test indicated that the use of challenge-based coping (3.79, range = 1.28–7.99) was greater ($Z = -4.79$, $p < .001$) than the use of threat-based coping (1.76, range = .27–5.96).

Spearman correlations were computed between coping strategies and BDI scores from the corresponding early therapy session. A one-tailed Spearman correlation indicated, congruent with our hypothesis, that threat-based coping was correlated with depression ($r = .25$, $p = .04$), and an inverse but nonsignificant relationship was found for challenge-based coping ($r = -.14$, $p = .19$). One-tailed Spearman correlations were also computed to assess the relationship between depression and helplessness, escape, support-seeking, negotiation, isolation, submission, and opposition. Bonferroni corrections were applied to control for the number of correlations, with $p = .007$ for $\alpha = .05$. Two-tailed correlations were used for the other five coping strategies for which no hypothesis had been generated (delegation, problem-solving, information-seeking, self-reliance, and accommodation); again, Bonferroni corrections were applied, with $p = .01$ for $\alpha = .05$. None of the correlations were significant following the Bonferroni corrections.

Change in Coping from Early to Late Therapy

As participants spoke more words later in therapy ($M = 3,809.78$ words, $SD = 1,588.35$) than during early sessions ($M = 3,365.31$ words, $SD = 1,488.08$), $t(44) = -2.31$, $p = .03$, all comparisons were based on coping strategies per 1,000 words to control for participant verbal productivity. A Wilcoxon signed ranks test indicated that the total number of coping strategies (per 1,000 words) endorsed by participants early in therapy did not significantly differ from the total number of coping strategies endorsed later in therapy (see Table 2). Similarly, the number of challenge-based coping strategies was not found to significantly change from early to late therapy. Following a Bonferroni correction (where $p = .008$ for $\alpha = .05$; see Table 2 for all uncorrected p values), only one type of challenge-based coping, accommodation, significantly changed in therapy in that it was more prevalent later in treatment. While overall threat-based coping decreased significantly, no significant change was found in the individual threat-based coping strategies once corrections were applied.

Change in Coping and Change in Depressive Symptoms

Change variables were assessed by subtracting late therapy assessments from early therapy assessments. Spearman one-tailed correlations between change in depressive symptoms on the BDI and change in coping variables indicated that decreases in depression were associated with decreases in total use of coping strategies ($r = .29, p = .03$). There was no relationship between change in depression and change in challenge-based coping ($r = .06, p = .34$). However, it was found that as depression decreased, use of threat coping decreased ($r = .37, p = .006$). For the 12 specific coping strategies, it was observed that as depression decreased, use of escape decreased ($r = .44, p = .001$, which remained significant following the Bonferroni correction). A trend was found for negotiation ($r = .31, p = .02$, which was nonsignificant following a Bonferroni correction).

Examining Recovered and Nonrecovered Participants

Mann-Whitney tests indicated that in both earlier and later sessions, recovered and nonrecovered participants did not differ in their total number of coping strategies, nor in their use of challenge-based coping (see Table 3). The use of threat-based coping was also not different between the two groups early in therapy. No significant difference between the two groups was found for the individual coping strategies early in therapy once Bonferroni corrections were applied. Later in therapy, it was found that threat-based coping and delegation, congruent with our hypothesis, were both twice as high in the participants who had not recovered.

Among the recovered participants ($n = 24$), a Wilcoxon signed ranks test indicated that the total number of coping strategies did not significantly change from early to late therapy, nor did the frequency of challenge-based coping strategies. However, when the six types of challenge-based coping strategies were examined individually, it was found that accommodation tended to increase from early ($Mdn = .54$, range = .00–1.51) to late therapy ($Mdn = .98$, range = .00–3.16; $Z = -2.25, p = .02$); however, this finding was not significant following a Bonferroni correction. It was also found that the use of threat-based coping decreased significantly from early ($Mdn = 1.74$, range = .27–3.60) to later sessions ($Mdn = .62$, range = .00–3.59; $Z = -2.29, p = .02$); in particular, helplessness decreased from early therapy ($Mdn = 1.08$, range = .00–2.29) to late therapy ($Mdn = .00$, range = .00–1.51; $Z = -2.86, p = .004$). There was also a trend for a decrease in escape (early: $Mdn = .28$, range = .00–1.80; late: $Mdn = .00$, range = .00–.72; $Z = -2.20, p = .03$), although this result was nonsignificant following the Bonferroni correction. No other significant changes in threat-based coping were observed.

For the nonrecovered participants ($n = 20$), a Wilcoxon signed ranks test indicated that they did not increase or decrease their use of either challenge-based or threat-based coping strategies from early to late therapy. Of the 12 coping strategies, only isolation (a threat-based coping pattern) was found to tend to decrease from early ($Mdn = .00$, range = .00–.70) to late therapy ($Mdn = .00$, range = .00–.45; $Z = -2.05, p = .04$), although this finding was nonsignificant following a Bonferroni correction.

Table 3

Recovered and Nonrecovered Participants and Coping Strategies at Early and Late Therapy [Median (Range)]

Coping/1,000 words	Recovered (<i>n</i> = 24)	Nonrecovered (<i>n</i> = 20)	<i>U</i>	<i>p</i> ^a
Early Therapy				
Total coping strategies	5.45 (2.18–8.59)	5.52 (2.81–11.93)	219.00	.62
Challenge coping	3.59 (1.41–6.18)	3.78 (1.28–7.99)	221.00	.65
Problem-solving	.84 (.00–3.09)	.65 (.00–4.50)	205.00	.41
Information-seeking	1.01 (.00–2.83)	.97 (.00–5.13)	220.50	.65
Self-reliance	.77 (.00–1.97)	.43 (.00–1.84)	167.00	.09
Support-seeking	.30 (.00–1.72)	.33 (.00–1.84)	218.00	.60
Accommodation	.54 (.00–1.51)	.39 (.00–3.98)	210.50	.48
Negotiation	.00 (.00–.36)	.00 (.00–.35)	193.50	.14
Threat coping	1.74 (.27–3.60)	1.76 (.34–5.96)	213.00	.53
Helplessness	1.08 (.00–2.29)	.50 (.00–5.96)	209.50	.47
Escape	.28 (.00–1.80)	.00 (.00–.50)	156.00	.03
Delegation	.00 (.00–.33)	.00 (.00–.98)	169.00	.03
Isolation	.00 (.00–.94)	.00 (.00–.70)	226.50	.73
Submission	.00 (.00–.60)	.19 (.00–1.17)	190.00	.19
Opposition	.00 (.00–.63)	.24 (.00–1.41)	142.00	.01
Late Therapy				
Total coping strategies	5.31 (2.71–10.45)	5.89 (2.51–11.18)	212.00	.51
Challenge coping	4.54 (1.88–10.25)	3.85 (.42–9.73)	185.00	.20
Problem-solving	1.04 (.00–3.90)	.97 (.00–2.13)	234.00	.89
Information-seeking	.92 (.29–3.72)	.97 (.00–3.25)	235.00	.91
Self-reliance	1.17 (.00–2.41)	.88 (.00–1.93)	187.50	.22
Support-seeking	.30 (.00–1.46)	.09 (.00–1.04)	193.00	.25
Accommodation	.98 (.00–3.16)	.59 (.00–4.69)	198.50	.33
Negotiation	.00 (.00–.29)	.00 (.00–.42)	236.00	.86
Threat coping	.62 (.00–3.59)	1.40 (.20–7.76)	146.00	.03*
Helplessness	.00 (.00–1.51)	.47 (.00–5.60)	157.00	.04
Escape	.00 (.00–.72)	.12 (.00–.86)	195.00	.23
Delegation	.00 (.00–.21)	.00 (.00–1.98)	163.50	.007*
Isolation	.00 (.00–1.44)	.00 (.00–.45)	184.50	.10
Submission	.00 (.00–1.06)	.00 (.00–.72)	216.50	.50
Opposition	.07 (.00–.72)	.00 (.00–1.93)	234.00	.88

Note. Mann-Whitney test (two-tailed).

*Indicates a significant difference following Bonferroni corrections.

^a Uncorrected *p* values are reported.

DISCUSSION

The current study provides an overview of coping strategies as they occurred or were reported by participants during early and late cognitive therapy sessions for the treatment of depression. Findings indicate that the order of prevalence for use of coping strategies was information-seeking, followed closely by problem-solving, then helplessness. These were followed by the rest of the different coping strategies, each generally having significantly lower base rates than the first three.

These descriptive results are worthy of mention for a number of reasons. First, it may appear counterintuitive that the two most prevalent strategies—information-seeking and problem-solving—are challenge-based strategies and that both could be seen as indicative of an effort to seek help and overcome depression. It is likely that this was the case because coping was assessed at Session 3 after therapy had already begun. By this time, patients felt more hopeful and were already motivated and working at overcoming their illness. Numerous studies have shown the importance of problem solving in the treatment of depression, to the extent that Dobson and Dobson (2009) suggested that all cognitive-behavioural therapy is based on solving problems, and that therapies have been designed around the building of problem-solving abilities in patients (e.g., Chang, D’Zurilla, & Sanna, 2004; D’Zurilla & Nezu, 2006; Hassink-Franke et al., 2011). Clearly, for a therapist, there is great value in supporting a client’s ability to problem solve.

Likewise, research suggests that both positive and negative moods can increase information seeking, but also that both positive and negative moods can decrease information seeking (for a review, see Gasper & Zawadzki, 2013). The mechanisms that involve either problem solving or information seeking in therapy are not yet understood. It is possible that in the case of depressed patients seeking therapy, hope is a mediating factor that can trigger healthy behaviours such as problem solving and information seeking despite depressive symptoms (see Alexopoulos et al., 2011; Bergin & Walsh, 2005; Irving et al., 2004; Polnay, 2012; Snyder, 2004), especially once treatment has begun.

This would be congruent, for example, with the first phase of the phase model of psychotherapy which was first proposed by Howard, Lueger, Maling, and Martinovich (1993). During that first phase, referred to as *remoralization*, patients experience improvement in subjective well-being, which may be associated with an increased sense of hope, and possibly with the use of more problem-solving or information-seeking behaviours (see also Callahan, Swift, & Hynan, 2006).

Second, the comparable prevalence of different coping strategies ranging from information seeking and problem solving on one hand, to helplessness on the other, may be indicative of one of two processes. Some participants may have felt a degree of ambivalence in how best to cope with their situation, displaying both efforts to recover via information seeking and problem solving, and helplessness coping—which involves dealing with a stressor by giving up trying to solve it oneself, while expressing distress about the situation (Perry et al., 2007). It is also

possible that this reflects subgroups within the sample, with some participants displaying efforts to improve their situation and others displaying helplessness. These subgroups do not, however, seem to be reflected in recovery from depression with treatment, as both those who recovered and those who did not recover were comparable in terms of coping at intake.

The findings also indicate that, congruent with past research and with clinical acumen, there is a modest association between coping strategies and depression. More specifically, our findings show that threat-based coping is associated with depression severity. However, once corrections were applied for multiple correlations, no one individual coping strategy, including individual threat-based strategies, appeared to be related to depressive symptom severity when the sample was examined as a whole. These findings suggest that only gross estimates of coping, not specific coping mechanisms, are related to depression. Unless studies using larger samples lead to the identification of specific coping mechanisms in depression, it appears that, at least for research purposes, a gross estimate of threat-based coping may be sufficient.

Concurrent with this, the total number of coping strategies and the number of challenge-based coping strategies at Session 3 did not significantly differ from what was displayed later in therapy. Two findings did nonetheless stand out: first, threat-based coping decreased significantly, and second, accommodation (a challenge-based coping strategy) became more prevalent. These findings again point to the importance of threat-based coping in depression, as it is both related to depression severity and decreases with therapy.

According to Skinner and colleagues (2003), threat-based coping may signal a higher level of stress, which may in part explain our findings. The increase in accommodation is also significant in that it indicates an increase in attempts to adjust one's preferences to current constraints (Skinner et al., 2003). Indeed, research suggests that use of such coping strategies is related to increases in positive affect (e.g., Billings, Folkman, Acree, & Moskowitz, 2000). It is unclear, however, how these changes operate, as research has also shown that various personality traits and states including optimism, self-esteem (Aspinwall & Taylor, 1992; Carver, Pozo, Harris, & Noriega, 1993; Lancaster & Boivin, 2005), and cognitive processing can also moderate or mediate the effects of coping.

For example, in a pilot study using a subgroup of the participants included in this study, Renaud and colleagues (2014) found that use of self-reliance coping strategies and nonuse of escape coping predicted greater decreases in levels of depression after therapy in individuals who displayed specific cognitive errors such as jumping to conclusions and personalization. However, not all of these changes from early to late therapy were associated with an actual decrease in depression severity. When correlations between change in coping and in depression were computed, results showed that decreases in depression were associated with decreases in total use of coping strategies and use of threat-based coping, but also with decreased use of escape coping strategies, which is congruent with the literature (for a review, see Taylor & Stanton, 2007).

When recovered individuals and nonrecovered individuals were examined separately, the results indicated that the two groups were comparable early in therapy, but that some differences existed at termination, suggesting that coping strategies at intake may not be a good indicator of later response to treatment (see also Wong, 2008). Furthermore, congruent with our previous findings, threat-based coping was significantly more prevalent in patients who had not recovered, as was delegation. Perry and colleagues (2007) define *delegation* as a coping strategy that involves dealing with a stressor by overtly or covertly leaving it to others rather than oneself to deal with that stressor. They add that delegation is used:

when one believes that his or her own resources are inadequate to deal with a stressor (and he or she) then abandons active attempts to deal with the stressor in favor of trying to get others to assume responsibility for dealing with the stressor. (p. 17)

It remains to be determined if such a coping strategy is a byproduct of depression and the extent to which it overlaps with other key constructs associated with depression, including a sense of helplessness and despair (see Pryce et al., 2011; Schroder & Ollis, 2013).

In addition to sample size, one limitation of the study was that the nature of stressors was not assessed, making it difficult to ascertain if threat- and challenge-based coping strategies were congruent with the demands of environmental stressors and with the individual's available resources. However, Lazarus and Folkman's (1984) model of stress and coping, which is the foundation of the Coping Patterns Rating Scale (Perry et al., 2007), is considered to be a cognitive model (Gunthert, Cohen, Butler, & Beck, 2005), thus allowing for an assessment from the patient's perspective.

Nonetheless, the gap or overlap between reality and perception cannot be accounted for without knowledge of the actual stressors being coped with. Similarly, the data do not enable us to determine to what extent the therapist may have primed the patient, shaped patient responses (including positive responses), or induced the use of a given coping strategy. Finally, this study, as with previous studies in this area, is built on the assumption that the relationship between the use of specific coping strategies and depression is linear, a premise that remains to be tested empirically.

A strength of the study was the use of a new instrument, the Coping Patterns Rating Scale (Perry et al., 2007). This was advantageous as it allowed for an assessment of all possible types of coping strategies within the same study, and provided a different perspective to what is collected through questionnaires. This is a contribution to the coping literature because most existing scales have assessed coping according to only two or three dimensions, which not only leads to a lack of specificity, but compromises validity and reliability (for a review, see Skinner et al., 2003).

Finally, the study also involved detailed coding of coping strategies as they occurred during early and late therapy sessions. This contributed to the body

of knowledge about the role of coping strategies in depression and how coping strategies change over the course of cognitive therapy, as well as providing a new methodological perspective, that of observer-raters as opposed to self-report assessments.

CONCLUSION

Overall, our findings underscore the importance of threat-based coping and, more specifically, the potential importance of accommodation and delegation in depression and recovery from depression. Practitioners may be more effective by helping depressed patients navigate the fine nuances between accommodation and delegation and being mindful of the coping strategies they use. Cognitive therapy models focus extensively on the role of helplessness in depression and on the importance of teaching cognitive restructuring (i.e., accommodation). However, previous research has also shown the value of flexibility of psychological processes in mental health (see Drapeau et al., 2011). As such, future research and clinical practice may need to develop additional coping training modules that may also be of benefit to patients, providing them with a greater range of coping options.

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This research was supported by a grant from the Fonds de Recherche en Santé du Quebec.

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