Self-blame attributions in relatives of people with recent-onset psychosis

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Self-blame attributions in relatives of people with recent-onset psychosis: associations with relatives' distress and behavioural control
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Abstract:	Objectives. There is evidence that self-blame is an important predictor of distress and depression in relatives of people with long-term psychosis, but there is limited research investigating the nature and correlates of self-blame in relatives of people with recent-onset psychosis. Self-blame motivates a tendency to engage with others and to repair wrongdoings; it might be that such cognitions also impact on relatives' behaviours towards the patient. This study examined the association between self-blame and psychological distress, and tested the prediction that greater self-blame would be associated with more behavioural control attempts to patients in a sample of relatives of people with recent-onset psychosis. Methods. Statements pertaining to self-blame and behavioural control were extracted and rated from 80 interviews with relatives, who also completed the General Health Questionnaire-28. Content analysis was used to examine the nature of self-blame attributions. Regression analyses were used to explore the links between self-blame attributions and distress, and between self-blame and behavioural control in this recent-onset population. Results. Higher levels of self-blame were associated with more behavioural control attempts, and self-blame predicted relatives' behavioural responses when adjusting for the contribution of control attributions. Self-blame was also linked with distress, but did not emerge as an independent predictor in multivariate analysis. Most relatives who blamed themselves did so for not overseeing their family member's mental health problems properly or for perceiving themselves generally as poor carers. Conclusions. This study extends findings related to self-blame to a population of relatives of people with recent-onset psychosis, and highlights the possible role of blaming cognitions in promoting interpersonal engagement through behavioural control.
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Does this submission have any links or overlap with any other submitted or published manuscripts, for this or any other publication? (For example; as part of a long-term project, using a shared data set, a response to, or extension of, earlier work.) If yes, please give brief details. If no, please enter 'none'. Any overlap not declared and later discovered will result in the manuscript being withdrawn from consideration.	Data for this study was collected as part of a larger project, but new behavioural control and self-blame attributions data were gathered and coded for the current study.
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Self-blame attributions in relatives of people with recent-onset psychosis: associations with relatives' distress and behavioural control',

We have addressed all the reviewers' comments and revised the manuscript accordingly. Below is a detailed response to the reviewers' comments:

- Page 1, line 20: we have inserted a full stop between the words attributions and self-blame;

- Page 6, line 2: the expression 'patient-relative relationship' was replaced by 'family environment and the interactions between family members';

- Page 18, line 20: the wording was changed to 'there is evidence that relatives' of people with recent-onset psychosis who express high levels of EE (i.e. criticism, hostility, EOI)';

- All references have been checked and amended accordingly.

Running head: Self-blame in relatives of people with recent-onset psychosis

Self-blame attributions in relatives of people with recent-onset psychosis: associations with relatives' distress and behavioural control

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Self-blame attributions in relatives of people with recent-onset psychosis: associations with relatives' distress and behavioural control

Objectives. There is evidence that self-blame is an important predictor of distress and depression in relatives of people with long-term psychosis, but there is limited research investigating the nature and correlates of self-blame in relatives of people with recent-onset psychosis. Self-blame motivates a tendency to engage with others and to repair wrongdoings; it might be that such cognitions also impact on relatives' behaviours towards the patient. This study examined the association between self-blame and psychological distress, and tested the prediction that greater self-blame would be associated with more behavioural control attempts to patients in a sample of relatives of people with recent-onset psychosis.

Methods. Statements pertaining to self-blame and behavioural control were extracted and rated from 80 interviews with relatives, who also completed the General Health Questionnaire–28. Content analysis was used to examine the nature of self-blame attributions. Regression analyses were used to explore the links between self-blame attributions and distress, and between self-blame and behavioural control in this recent-onset population.

Results. Higher levels of self-blame were associated with more behavioural control attempts, and self-blame predicted relatives' behavioural responses when adjusting for the contribution of control attributions. Self-blame was also linked with distress, but did not emerge as an independent predictor in multivariate analysis. Most relatives who blamed themselves did so for not overseeing their family member's mental health problems properly or for perceiving themselves generally as poor carers.

Conclusions. This study extends findings related to self-blame to a population of relatives of people with recent-onset psychosis, and highlights the possible role of

blaming cognitions in promoting interpersonal engagement through behavioural control.

Practitioner Points

- Self-blaming beliefs were linked with increased distress in relatives of people with recent-onset psychosis;

- Increased self-blame was associated with more behavioural control attempts;

- Most relatives blamed themselves for not overseeing their family member's mental health problems properly, and for perceiving themselves generally as poor carers.

- The cross-sectional study design limits inferences about causality.

Self-blame has been highlighted as a potential correlate of distress and depression in relatives of people with affective and behavioural disorders (Tangney, 1995; Tangney & Dearing, 2002; Tracy & Robins, 2006). Similarly, research with relatives of people with long-term psychosis suggests that blaming themsleves for their family member's mental health is an important predictor of relatives' distress (Barrowclough, Tarrier, & Johnston, 1996; Boye, Bentsen, & Malt, 2002; Fortune, Smith, & Garvey, 2005). Qualitative studies with carers of people with psychosis also identify guilt, a common derivate of self-blame, as a recurring theme (Barker, Lavender, & Morant, 2001; Ferriter & Huband, 2003; McCann, Lubman, & Clark, 2011; Nystrom & Svensson, 2004; Riley et al., 2011). Nevertheless, empirical studies investigating the relationship between self-blame and distress in relatives of people with recent-onset psychosis are sparse.

Self-blame is a complex construct for which there is no unequivocal definition, making it challenging to assess. Most empirical studies in relatives of people with psychosis have conceptualised self-blame either as a personality trait, focusing on individual dispositional differences (Bentsen et al., 1998; Boye et al., 2002; Weisman de Mamani, 2010), or as a causal attribution (that is, explanations that individuals naturally make about the reasons or causes for an event or behaviour; explanations to an individual's own causality for a specific event or behaviour are classed as self-blame attributions), where the negative event is attributed to causes (wholly or partially) internal to the relative (Barrowclough et al., 1996; Brewin, MacCarthy, Duda, & Vaughn, 1991). Others have viewed self-blame as a coping strategy (Fortune et al., 2005) or as equivalent to guilt (Bentsen et al., 1998; Peterson & Docherty, 2004; Wasserman, de Mamani, & Suro, 2012). Building upon Barrowclough *et al.*'s

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(1996) conceptualisation of partial self-blame, the present study defined self-blame as the relative's belief that their own behaviour/role contributed to or could have prevented, at least partially, the onset or aggravation of their family member's illness, symptoms or recurring problems.

There is also uncertainty regarding the most appropriate measurement of self-blame. Self-blame assessment in relatives of people with psychosis has focused on four areas: (1) using self-report items that present hypothetical self-blame scenes rated on Likert scales (Bentsen et al., 1998; Boye et al., 2002; Weisman de Mamani, 2010); (2) using self-report items that directly ask about self-blame and are rated on Likert scales (Fortune et al., 2005; Wasserman et al., 2012); (3) direct probing using open-ended questions targeting self-blame thoughts using categorical coding (Moses, 2010); or (4) eliciting spontaneous self-blame statements from semi-structured interviews, which are independently rated using different coding systems (Barrowclough et al., 1996; Brewin et al., 1991; Peterson & Docherty, 2004). The latter method has the advantage of providing a more naturalistic opportunity for relatives to elaborate on their own caring experiences without being led by pre-determined questions (Barrowclough & Hooley, 2003; Brewin et al., 1991). Furthermore, there is less potential for self-serving bias, social desirability or distorted self-perception to cloud the findings (Barrowclough & Hooley, 2003).

Three published studies have extracted spontaneous attributions from interviews to assess self-blame in relatives of people with long-term psychosis. In Peterson *et al.*'s (2004) study, self-blame statements were dichotomously coded each time parents expressed the belief that they were (wholly/partially) responsible for their family

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member's illness (self-blame: present/not present). By contrast, in Brewin *et al.*'s (1991) and Barrowclough *et al.*'s (1996) studies, beliefs that an illness-related event was caused by factors internal to the relative were rated using a binary dimensional coding (cause: internal/external) then a proportional attributional score was computed as the proportion of all attributions that were coded as internal. Both coding systems have limitations: the dichotomous system does not allow assessing self-blame along a continuum; and the proportional score is based on a binary dimensional system that only considers statements when they contain an event linked to a cause, which might be found infrequently in the natural discourse of relatives (Anderson, 1991; Barrowclough & Hooley, 2003).

Therefore, to include subtle explanations spontaneously given by relatives that were not in the form of an attributional statement, we developed a novel system for coding relatives' spontaneous self-blame statements elicited from the Camberwell Family Interview (CFI; Vaughn & Leff, 1976), based on the Weismann *et al.*'s (1993) method of assessing attributions of controllability. The novel coding system was developed by discussion in the research team and by an iterative process using some practice interviews to refine the coding manual. This coding system allows lesser degrees of self-blame to be captured, and includes explicit as well as implicit attributions. This approach enables a more fine-grained analysis of relatives' attributions, allowing us to understand to what extent and for what reasons relatives blame themselves. The CFI is a semi-structured, audio-recorded interview that is conducted individually with the patient's key relative (typically a parent or a spouse) and that takes up to two hours to administer. Covering the relative's perception of the patient's psychiatric history, symptom behaviours and role functioning, as well as the

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relative's subjective attitudes and feelings towards the patient and the illness, the CFI is the gold standard for assessing Expressed Emotion (EE). EE is a robust measure of the family environment and the interactions between family members, and its ratings are made on the basis of five scales (criticism, hostility, emotional overinvolvement, warmth and positive remarks). Relatives are categorised as high or low in EE based exclusively on the ratings of criticism, hostility and emotional overinvolvement (EOI). Scores above the threshold on one or more of these scales determine the 'high-EE' status in relatives.

The reasoning attached to relatives' self-blame varies, including ideas of passing on "bad" genes, not seeking professional help sooner, not recognising symptoms earlier or mistaking them for normal adolescent behaviours (Reed, 2008). Some of these attributions might be more adaptive than others in terms of relatives' well-being. Janoff-Bulman (1979) differentiated two types of self-blame: behavioural self-blame, which occurs when a negative event is blamed on specific behaviours/actions that could have been done differently, thereby providing some hope that things could be different in the future; and characterological self-blame, which occurs when a negative event is blamed on stable aspects of the self, like one's own character, and thus less likely to be modifiable. Characterological self-blame, which may be considered to reflect more negative views about oneself, has been linked with distress and depressive symptoms in patients with physical conditions (Manne & Zautra, 1990; Plaufcan, Wamboldt, & Holm, 2012). However, to date, it is still unclear whether relatives of people with recent-onset psychosis blame themselves mostly for modifiable factors, such as specific behaviours like mismanaging the illness, or more for non-modifiable factors, such as personality or temperament characteristics; and

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whether these types of self-blame attributions are differentially associated with distress. The current study will attempt to elucidate these relationships.

Self-blame in relatives is important because of its association with relatives' distress; however, it is also possible that relatives' self-blame impacts on relatives' responses to the person with psychosis. Previous research with relatives of people with recent-onset psychosis indicates that relatives' attempts at behavioural control (such as, using direct instructions, checking up on the patient or issuing ultimatums) are associated with control attributions (believing that the patient can make more effort to control their own problems) (Vasconcelos e Sa, Wearden, & Barrowclough, 2013). It has been suggested that self-blame induces interpersonal engagement and attempts at reparation for wrongdoing (Baumeister, Stillwell, & Heatherton, 1994; Tangney, 1995; Tangney & Dearing, 2002; Wasserman et al., 2012). Through this mechanism, we might expect that blaming cognitions, alongside control attributions, would motivate attempts at behavioural control.

The present study explored the extent and nature of self-blame in relatives of people with recent-onset of psychosis, examined the associations of self-blame with psychological distress, and investigated whether different categorisations of self-blame (behavioural and characterological) were differentially associated with distress. It also tested the prediction that greater self-blame would be associated with more behavioural control attempts after adjusting for the contribution of control attributions to this measure.

Method

Participants

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Participants were relatives who participated in a larger patient-relative dyad study (Barrowclough, Gooding, Hartley, Lee, & Lobban, 2014), and for whom CFI recordings and distress baseline data were available. Relatives were carers of patients recruited from Early Intervention Services (EIS) across six NHS trusts in the North West of England who met the following inclusion criteria: had at least 10 hours of weekly contact with the patient (where more than one relative was available, the person with the most significant care role was selected); caring for a family member aged 16 or over, with a clinical diagnosis of psychosis (as per EIS eligibility criteria), who at entry had been with the EIS services for no longer than 12 months, and who had no evidence of organic psychosis. All relatives had sufficient comprehension of English and were able to provide informed consent. Ethical approval, including approval for the present data analysis, was obtained from the North West of England NHS Research ethics committee and from the local research and development offices.

Measures

Self-blame

Self-blame attributions were defined as statements where relatives conveyed the belief that their behaviour, action, role, or character (or omission of) contributed, at least partially, to the onset or exacerbation of the negative event; including any implication that they could have done something to prevent or avoid the illness outcome from occurring. Negative events referred to any reported outcome, behaviour or situation directly associated with the patient, including references to: illness (onset and exacerbation), symptoms or related problem behaviours; or any undesirable characteristic of the patient or in the patient's life. Self-blame attributions were assessed from the CFI and rated on a 4-point scale (1-*no self-blame, 2-minimal self-blame, 3-moderate self-blame,* 4-*a lot of self-blame*) using a coding manual developed

by the first author, which adapted the Weisman et al's (1993) guidelines for rating attributions and incorporated aspects of other coding systems (Barrowclough, 1991; Brewin et al., 1991; Hooley & Campbell, 2002). Prior to assigning each relative a global rating on the self-blame scale, all statements were first individually categorised as *mildly, moderately* or *highly self-blaming* (see Table 1 for definitions). In addition, highly self-blaming statements were also categorised as specific or global as follows: specific statements indicated that relatives attributed the blame in question to a specific incident (e.g. "*It's all my fault that we had that argument yesterday*"); and global statements denoted that relatives believed that the blame in question was related to a more general incident (e.g. "*It's all my fault, I feel I made him dependent on me*"). This distinction was made for the purpose of establishing a threshold for assigning a global rating of four, which was assigned to relatives who made: two or more specific statements or at least one global statement. Self-blame global ratings were made on the basis of all statements.

[INSERT TABLE 1 HERE]

The first author rated self-blame attributions. For reliability purposes a second independent coder blind to the study hypotheses was trained in the global self-blame measure. Weighted kappa interrater reliability (with a kappa of 1 indicating perfect agreement and a kappa of 0 indicating chance agreement) was calculated using a random sample of 9 CFI's from the current study (k=1.00, SE=.00, p<.006).

Behavioural and characterological self-blame

Relatives' self-blame statements (n=117) extracted from the CFI were independently categorised (by the third author) either as behavioural or characterological using coding guidelines developed by the first author. Statements were categorised as behavioural self-blame whenever a negative event was attributed to the speaker's

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specific behaviours or actions. Characterological self-blame was assigned when a negative event was attributed to stable aspects of the speaker, such as their own character, personality dispositions or stable pattern of past behaviour (e.g. relational style or entrenched habits). Interrater reliability was assessed on a random sample of 17 statements from the current study. Agreement for the categorical coding was k=.68, SE=.20, p<.003. The sums of behavioural and characterological self-blame statements made by each relative were derived. Behavioural self-blame scores ranged from 0-4 and characterological self-blame scores ranged from 0-2, with higher scores indicating more behavioural and characterological self-blame, respectively.

Distress

Relatives' psychological distress was measured by the General Health Questionnaire–28 (GHQ-28; Goldberg & Hillier, 1979). Each item was scored on a 4-point scale (0-3) with a total possible score ranging from 0-84. A total score of 23 was the threshold for the presence of distress or 'caseness' (Goldberg et al., 1997). Psychiatric 'caseness' is a term that indicates significant psychological morbidity whereby an individual would be assessed as being a 'case' once the threshold of 23 has been exceeded. The GHQ-28 total score was used to test the hypotheses concerned with relative's distress.

Behavioural control

Behavioural control statements referred to any attempt made by relatives to guide or direct the patient or the patient's behaviour. Relative's behavioural control statements were extracted from the CFI and rated on a 5-point scale (1-*minimally behaviour controlling* to 5-*highly behaviour controlling*) for a global impression of behavioural control using a coding manual developed by the first author. Further details of this procedure are reported elsewhere (Vasconcelos e Sa et al., 2013). High levels of

interrater reliability for the global behavioural control rating were obtained (k=.75, SE=.23, p<.0004).

Controllability attributions

Controllability attributions assessed the extent to which relatives perceived patients' behaviours or symptoms (onset and exacerbation) as being within patients' control and were elicited from the CFI using a coding manual developed by the first author. Full details of this measure are reported elsewhere (Vasconcelos e Sa et al., 2013). A trained independent coder, blind to the study hypotheses, rated all controllability attributional statements using a 5-point scale (1-*no perceived control* to 5-*perceived control over virtually all aspects of the disorder*). High levels of interrater reliability for global controllability scores were obtained between both raters (k=.86, SE=.24, p<.0002).

Content analysis of self-blame statements

Self-blame statements were content analysed (Krippendorff, 1980) using an inductive data-driven category development approach (Elo & Kyngaes, 2008; Hsieh & Shannon, 2005). Half of the statements were first classified with keywords that captured the 'what about' and 'why' relatives blame themselves. The main self-blaming reasons were drawn together on the basis of these keywords and clustered according to their underlying themes, generating a preliminary coding scheme. The remaining statements were coded using the preliminary codes. Throughout this process codes were combined or split into subcategories, and new codes were developed if the data did not fit any of the existing ones. Content analysis went through several iterations until all themes were saturated and a final self-blame main theme-coding scheme was derived. All of the self-blame statements were then coded (by the third author) using the final coding scheme. An interrater reliability check was

conducted between the third and the first authors, who independently allocated one theme to 17 randomly selected self-blame statements. Agreement for the main themes was k=.70, (SE=.12), p<.000.

Statistical analysis

Statistical analyses were conducted using SPSS (version 20). Variables were screened for normality, and if distributions deviated significantly from acceptable limits were transformed where possible (Field, 2009); this was the case of GHQ total score and CFI length, and these transformed variables were used in all subsequent analyses. Preliminary analyses were conducted to examine potentially confounding associations between the main study variables (self-blame attributions, distress and behavioural control) and the following demographic variables: age, gender, ethnicity, occupational and relationship status, relationship with patient, level of education, living arrangements, number of children of the relative, weekly contact hours between relative and patient, CFI length, using two-tailed Pearson's and Spearman's correlation analyses for continuous variables and independent samples t-test, Mann-Whitney U test, or ANOVA for categorical variables. Block-entry regression analyses were conducted to examine the independent contribution that self-blame attributions made to distress levels and to behavioural control adjusting for potential confounders.

Results

Sample

A sample of 80 patient-relative dyads was included in this study. Relatives (N=80) descriptive information is provided in Table 2. Distress data was available for 79 relatives in the sample. Fifty-one relatives (64%) reached the threshold for 'caseness'

levels of distress. Table 2 contains descriptive data for the main study variables.

[INSERT TABLE 2 HERE]

Preliminary analyses

Preliminary analyses indicated that patient age was significantly negatively associated with relatives' distress levels (r_s=-0.34, p=.002) and controllability attributions (r_s=-0.23, p=.037). The association between patient age and relatives' self-blame attributions scores was not significant (r_s=-0.09, p=.452). Self-blame attributions scores were significantly higher in female relatives (Mdn=2.00) than in male relatives (Mdn=1.00), U=312.50, z=-2.74, p= .006. On average, global behavioural control scores were also significantly higher in female relatives (M=2.89, SD=1.08) compared to male relatives (M=2.12, SD=.99), t(78)=-2.66, p=.01. Relatives' number of children was also significantly associated with relative's levels of behavioural control (r=0.24, p=.04). On average, parents (M=2.84, SD=1.07) had significantly higher global behavioural control scores then other relatives, including partner and offspring (M=2.25, SD=1.13), t(78)=1.96, p=.05. Finally, CFI length was significantly associated with self-blame attributions scores (r_s=0.36, p=.001), behavioural control scores (r=0.37, p=.001) and with distress levels (r_s=0.24, p=.04).

Self-blame and distress

Spearman's correlation showed that relatives' self-blame attributions scores were significantly associated with their distress levels (r_s=.25, p=.03). Block-entry multiple regression was used to examine whether self-blame attributions predicted distress, adjusting for patient's age. Patient age was entered in the first block, followed by self-blame attributions. Potential covariates of relative's gender and length of the CFI were excluded from this analysis due to their significant association with the predictor variable. After step 1, with only patient's age in the equation, R^2=.105, F(1,77)=10.1,

$p=.002$, results show that this covariate significantly contributed to the prediction of relative's distress, $\beta=-.34$, $t(77)=-3.18$, $p=.002$. After step 2, with patient age and self-blame attributions added to the model (Table 3), only patient age emerged as a significant predictor of total GHQ distress total score, $F(2,76)=6.47$, $p=.003$, explaining 12.3% of the distress variance (adjusted $R^2=.123$).

[INSERT TABLE 3 HERE]

Behavioural and characterological self-blame and distress

Bivariate analysis showed that the correlation between behavioural and characterological self-blame was statistically significant but small ($r_s=.31$, $p=.006$), suggesting that although related, the two constructs are conceptually different. Mann-Whitney tests were used to determine whether relatives' GHQ caseness was differentially associated with behavioural and characterological self-blame, and no statistically significant differences were found.

Self-blame and behavioural control

Spearman's correlation indicated that self-blame attributions scores were significantly correlated with behavioural control scores ($r_s=.28$, $p=.01$). A multiple regression using block entry was carried out to test whether self-blame attributions predicted behavioural control after adjusting for controllability attributions. Therefore, controllability attributions were entered first in the regression model along with the covariates relationship with patient and number of children of the relative, followed by self-blame attributions. To avoid breaking regression assumptions the covariates relative's gender, patient's age and CFI's length were excluded from the regression model due to their significant association with the predictor variables. A significant model (Table 4) emerged after step 2, with the insertion of self-blame attributions scores in the model adjusting for controllability attributions and for the covariates,

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$F(4, 74)=3.20$ $p=.02$.

[INSERT TABLE 4 HERE]

Nature of self-blame

Thirty interviews contained no self-blame statements. Content analyses were carried out for the remaining 50 interviews. Seven themes for relatives' self-blame attributions were identified and are described below. Two relatives (3%) were not classified under any of these themes since their data did not fit the themes. Examples of quotes for each theme are provided in Table 5.

[INSERT TABLE 5]

Ineffective oversight of mental health problems

The most common theme reported by 29% (23/80) of the relatives was failure to oversee the patient's mental health problems. This included expressions of failure for not crediting or not being able to notice early illness signs, or for confusing them for 'normal' behaviours. Reports of not knowing what to do or not acting sooner in providing care were also considered within this theme.

Perceptions of failure as a carer

The second most common theme (26% or 21/80) involved a general assessment of the relative's role as a carer, including perceptions about being a "bad" parent/partner, or being too demanding, or not sufficiently attentive to the patient's needs. Perceived carer inadequacy included expressions such as 'what kind of parent/partner am I?' or 'was it me?'.

Exhibiting inappropriate responses to symptoms/patient

Some relatives (16% or 13/80) also blamed themselves for exhibiting specific negative behaviours towards the patient or illness related symptoms. This included specific current or past behavioural reactions, such as grumbling, moaning, telling off,

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shouting, and snapping.

Imposing restrictions or failure to do so

Refusing certain negative behaviours or withholding patient's wishes, such as lending money, or the failure to do so, was also evident (11% or 9/80). Instances where relatives reported having to make decisions that had the potential to be resented by the patient, such has allowing the patient to be sectioned were also mentioned as sources of guilt.

Coping with additional stressor(s)

Coping with another stressful issue, such as a divorce, was another reason mentioned by 10% (8/80) of the relatives. Other examples of stressors reported as sources of blame included exposing the patient to a negative family environment, namely arguments or violence.

Unavailability to provide emotional support

A few relatives (8% or 6/80) reported that they blame themselves for being emotionally unavailable to cope with the illness or the patient. Expressions of emotional unavailability included references like 'I do take myself away' or 'I don't think I can cope with him/her'.

Passing "bad" genes/traits

Hereditary transmission was the least common theme (5% or 4/80) cited. It included not only references to being the genetic carrier of the illness, but also remarks about passing on "bad" personality traits or about making unwise health or choices in the past, such as using alcohol or other substances during pregnancy.

Discussion

The present study examined the association between self-blame attributions and distress in relatives of people with recent-onset psychosis. Results showed that greater

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self-blame was significantly associated with relatives' increased distress. However, after adjusting for patient age, self-blame attributions were not predictive of relatives' distress. As hypothesised, higher levels of self-blame were associated with more behavioural control attempts in this recent-onset sample, and self-blame predicted relatives' behavioural responses when adjusting for the contribution of control attributions. Content analysis revealed that some self-blame was evident in 38% of the sample, and that for these relatives the most prominent sources of blame were not overseeing their family member's mental health problems properly and perceiving themselves generally as poor carers.

In this sample of relatives of people with recent-onset psychosis positive associations between self-blame attributions and distress levels is consistent with previous research conducted with relatives of people with more long-term psychosis (Barrowclough et al., 1996; Fortune et al., 2005). However, in the present study patient's age was found to be the only significant, independent predictor of relatives' distress. In line with previous research (Addington, Coldham, Jones, Ko, & Addington, 2003; Addington, McCleery, & Addington, 2005; Gibbons, Horn, Powell, & Gibbons, 1984) this finding suggests that at an early stage of the psychosis relatives are more likely to experience higher levels of distress if their family member is younger. Considering that the first onset of the psychosis often occurs when individuals are still in close contact with their relatives (Addington & Burnett, 2004) and most likely under their care, it is not surprising that greater strain in relatives is more likely to be observed when the patient is younger than in older adults with longstanding psychosis. In our sample the majority of the relatives were parents, namely mothers; thus, it might be that relatives become more distressed when patients are younger because they are still

quite invested as a parent, possibly providing most of their child's needs, thus believing that they ought to actively protect and advocate for their child (Moses, 2010). Furthermore, patient's age was not accounted for in Barrowclough *et al.*'s (1996) study, possibly explaining the difference in results.

Previous studies have found characterological self-blame to be positively linked with distress in individuals with physical illnesses (Manne & Zautra, 1990; Plaufcan et al., 2012). However, to our knowledge, this association has not been examined in a sample of relatives of people with recent-onset psychosis. In the current study, neither behavioural or characterological self-blame were linked with relatives' distress. This might be explained by the use of different measures of self-blame. Frequency and weight were conflated, that is, statements that were more frequent were given more weight.

Our findings established links between self-blame attributions and behavioural control. Furthermore, self-blame predicted behavioural control attempts in this sample of relatives of people with recent-onset psychosis when attributions of control were adjusted, lending support to the notion that self-blame attributions might motivate some attempts to make amends through behavioural control as a form of reparation for the wrongdoing (Baumeister et al., 1994; Tangney, 1995; Tangney & Dearing, 2002; Wasserman et al., 2012). There is evidence that relatives of people with recent-onset psychosis who express high levels of EE (i.e. criticism, hostility, EOI) tend to be more behaviourally controlling towards patients than their low-EE counterparts (Vasconcelos e Sa et al., 2013), and that behavioural control predicts poor outcome in patients with more long-term psychosis (Hooley & Campbell, 2002). One recent study

also found that higher levels of self-blame predicted EE in relatives of people with psychosis (Wasserman et al., 2012). Our findings demonstrated that relatives who believe, at least partially, that they played a role in the onset or maintenance of their family member's condition may also use more behavioural control attempts, possibly to repair behaviours or events that they feel guilty about. This is in line with Weiner's (1985) proposition that guilt is experienced when a negative outcome for another person is perceived to be internal to and controllable by oneself. For more vulnerable individuals, such reparative behavioural attempts may be experienced as stressors having the potential to impact on outcome. However, further investigation is warranted to elucidate how relatives' self-blame attributions may impact on outcome.

Of those relatives who showed self-blame, the most common reason was blaming themselves for not being able to detect early signs of the illness or for confusing them with developmental behaviours. Perception of the self as an inadequate carer was the second most frequent reason shown in relatives who provided self-blame statements. Such explanations have been highlighted in previous qualitative studies with carers of individuals with mental illnesses (Barker et al., 2001; Moses, 2010). Contrary to these studies, passing on 'bad' genes or temperament characteristics was the least common theme, which suggests that genetic or biological explanations (Phelan, 2005) may be less salient when it comes to ascribing blame in relatives of people with recent-onset psychosis. This might be because the illness model that relatives hold might be changing over time. Possibly, such explanations tend to become more evident after prolonged contacts with psychiatric services or when diagnoses are stipulated and the medical/biological model has prominence. This may also be due to employing different methodologies.

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The results should be considered in light of the limitations of the study. In the current study controllability attributions, self-blame and behavioural control measures were all derived from the CFI, which may have inflated the correlations. Although self-blame did not overlap with controllability attributions and behavioural control measures, this bias threat was minimised by using independent raters. Eliciting self-blame statements spontaneously from CFI interviews may have limited the assessment of this construct. Furthermore, characterological and behavioural self-blame categorisations were made on the basis of self-blame statements spontaneously made by relatives during the CFI, which may have reduced the chances of detecting these constructs. Future research using larger samples of relatives and using standardised behavioural and characterological self-blame measures to complement the sampling of spontaneous attributions may allow a better understanding of the influence these constructs on relatives' distress.

The cross-sectional nature of the study does not allow determining the direction of causality between self-blame, distress and behavioural control. Further studies with a prospective design are needed to clarify the directionality of these associations. Furthermore, recent-onset literature suggests that negative appraisals about the impact and consequences of the condition, and greater expectation of a chronic timeline, which were not accounted for in our analyses, are the best predictors of relatives' psychological morbidity at this stage of the condition (Addington et al., 2003; Addington et al., 2005; Barrowclough et al., 2014). Findings from the current content analysis provided a detailed and valuable understanding of the reasons that relatives give to blame themselves for their family member's illness and related problems.

Nevertheless, caution should be taken when considering these findings, recognising the limited generalisability beyond the current sample (Peters, 2010). Some of these reasons may contribute to relatives' distress and increased stigma (Ferriter & Huband, 2003; Moses, 2010). Thus, the impact of these self-implicating beliefs should be tackled when delivering clinical support. In addition, our sample was predominantly made up of white, females who were the mothers' of those who had experienced psychosis. This potentially limits the generalisability of our findings to other cultures, suggesting a need for further exploration of these topics in other, more culturally diverse populations.

Despite these limitations this study builds on existing self-blame research with relatives of people with psychosis extending our results to a recent-onset population. Our findings provided evidence that self-blame attributions were linked with controlling behaviours in the expected ways, and that these cognitions predicted relatives' attempts to control the patient's behaviour, offering further support to the attributional theory of emotion (Weiner, 1985). These findings highlight the importance of targeting early on relative's beliefs to better understand how relatives may respond to a family member experiencing mental health difficulties. As noted previously, behavioural attempts on the part of relatives, particularly if persistent or forceful, may be experienced as a stressor for someone vulnerable to psychosis. The importance of addressing relatives' beliefs in designing treatment interventions has been acknowledged in some family interventions for psychosis, suggesting that such interventions need to go beyond educating relatives about psychosis (e.g. Crisp and Gleeson, 2009). Thus, one good starting point may be to consider relatives' beliefs and responses towards the patient when designing treatment or management plans.

Furthermore, the use of reattribution techniques or cognitive behavioural techniques may prove beneficial in helping relatives to acquire a more balanced attributional stance (Barrowclough and Hooley, 2003).

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Table 1

Examples of self-blame attributional statements and their coding, classified into mildly, moderately and highly self-blaming

Coding score and definition	Coding example
Mildly Relative contemplates or questions the possibility of whether or not his/her own behaviour and/or character, at least partially, contributed to or could have prevented the negative event; but only for transitory moments and without attributing any explicit self-blame	"I wonder if, when he first showed signs he was 14 or 15, you wonder if it'd been picked up then and treated then, if there'd have been more of a chance than now [for recovery]. She was saying that she hears voices and I was saying that we all do to a certain extent, but I didn't realise to what extent she had them."
Moderately Relative hold contradictory (ambivalent) beliefs about whether or not his/her own behaviour and/or character, at least partially, contributed for or could have prevented the negative event.	"She waits until the last day and then runs out of medication. So she's got to wait 2-4 days to get the medication, and it was quite noticeable last time. I told her to get the prescription done every 3 weeks and I don't want to do everything for her. I want her to do things for herself. Maybe I, it's my fault for doing everything for her anyway." "I said why don't you get yourself a little part time job instead of staying at home all day. He was all for it and then it just fizzled out. Maybe I've been too soft with him; maybe I'm over protective because he is ill."
Highly Relative explicitly believes (at least partial belief) that his/her own behaviour and/or character, at least partially, contributed to or could have prevented the negative event.	"I take the blame here, I think I actually irritate her because of what I am saying. I think I prick her consciousness." "I feel guilty and I think that's what I was doing, I was giving him everything he wants."

Table 2

Descriptive information for the relative sample (N = 80)

	Frequency	Percentage
Gender (Male/Female)	17/63	21.2/78.8
Ethnicity		
White	67	84.8
Black	3	3.8
Asian	3	3.8
Mixed	4	5.1
Other	2	2.5
Occupational status		
Unemployed	25	31.6
Employed	51	64.6
Retired	3	3.8
Relationship status		
Single	4	5.0
Cohabitating	10	13.0
Married	47	59.0
Separated/Divorced	14	18.0
Widowed	4	5.0
Relationship with patient		
Natural mother	54	68.0
Natural father	9	11.0
Step father	1	1.0
Other blood relative	3	4.0
Unrelated carer	1	1.0
Partner	12	15.0
	Mean (*SD*)	**Range**
Age	46 (*8.9*)	26-77
Years in full time education	12 (*2.5*)	
Weekly contact hours with patient	32 (*19.6*)	7-84
CFI length (in minutes)	82 (*21.8*)	
Behavioural control statements (n=1458)	18.2 (*7.8*)	3-40
Controllability attributions statements (1671)	20.9 (*8.4*)	6-48
Self-blame attributions statements (n=117)	2.0 (1.5)	0-5
Behavioural self-blame statements (n=85)	1.1 (1.1)	0-4
Characterological self-blame statements (n=32)	0.4 (0.7)	0-2

	N	Mean (*SD*)	Range
Self-blame attributions (global score)	80	2.00*	1-4

Behavioural control (global score)	80	2.73 (*1.10*)	1-5
Controllability attributions (global score)	80	2.01 (*0.96*)	1-5
Distress (total score)	79	28.00*	4-67

Note. *Median reported for non-normally distributed variable

Table 3

Regression model for self-blame and distress

Model	Variable	R^2	ΔR^2	B	SE B	β
Step 1		.116	.116			
	(Constant)			6.975	.577	
	Patient age			-.073	.023	-.341*
Step 2		.145	.029			
	(Constant)			6.638	.607	
	Patient age			-.069	.023	-.321**
	Self-blame global rating			.182	.112	.173

*p= .002; **p= .004

Table 4

Regression model for self-blame and behavioural control

Model	Variable	R^2	ΔR^2	B	SE B	β
Step 1		.102	.102			
	(Constant)			2.235	.655	
	Relationship with patient			-.247	.336	-.091
	Number of children			.160	.112	.172
	Controllability global rating			.206	.129	.182
Step 2		.148	.045			
	(Constant)			2.019	.652	
	Relationship with patient			-.189	.331	-.070
	Number of children			.137	.110	.148
	Controllability global rating			.173	.128	.152
	Self-blame global rating	.204	.103	.219*		

*p= .05

Table 5

Themes arising from content analysis of self-blame statements

Main theme	Examples
Ineffective oversight of mental health problems	"It is heartbreaking when it is your own child. I suppose you really blame yourself- 'how the hell did you allowed them to get into this condition'" "I thought she is just crying out for help. I suppose we could have done something not realising how serious it was, we could just go to A&E. You feel guilty a little bit, I think I should have gone there, should have done something sooner."
Perceptions of failure as a carer'	"I start feeling guilty, I should have taught him how to cook, how to iron. What sort of mother am I? I've got a son like this, what way did I go wrong? "He tries to keep things in because is not manly. Sometimes I might be a bit demanding of him, but I don't get it and that's why I try and demand it"
Exhibiting inappropriate responses to symptoms/patient	"You blame yourself. I did get on to her quite a lot. I'd just shout" "I probably triggered it [losing control] because I knocked on her door and said 'get off that bed' and that upset her."
Imposing restrictions or failure to do so	"I kick off about it [smoking cannabis] and say 'I'm not paying for it' but then I feel guilty because he doesn't do anything and he doesn't go anywhere and I give him the money and I shouldn't, I should be stronger and say 'no' I think in some ways it is like it's his only 'enjoyment' and I'm stopping him from having it, even though it's wrong and I know it's wrong because I should discourage him and I'm encouraging him" "I've said 'I can't keep bailing you out all the time'. She's overdrawn, but still using the card. She doesn't give me no keep. I pay for everything; it's my own fault. I shouldn't have started, but now it's too late now to start taking all that."
Coping with additional	"I noticed it [symptoms] more when we got the divorce; he blamed me for that, which it was me. I decided to get the

stressor(s)	divorce, which didn't help."
Unavailability to provide emotional support'	"Sometimes I like being needed, I like that feeling, but at other times I'd just like to be left on my own, but if I say this then I start feeling guilty afterwards because she'll go all quiet in the chair."
Passing "bad" genes/traits	"I am very complicated person in did and me husband is a very complicated person. We're both sensitive and emotional and I bet [patient] got that in his genes. (…) I don't know whether it's that [that caused his problem]."