

Nonreligious coping and religious coping as predictors of expressed emotion in relatives of patients with schizophrenia

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(Received 29 August 2011; final version received 16 November 2011)

Expressed emotion (EE) is a measure of the amount of criticism and emotional over involvement expressed by a key relative towards a relative with a disorder or illness. Research has established that living in a high EE environment, which is characterised by increased levels of critical and emotionally exaggerated communication, leads to a poorer prognosis for patients with a mental illness when compared to low EE environments. Despite evidence that EE is a strong predictor of the course of the illness, there continue to be questions concerning why some family members express excessive levels of high EE attitudes about their mentally ill relatives while others do not. Based on indirect evidence from previous research, the current study tested whether religious and nonreligious coping serve as predictors of EE. A sample of 72 family members of patients with schizophrenia completed an EE interview, along with questionnaires assessing situational nonreligious coping and religious coping. In line with the hypotheses, results indicated that nonreligious coping predicted EE. Specifically, less use of adaptive emotion-focused coping predicted high EE. Also consistent with predictions, maladaptive religious coping predicted high EE above and beyond nonreligious coping.

Keywords: schizophrenia; expressed emotion; religious coping

Expressed emotion (EE), one of the most studied psychosocial constructs in the field of psychiatry (McCleary & Sanford, 2002), is a measure of the family environment reflecting the amount of criticism and emotional overinvolvement expressed by a key relative towards a family member with a disorder or impairment (Hooley, 2007). Extensive research has demonstrated that EE predicts the course and outcome for numerous disorders, including, schizophrenia, unipolar depression, bipolar disorder, eating disorders, posttraumatic stress disorder, alcohol abuse, Alzheimer's disease, personality disorders, agoraphobia, and some childhood disorders (Wearden, Tarrier, Barrowclough, Zastowny, & Rahill, 2000). Because EE has been demonstrated to be such a strong predictor of a patients' course of illness, it is important to investigate why some family members react to a mental illness in a more critical or emotionally overinvolved manner than do others (Hooley, 2007). The current study aimed to better understand EE by examining the religious and nonreligious strategies that relatives use to cope with their loved one's schizophrenia.

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Families are often involved in the caregiving and rehabilitation of their mentally ill relatives (Dixon et al., 2001). Stressors accompanying caring for patients with schizophrenia include addressing patients' unpredictable, intrusive, and/or, inappropriate behaviours; frustration due to a lack of patient motivation and poor grooming; strenuous interpersonal relationships; and limited personal time and resources (Hatfield, 1978). Folkman (1984) defined coping as the cognitive, behavioural, and perceptual efforts aimed at mastering, reducing, or tolerating the internal and/or external demands created by a stressful transaction between an individual and his or her environment. Emotion-focused coping aims to reduce or control negative feelings associated with a stressful situation; individuals often rely upon emotion-focused coping during situations perceived as immutable and uncontrollable (Folkman & Lazarus, 1980). It may be that high EE relatives cope less effectively with these stressors than do low EE relatives (Bledin, MacCarthy, Kuipers, & Woods, 1990; Smith, Birchwood, Cochrane, & George, 1993). Thus, one variable that may predict EE is the strategies that relatives use to cope with their family member's illness (Hall & Docherty, 2000; MacCarthy, Hemsley, Shrank-Fernandez, Kuipers, & Katz, 1986).

Only a few studies directly assessed the relationship between relatives' EE and their coping strategies (Van Humbeeck et al., 2002) and the findings have conflicted with one another (Hooley, Rosen, & Richters, 1995). Harrison and Dadds (1992) reported observing that low EE relatives tended to provide better subjective reports of current coping than did the high EE relatives; but these differences, were not significant. Only the quantity of social interaction significantly related to EE, such that high EE relatives had significantly less social interaction than low EE relatives.

Smith et al. (1993) found that high EE relatives of patients with schizophrenia perceived themselves as less able to cope with the patients' disturbing behaviours. Barrowclough and Parle (1996) found that relatives who doubted their ability to cope with the patient's schizophrenia symptoms were more likely to be rated as high EE-hostile, while EOI relatives reported greater certainty in their coping skills. However, both of these studies assessed only the relatives' perceptions of their coping efficacy and did not assess the coping behaviours directly. The authors recommended that future studies examine maladaptive coping styles in high EE relatives of patients with schizophrenia. Some maladaptive coping strategies, including the tendency to focus on and express upsetting feelings for extended periods of time, have been shown to impede adjustment and exacerbate distress (Carver, Scheier, & Weintraub, 1989). Carver and colleagues categorised acceptance and positive reinterpretation and growth as adaptive coping strategies because they allow individuals to accommodate to stressors and persist in light of adverse events.

Magliano et al. (1999) examined coping strategies within families of patients with schizophrenia and found significant correlations between a given relative's use of emotion-focused coping and another member of the same family's experience of burden. They interpreted their findings as meaning that emotion-focused coping could be a maladaptive coping strategy whose sequelae spread between relatives, leading to increased experiences of burden and poor relational climate. Further, and of particular importance to the current study, Magliano and colleagues speculated that relatives' use of emotion-focused coping strategies, such as resignation and avoidance, may lead to high EE; however, they did not test this assumption.

Sczufca and Kuipers (1999) found that high EE relatives used more avoidant coping, a maladaptive emotion-focused coping strategy, than low EE relatives; however, these differences were driven by EOI (i.e., EOI was the only EE component associated

with avoidance). Using Lazarus and Folkman's (1991) stress and coping model, Scazufca and Kuipers (1999) suggested that high EE-EOI relatives might appraise their situations as unchangeable and thus feel more pessimistic about the future, leading them to rely on avoidant coping strategies.

Religious coping is defined as the "use of religious beliefs or behaviors to facilitate problem-solving to prevent or alleviate the negative emotional consequences of stressful life circumstances" (Ano & Vasconcelles, 2005). The study of religious coping is valuable because it appears to play a greater role in confronting stressors than global religious orientation (i.e., whether or not one identifies oneself as being religious or belongs to a particular religion) (Dumas & Nissley-Tsiopinis, 2006). Furthermore, some studies show that religious coping predicts adjustment to stressors and mental health, physical health, and religious outcomes above and beyond nonreligious coping, especially in situations where the individual has limited personal control.

Pargament (1990) and Pargament and Brant (1998) theorised that a collaborative religious coping style, in which the responsibility for dealing with the stressor is shared by the individual and a Higher Power; a deferring style, where a Higher Power is viewed as resolving the stressor; and negotiating or pleading through prayer may be uniquely adaptive when the individual has little control over the situation at hand. Other salubrious forms of religious coping consist of feeling guided by a Higher Power, receiving support from a congregation and clergy, and attributing negative life events to the will of a loving and benevolent Higher Power. Theory (Pargament & Brant, 1998) has proposed and empirical studies (e.g., Pargament et al., 1998) have indicated that maladaptive forms of religious coping include feeling dissatisfied with or angry at a Higher Power, the congregation, or clergy; attributing a stressful event to a punishing, vengeful Higher Power; feeling religious-based apathy towards the crisis; using religious beliefs to condemn the self; doubting one's religious beliefs; being at odds with one's religion; and experiencing religious conflict with others. Harrison, Koenig, Hays, Eme-Akwari, and Pargament's (2001) review of the religious coping literature highlighted numerous empirical studies supporting that individuals use adaptive religious coping more often than maladaptive religious coping.

Chang, Noonan, and Tennstedt (1998) stated that religion may influence the relationship between the relative and the patient by fostering responsibility and care in the family member for the patient and by influencing how caregivers evaluate, restore, and preserve their relationships with their loved ones. Chang et al. found that caregivers' use of religious/spiritual coping had a strong, direct positive effect on the quality of their relationships with family members who were disabled and elderly. It is worthy to note that patient variables (i.e., functional disability, cognitive impairment, and problem behaviours) did not predict relatives' use of religious coping. The authors concluded that religious coping plays a critical role in sustaining and improving relationships taxed by illness, and caregivers who use religious coping are more likely to have a positive relationship with the patient than those who do not use religious coping.

Within the literature on schizophrenia, Weisman, Gomes, and López (2003) found that 40% of Latin-American relatives of patients with schizophrenia reported using religion to come to terms with the patient's illness. Relatives' religious comments reflected a positive, supportive use of religion to understand, accept, and cope with the illness. Religion seemed to be a source of comfort and hope and was negatively correlated with anger and frustration towards the patient. Weisman et al. concluded by suggesting that the use of religion to understand and cope with the patient's schizophrenia may predict low EE in Latino family members; however, this was not directly assessed in their study.

In sum, adaptive religious coping is often the most common strategy individuals use to manage stressors (Harrison et al., 2001), including the care of an ill relative (Rammohan, Rao, & Subbakrishna, 2002; Stolley, Buckwalter, & Koenig, 1999). Although some researches (Weisman et al., 2003) have surmised that there is a relationship between religious coping and EE, only a few studies have examined the association between religious coping and the caregiver's relationship with the patient, and there has been no research for assessing the relationship between religious coping and EE. Thus, in addition to nonreligious coping, the current study examined relatives' use of religious coping to deal with a loved one's schizophrenia as a predictor of EE.

Hypotheses. Based on the literature reviewed above, it is hypothesised that a combination of nonreligious coping strategies (maladaptive emotion-focused coping and adaptive emotion-focused coping) will predict EE. Specifically, stemming from the findings of Magliano et al. (1999) that certain coping strategies may lead to a high EE, it is hypothesised that greater use of maladaptive forms of emotion-focused coping (e.g., behavioural disengagement, mental disengagement) and less use of adaptive forms of emotion-focused coping (e.g., acceptance, positive reinterpretation, and growth) will each predict a high EE.

Furthermore, based on Pargament (1990), Chang et al. (1998) and others' (e.g., Weisman et al., 2003) findings, in the current study it is hypothesised that religious coping (maladaptive religious coping and adaptive religious coping) will predict the EE status. Specifically, it is hypothesised that relatives' greater use of maladaptive religious coping (e.g., Discontent) and less use of adaptive religious coping (e.g., Spiritually Based Activities, Religious Support) will each predict a high EE. Finally, based on Pargament and Brant's (1998) results, it is hypothesised that relatives' use of religious coping will predict the EE status above and beyond nonreligious coping (maladaptive emotion-focused coping and adaptive emotion-focused coping).

Method

Procedure

The current study was part of a parent study evaluating the efficacy of a 15-week, culturally informed, family-focused treatment for schizophrenia (CIT-S) compared to a treatment-as-usual control condition (TAU). The parent study recruited patients and their family member(s) from Miami and neighbouring cities through newspaper advertisements and advertisements on Miami's above-ground rail system. A research assistant contacted the patients and/or family members who expressed interest in the study and informed the potential participants about the study details and eligibility requirements. Participants were required to meet the following criteria in order to participate in the study: the family member(s) must have a relative with schizophrenia or schizoaffective disorder, the family member(s) and patient must share at least one hour of contact per week, and participants must speak English or Spanish. Those who met the eligibility criteria were then scheduled to complete a baseline assessment, where patients would participate in a diagnosis-confirming interview using the Structured Clinical Interview for the DSM-IV, patient edition (SCID-I/P, First, Spitzer, Gibbon, & Williams, 2002). When patients were unable to participate, family members would complete the SCID about the patient. At the baseline assessment, both patients and family members were interviewed individually regarding a series of psychosocial constructs. Participants had the choice of completing the assessment in either English or Spanish. In order to control for variations in reading

comprehension, all measures were administered in the interview format. Upon completing the baseline interview, participants were randomly assigned to a treatment condition. Random assignment was stratified by ethnicity.

Sample

Participants consisted of 72 family members of patients with schizophrenia or schizoaffective disorder who completed the baseline assessment of the parent study. In the parent study, there were some cases where more than one family member participated. To ensure the independence of observations, only data from the family member who reported the most contact with the patient were included in the current study. The mean age of the sample was 53.44 ($SD = 14.23$) and 71% of the participants were female. With respect to ethnicity, 52% of the participants identified as Hispanic, 29% identified as Caucasian, and 18% identified as African American. The following is a breakdown of the type of relationship the participants had with the patient, 34 mothers, nine significant other/spouses, nine siblings, seven fathers, five long-term friends, three offspring, two aunt/uncle, two cousins, and one grandparent. Table 1 presents frequencies for these categorical demographic variables as well as relative's primary language (English or Spanish), religious affiliation (Catholic, Protestant, Jewish, None, or Other), and religious status (religious or not religious). Table 2 presents descriptive statistics (i.e., mean, standard deviation, skew, and kurtosis) for continuous demographic variables including education (on a seven-point scale from 1=advanced degree to 7=below grade 8), relative's age, number of hours of contact per week between the relative and patient, and primary variables of interest.

Translation of measures

All measures were translated into Spanish by an editorial board. This approach is considered to be more effective than translation-back-translation and takes language variations between Hispanic subgroups into account (Geisinger, 1994). Using this process, a native Spanish speaker first translated all measures from English to Spanish. Members of an editorial board then individually reviewed each Spanish translation and compared it to the original English version. The editorial board consisted of native Spanish speakers of Cuban, Puerto Rican, Nicaraguan, Colombian, Mexican, and Costa Rican descent, and a nonnative Spanish speaker. The members and the original translator then met as a group to discuss concerns and discrepancies with the translation. Finally, the board members worked together to form a final consensus version of all Spanish measures. That is, they agreed that the language was clear and comprehensible for members of all Spanish-speaking ethnic groups.

Measures

Background information. Respondents' gender, age, ethnicity, religion, educational level, SES, etc. was assessed with a demographic sheet.

Diagnosis confirmation. The diagnosis of schizophrenia or schizoaffective disorder in patients was established using the psychotic disorders module of the *Structured Clinical Interview for the DSM-IV Axis I Disorders, Version 2.0, patient edition (SCID-I/P)*. The

Table 1. Frequencies for categorical data ($N=72$).

Variable	Frequency
Type of relative	Mother = 34 Significant other/spouse = 9 Sibling = 9 Father = 7 Friend = 5 Offspring = 3 Aunt/uncle = 2 Cousin = 2 Grandparent = 1
Gender	Female = 51 Male = 21
Ethnicity	Hispanic = 37 Caucasian = 21 African American = 13 Other = 1
Primary language	English = 54 Spanish = 18
Religion	Catholic = 30 Protestant = 18 Jewish = 7 None = 7 Other = 9
Relative's religious status	Religious = 63 Not religious = 7
Patient's gender	Male = 44 Female = 28
Level of EE	Low = 49 High = 19
EE-critical attitudes	Low = 59 High = 9
EE-EOI attitudes	Low = 57 High = 11

Table 2. Descriptive statistics for continuous variables ($N=72$).

Variable	Mean	Standard Deviation	Skew	Kurtosis
Age	53.44	14.23	-0.39	0.37
Hours of contact/week	67.03	69.65	0.73	-1.36
Education	3.01	1.53	0.66	-0.27
Adaptive emotion Focused coping	19.06	3.29	-0.12	-0.80
Maladaptive emotion Focused coping	36.26	10.73	1.98 ^a	6.83 ^b
Adaptive religious Coping	66.00	20.44	0.04	-1.06
Maladaptive religious Coping	4.73	1.82	0.76	-0.57

Note: ^aSkew after logarithm transformation = 0.79.

^bKurtosis after logarithm transformation = 1.07.

SCID-I/P (First et al., 2002) is a semistructured interview created to diagnose patients with Axis I disorders according to DSM-IV criteria. The *SCID-I/P* is widely employed and has demonstrated high interrater reliability on individual symptoms and on the overall diagnosis of schizophrenia (Ventura, Liberman, Green, Shaner, & Mintz, 1998). For the current study, the Principal Investigator trained all the graduate-student interviewers. To assess interrater reliability in the current study, the Principal Investigator and all interviewers watched six videotaped interviews and determined an overall diagnosis. Interrater agreement using Cohen's Kappa was 1.0. In other words, there was complete consensus regarding the presence or absence of diagnosis.

Expressed emotion. EE was evaluated using the *Five Minute Speech Sample* (FMSS; Magaña et al., 1986). The *FMSS* is one of the most commonly used measures of EE (Hooley, 2007). Family members spoke, without interruption, for five minutes about the patient, relating to the interviewer what kind of person the patient is and how the two of them get along. Family members' responses were audiotaped in order to permit later coding of their speech sample. Family members received a high EE-critical rating based on the criteria of Magaña et al (1986). This included if they made a negative initial statement about the patient or the relationship between the patient and themselves, if they reported a negative relationship with the patient, or if they expressed one or more criticisms about their patient. Family members received a high EE-emotionally overinvolved rating if they displayed self-sacrificing, overprotective, or lack of objective behaviour towards the patient; an emotional display; or a combination of two or more of the following: a statement of attitude (i.e., feelings of love or willingness to do anything for the relative in the future), five or more positive remarks, or excessive detail about the patient's past. FMSS interviews were inaudible in four cases; therefore EE ratings were only available for 68 families.

An undergraduate research assistant and a graduate student participated in intensive didactic training sessions in the *FMSS* scoring system with a trained *FMSS* coder. During the training sessions, the trained coder thoroughly reviewed rating criteria and corated 10 training audiotapes with the trainees. The trainees then individually rated 10 additional audiotapes to assess their reliability with the trained coder. The kappa coefficient between the research assistant and the trained coder was 0.80 for rating high versus low EE, 0.86 for rating the critical component, and 0.74 for rating the EOI component. The kappa coefficient between the graduate student and the trained coder was 1.00 for rating high versus low EE, 1.00 for rating the critical component, and 0.78 for the EOI component.

Coping. A modified version of the *COPE* inventory (Carver et al., 1989) measured family members' coping styles. Carver et al.'s original full *COPE* consists of 14 subscales assessing a broad range of coping responses theoretically expected to be functional or dysfunctional and can measure either dispositional (trait-like) or situational coping responses. Carver (1997) invited researchers to select items germane to their hypotheses and to adapt language to the relevant situation or time frame. Therefore, the current study selected 28 items that, based on the theories of Carver et al., clearly reflected adaptive emotion-focused coping or maladaptive emotion-focused coping. Thus, the version of the *COPE* used in the current study consisted of the following two subscales: *Maladaptive Emotion-Focused Coping*, and *Adaptive Emotion-Focused Coping*. The *Maladaptive Emotion-Focused Coping* subscale consisted of 22 items derived from Carver et al. and Carver's focus on venting emotions, behavioural disengagement, mental disengagement, denial, substance abuse, and self-blame subscales. The *Adaptive Emotion-Focused Coping* subscale consisted of six items derived from Carver et al.'s positive reinterpretation and

growth and acceptance subscales. Items were reworded so that family members rated how they coped specifically with having a loved one with schizophrenia. For instance, the item that originally read, *I've been refusing to believe that it has happened*, was reworded to read, *I have been refusing to believe that my relative has an illness*. Endorsement for each coping activity ranged from 1 (I have not been doing this at all) to 4 (I have been doing this a lot), with higher scores indicating greater use of this type of activity to cope with a particular event.

For the version of the *COPE* used in the current study, Cronbach's alpha values were 0.88 and 0.83 for the *Maladaptive Emotion-Focused Coping* subscale in English and Spanish, respectively; and 0.58 and 0.42 for the *Adaptive Emotion-Focused Coping* subscale in English and Spanish, respectively.

Religious coping. The *Religious Coping Activities Scale* (Pargament, 1990) measured adaptive and maladaptive religious coping. This scale consists of 29 Likert items assessing the degree to which the respondents use differing forms of religious coping when facing a difficult life event. In the current study, family members reported the degree to which they used these forms of religious activities to cope with having a relative with schizophrenia or schizoaffective disorder. Endorsement for each item ranged from 1 (not at all) to 4 (a great deal), with higher scores indicating greater use of this type of religious coping activity. Based on Pargament's guidelines, the *Adaptive Religious Coping* subscale consisted of items from the Spiritually Based Activities (i.e., 12 items assessing emotional reassurance, positive reappraisal of the problem, accepting the limits of personal control, and seeking and accepting guidance in problem solving), Good Deeds (i.e., six items assessing a shift from focusing on the negative event to living a more religious, charitable life), Religious Support (i.e., two items assessing receiving support from the religious community), Plead (i.e., three items assessing negotiating and bargaining with a Higher Power), and Religious Avoidance (i.e., three items assessing activities where the individual diverts attention from the problem to religious activities like reading religious scripture or thinking about the afterlife) subscales. The *Maladaptive Religious Coping* subscale consisted of the Discontent subscale (i.e., three items assessing anger or distance from a Higher Power or the religious community and doubt about one's religious beliefs).

In the current study, Cronbach's alpha values were 0.95 and 0.93 for the adaptive religious coping subscale in English and Spanish, respectively, and 0.45 and 0.31 for the English and Spanish maladaptive religious coping subscales, respectively.

Results

Preliminary analyses

Analyses were first conducted to assess the relationships between demographic variables or other important variables (i.e., EE coder) and all study variables in order to identify potentially confounding relationships. Pearson correlations were conducted to examine relationships between continuous demographic variables (e.g., education) and continuous study variables (e.g., adaptive religious coping). Two-way contingency table analyses were conducted to evaluate relationships between categorical demographic variables (e.g., religion) and categorical study variables (e.g., EE). One-way ANOVAs or *t*-tests were conducted to examine relationships between categorical variables (e.g., religion) and continuous variables (e.g., adaptive religious coping).

Results of the preliminary analyses indicated that more education, rated on a 7-point Likert scale from 1 = advanced degree to 7 = below grade 8, was associated with less self-

reported use of maladaptive emotion-focused coping, $r(69) = 0.39$, $p < 0.01$; and with less self-reported use of adaptive religious coping, $r(67) = 0.53$, $p < 0.01$. Females reported using more adaptive religious coping than males, $t(65) = 2.01$, $p = 0.05$; and Spanish-speaking relatives reported using more adaptive religious coping than English-speaking relatives, $t(65) = 3.14$, $p < 0.01$. EOI was significantly related to relative's gender, Pearson $\chi^2(1, N = 68) = 5.47$, $p = 0.02$. Specifically, 100% of males were low EOI, while 23% of females were high EOI and the probability of being low EOI was 1.3 times more likely for males versus females. EOI was also significantly related to relative's primary language, Pearson $\chi^2(1, N = 68) = 5.31$, $p = 0.02$. Specifically, 10% of English-speakers compared to 33% of Spanish-speakers were high EOI and the probability of being high EOI was 3.3 times more likely for Spanish-speakers versus English-speakers. The results of one-way ANOVA tests indicated that there were significant differences between relatives' religious affiliations in their self-reported use of adaptive religious coping, $F(4, 61) = 2.47$, $p = 0.05$. Both Protestants and Catholics used more adaptive religious coping than Jews. There were also significant differences between ethnic groups in their self-reported use of adaptive religious coping, $F(2, 63) = 12.18$, $p < 0.01$. Both African-Americans and Hispanics used more adaptive religious coping than Caucasians. Significant differences existed between relative's religious affiliations in self-reported use of maladaptive emotion-focused coping, $F(4, 63) = 3.61$, $p = 0.01$. Specifically, both Catholics and Protestants used less maladaptive emotion-focused coping than Other (i.e., Evangelical Christian, Episcopalian, Methodist, Presbyterian, Jehovah's Witness, Buddhist) religious affiliations. There were also significant differences between type of relative in self-reported use of maladaptive emotion-focused coping, $F(7, 60) = 2.11$, $p = 0.05$. Significant others used more maladaptive emotion-focused coping than did mothers.

When demographic variables were related to study variables, block-entry binary logistic regressions were used for the primary analyses. Continuous covariates and/or dummy-coded categorical covariates were entered in block 1 and predictors were entered in subsequent steps. Covariates were controlled for only in the relevant primary analyses.

Primary analyses

Nonreligious coping predicting EE. A block-entry binary logistic regression was conducted in order to assess whether nonreligious coping strategies (maladaptive emotion-focused coping and adaptive emotion-focused coping) predicted EE. First, type of relative and relative's gender, ethnicity, education, religion, and primary language were entered because these variables correlated significantly with one or more variables of interest. Next, the nonreligious coping variables (i.e., maladaptive emotion-focused coping and adaptive emotion-focused coping) were entered. Dummy coding was conducted to code for the dependent variable (i.e., overall level of EE). Results indicated that, overall, nonreligious coping predicted EE status, likelihood ratio $\chi^2 = 16.91$, $p < 0.01$. Looking at specific coping strategies, results indicated that less use of adaptive emotion-focused coping predicted a high EE, likelihood ratio $\chi^2 = 6.74$, $p < 0.01$. Using Cohen's criteria, the effect size was moderate, $Exp(B) = 0.34$. Contrary to expectations, increasing levels of maladaptive emotion-focused coping did not predict high EE, likelihood ratio 1.63, $p = 0.17$.

Religious coping predicting EE. Steps one and two of the block-entry binary logistic regression used to test the first hypothesis were also used to assess whether religious coping (maladaptive religious coping and adaptive religious coping) predicted EE above and

beyond nonreligious coping. As described above, in block 1, type of relative and relative's gender, ethnicity, education, religion, and primary language had been entered. In block 2, the nonreligious coping variables (i.e., maladaptive emotion-focused coping and adaptive emotion-focused coping) were entered. In block 3, the religious coping variables (i.e., maladaptive religious coping and adaptive religious coping) were entered. Consistent with expectations, results indicated that, overall, religious coping predicted EE status above and beyond nonreligious coping, likelihood ratio $\chi^2 = 7.54, p = 0.02$. The individual parameters for adaptive religious coping and maladaptive religious coping were not significant, all p 's > 0.05 ; however, there was a trend for greater use of maladaptive religious coping to predict high EE, likelihood ratio $\chi^2 = 6.67, p = 0.06$. Using Cohen's criteria, the effect size was large, $Exp(B) = 3.31$

Discussion

EE is one of the most reliable predictors of relapse across a range of psychiatric illnesses (Hooley, 2007). Despite its robust predictive power, research to date had paid surprisingly little attention to identifying factors that may underlie EE (Birchwood & Cochrane, 1990; Harrison & Dadds, 1992; Hooley, 1985; Van Humbeeck et al., 2002). Furthermore, the few studies that had examined underpinnings of EE often found conflicting results. The overarching objective of the current study, therefore, was to clarify and extend earlier findings in order to elucidate the EE construct in family members of patients with schizophrenia. Particular attention was paid to better understanding the relationship between secular coping and EE. Below, findings from this study will be discussed and their clinical implications will be examined. Next, study limitations will be detailed and future research will be suggested.

In line with the first hypothesis, nonreligious coping, overall, predicted EE status. Specifically, less use of adaptive emotion-focused coping predicted high EE. Adaptive emotion-focused coping was assessed using Carver et al.'s (1989) acceptance and positive reinterpretation and growth subscales. Acceptance may be a particularly adaptive response to having a loved one with schizophrenia because, as Carver and colleagues (1989) explained, acceptance implies that one is engaged in dealing with the situation and acknowledges it as a real problem, while accommodating to the problem if it cannot be changed. Relatives who engage in positive reinterpretation and growth to cope with the patient's schizophrenia will construe the patient's illness and his or her behaviour in positive terms (Carver et al., 1989). These results suggest that relatives who are less flexible in accepting and accommodating to the unremitting nature of the illness are more likely to behave in a critical and emotionally overinvolved manner with the patients. Furthermore, these approaches may be effective in coping with having a loved one with schizophrenia, because, while treatment can result in profound improvements in functioning and quality of life (National Collaborating Centre for Mental Health, 2009), there is currently no cure for this illness.

This result may help to refine Magliano and colleagues' (1999) conjecture that a relationship exists between emotion-focused coping and EE. Magliano and colleagues only speculated about an association between maladaptive emotion-focused coping strategies and high EE. However, emotion-focused coping is a multifaceted construct with both adaptive and maladaptive expressions (Carver et al., 1989). Supporting the study's first hypothesis, results suggested that adaptive emotion-focused coping predicted EE. This finding suggests that interventions encouraging family members to utilize acceptance and

positive reinterpretation in coping with their loved one's schizophrenia may promote low EE, thereby lowering the risk of schizophrenic relapse.

The current study was also the first to directly examine the relationship between religious coping and EE. In line with the second hypothesis, religious coping predicted EE status above and beyond nonreligious coping. This outcome supports Chang et al.'s (1998) finding that religious coping sustains and improves relationships taxed by illness and that caregivers who use religious coping are more likely to have a positive relationship with the patient than those who do not use religious coping. Furthermore, it confirms Weisman et al.'s (2003) suggestion that the use of religion to cope with the patient's schizophrenia may predict low EE. Religious coping may curb relatives' criticism and overinvolvement by fostering tolerance, patience, acceptance, understanding, affection, and warmth towards their loved one with schizophrenia.

Results from the second hypothesis indicated that there is a nonsignificant trend for greater use of maladaptive religious coping to predict high EE, with a large effect size. Thus, if replicated with larger samples or a more reliable measure of maladaptive religious coping, these findings would likely confirm that family members who cope with their loved one's illness with anger, distance, or doubt about their religious beliefs or a Higher Power will be more likely to hold high EE attitudes. This finding would support Weisman, Duarte, Koneru, and Wasserman's (2007) caution that family members can sometimes apply religion in a manner that is detrimental to the patient.

In line with our second hypothesis, results suggested that religious coping adds to the prognostic value of secular coping in predicting high EE, lending support to Pargament's (1990) theory that religious coping predicts outcomes above and beyond nonreligious coping. This has clinical implications and suggests that encouraging family members to draw upon their religious beliefs to cope might enhance empirically supported family treatments for schizophrenia.

It is also worth noting a few interesting patterns that emerged amongst demographic variables and EE. For example, females were more likely than males and Spanish-speakers were more likely than English-speakers to be rated as emotionally overinvolved. This is not surprising in that both gender (Fischer et al., 1993) and culture (Jenkins & Karno, 1992) are likely to influence emotional expression. Prior research shows that both females and minorities tend to be more interdependent (Cross & Madson, 1997; Triandis, 1994) and emotionally expressive. Thus, behaviours viewed as overinvolved within an Anglo, male perspective, may not be viewed as such within a Latin or female context. This topic merits further attention in future research.

With respect to language and ethnicity, Spanish-speaking relatives report greater use of adaptive religious coping than do English-speaking relatives. Similarly, Hispanic relatives report greater use of adaptive religious coping than do Caucasian relatives. These results are in line with a wealth of literature that has demonstrated that Hispanics are more likely to turn to religious coping, in general (e.g., Coon et al., 2004; Morano & King, 2005), and adaptive religious coping, specifically (Mausbach, Coon, Cardenas, & Thompson, 2003), in dealing with a loved one's illness than are non-Hispanic Whites. The relationship between ethnicity and religious coping may account, in part, for the more favourable course of schizophrenia that has been widely observed in Hispanics and other traditional cultures, when compared to Anglo-Americans and individuals from other more individually oriented societies (Weisman & López, 1997). Relatives who use religion adaptively may have more tolerance and other psychosocial resources to assist them and their ill loved ones in coping with the illness. Interestingly, in the current study African-American relatives also reported greater use of adaptive religious coping than did

Caucasian relatives. However, a better course of illness in African-American patients has not been observed. In fact, African Americans are frequently observed to have higher base rates of schizophrenia and greater symptom severity than their white counterparts (Fearon et al., 2006). This curious finding merits further research.

Limitations and future directions

The current study possessed a number of limitations. The first was the small sample size. In particular, the numbers of family members rated as high EE ($n = 19$), high EE-critical ($n = 9$), and high EE-EOI ($n = 11$) were low. This limitation did not allow us to explore how religious and nonreligious coping would relate to subgroups with high EE. Furthermore, while the *FMSS* is easy to administer and predicts clinical outcome in schizophrenia (Marom, Munitz, Jones, Weizman, & Hermesh, 2002, 2005) and correlates with the *Camberwell Family Interview (CFI)* (Magaña et al., 1986; Weisman de Mamani, Kymalainen, Rosales, & Armesto, 2007) it appears to be less sensitive than the *CFI* in the detection of high EE (Hooley & Parker, 2006). With large samples this issue may be less salient. However, in future studies, when sample sizes are expected to be relatively small (as is common in clinical research) researchers may benefit from assessing EE with the *CFI*.

There were several other methodological limitations with the scales used in this study as well. For example, the *Maladaptive Religious Coping* subscale of the *Religious Coping Activities Scale* had very low internal reliability. This may explain why the trend between maladaptive religious coping and EE did not reach the level of significance. Similarly the *Maladaptive Religious Coping* subscale of the *Religious Coping Activities Scale* and the *Adaptive Emotion-Focused Coping* subscales of the *COPE* were brief (i.e., three items and six items, respectively). Longer scales tend to be more reliable and valid (Smith, McCarthy, & Anderson, 2000) and should be considered when conducting follow-up work in these areas.

The current study supports that situation-specific coping, specifically adaptive emotion-focused coping, and religious coping about having a loved one with schizophrenia predict the EE status. Future research should continue to identify factors that underlie EE. Future research that is longitudinal in nature would be especially beneficial in furthering our understanding of predictors of EE.

Declaration of interest: This study was supported by the National Institute of Health – R34 (5R34MH7). None of the authors of this paper have any financial conflicts of interest or affiliations with any organisation whose financial interests may be affected by material in the manuscript.

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