

## CONGRUENCY BETWEEN DEPRESSOGENIC SCHEMAS AND LIFE EVENTS FOR THE PREDICTION OF DEPRESSIVE RELAPSE IN REMITTED OLDER PATIENTS

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**Abstract.** Activation of a depressogenic schema by a negative life event is said to be more likely when the life event corresponds to the same domain of vulnerability (congruency hypothesis). Specifically, this refers to a negative interpersonal event for the sociotropy/dependency schema, and an obstacle or a failure in achieving a goal for the autonomy/accomplishment or self-criticism schema. This study examines the congruency hypothesis for the prediction of relapse. Older patients were followed for 6 months after remission from major depression. Life events were rated as interpersonal or autonomous in nature. Their subjective impact on social relations and on autonomous functioning was also assessed. Congruency between dependency schema and interpersonal events, but only when the subjective impact of event was taken into consideration, predicted relapse. Non-congruency between an autonomous schema and an event rated as impacting the social domain also predicted relapse. However, in both analyses of dependency and autonomy schemas, impact of event on social relations on its own predicted relapse. These findings support the cognitive vulnerability theory of depressive relapse, underlining the importance of considering how the person views the influence of life events and the determining impact of stressful life events on social relations.

*Keywords:* Cognitive theory, congruency, depression, life events, older adults, relapse.

### Introduction

A significant number of older adults in remission of major depression, between 13–19% (Hinrichsen, 1992; Murphy, 1983), experience a relapse in the year following the episode. Prognosis of depression is influenced by such variables as severity of concurrent physical illness and life events (Murphy, 1983), and adequacy of treatment (Murphy, 1994). Although psychosocial factors have not been consistently related to prognosis (Murphy, 1994), the impact of negative events on depression is well-established (Ingram, Miranda, & Segal, 1998).

The present study examines the prediction of relapse in depression in older adults from the diathesis-stress perspective of the cognitive model (Clark, Beck, & Alford, 1999; Ingram et al., 1998). This theory considers cognitive vulnerability in the form of long standing

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schemas as a moderator of the relationship between negative life events and depression. As far as basic cognitive processes are concerned, the model applies equally to an initial episode and to recurrence of depression. Abramson and her colleagues (1999) reported that the cognitive vulnerability hypothesis was upheld for both recurrences as well as first onsets. Episodic or repeated depressions may increase the likelihood of activation of depressive cognitive patterns and a generalization of these patterns to a growing number of life contexts, leading to a facilitated "retriggering" of the patterns of information-processing responsible for depression (Clark et al., 1999; Ingram et al., 1998).

Following the initial work of Beck (Beck, 1967, 1983, 1987), two schemas have been recognized as especially relevant for understanding vulnerability to depression (for reviews, see Coyne & Whiffen, 1995; Ingram et al., 1998; Nietzel & Harris, 1990). For a person with a prepotent sociotropic/dependent tendency, approval and acceptance by others have an inordinate influence for the evaluation of personal worth. Such a person is sensitized to issues of rejection in interpersonal relationships. A person with an autonomous/self-critical leaning places much emphasis, for sense of worth, on independent reaching of goals with high standards of accomplishment. Such a person is prone to interpret mishaps in the pursuit of objectives in terms of personal failure.

This distinction has allowed for a refinement of the diathesis-stress hypothesis. The cognitive model postulates that life adversity matching the type of schema would be more likely to activate this schema and thus heighten the risk of depression than another kind of stressful life event. This congruency hypothesis suggests that the combinations of a negative event of an interpersonal nature and a sociotropic/dependent schema, on one hand, and of a stressful event in the achievement domain and an autonomous/self-critical schema, on the other, predict the occurrence of depression.

This congruency hypothesis has received somewhat mixed empirical support (Clark et al., 1999). In their review of reports published before 1989, Nietzel and Harris (1990) identified a number of studies that specifically addressed the issue. With one exception (Smith, O'Keefe, & Jenkins, 1988), these studies supported the model, either fully (Hammen, Ellicott, Gitlin, & Jamison, 1989) or partially (Hammen, Marks, Mayol, & deMayo, 1985; Robins & Block, 1988; Zuroff & Mongrain, 1987). Partially supportive evidence has also been gathered by more recent research. Segal, Shaw and Vella (1989) found evidence supporting the hypothesis of congruency between the dependent schema and interpersonal events, but not between the self-critical schema and accomplishment events. Similarly Robins (1990) reported data supporting the congruency hypothesis for the dependency schema but not for the self-critical schema, prompting the author to underline the salience of sociotropic vulnerability in depression. In contrast, Lam, Green, Power and Checkley (1994) only found a tendency toward statistical significance in the tests of congruency between depressogenic schemas and type of negative life events. Hammen, Ellicott, Gitlin and Jamison (1989) followed some patients for a 6-month period. Onset or exacerbation of symptoms was predicted by the occurrence of life events matching the self-schema. Similarly, Sega, Shaw, Vella and Katz (1992) have examined the congruency hypothesis specifically for the prediction of relapse in depression with an adult clinical sample. These patients were followed for a period of 12 months after remission. Self-critical individuals were more likely to experience relapse if they had faced negative life events in the achievement domain. This was found when the total number of these events or their stressful nature was entered in the equation. In contrast, the congruency hypothesis on the sociotropic side

was supported only when events of 2 months before relapse and the stressful characteristic of the events were considered as predictors. The authors concluded that the impact of interpersonal events on depression onset might be more immediate, whereas the influence of accomplishment events may be more insidious and cumulative. Also, in an attempt at predicting relapse into major depression, Lam, Green, Power and Checkley (1996) reported that dependency and matching adversity predicted relapse, the higher the level of dependency the sooner the relapse.

On the whole, the congruency hypothesis for the sociotropic schema appears better supported by extent research than for the autonomous schema. A combination elevated dependency-negative social event leads to somewhat greater depression than an autonomy-self-criticism match (Nietzel & Harris, 1990). In their review of research on the cognitive diathesis-stress model of depression, Coyne and Whiffen (1995) noted that the bulk of the evidence for the congruency hypothesis rested on the dependency schema, with much more limited support on the side of autonomy-self-criticism. As Robins (1990) stated, it is possible that the sociotropic/dependency construct may be more useful for understanding depressive vulnerability than the autonomy/self-critical construct.

It is important to note that, with few exceptions (Kwon & Whisman, 1998; Lakey & Ross, 1994), most studies in this domain have categorized life events as related to sociotropy/dependency or to autonomy/self-criticism on the basis of an a priori evaluation by the researchers. For example, it is typical to categorize an event dealing with couple or family relationships as sociotropy-related and an event pertaining to occupation as autonomy-related. The meaning of life events for participants or its subjective impact has rarely been taken into consideration in the testing of the congruency hypothesis. Yet, there is evidence that the individual's appraisals of life events is important. For instance, Robins and his colleagues have indicated that appraisal of life experiences was involved in the prediction of symptomatology or depression diagnosis (Robins & Block, 1989; Robins, Block, & Peselow, 1990).

The objective of the present research was to assess the validity of the congruency theory for the prediction of relapse in major depression with older patients. As such it constitutes a test of a major component of the cognitive theory of adult depression extended to a geriatric population. There is a distinct methodological advantage in using such a high-risk design for testing the cognitive vulnerability hypothesis. This study examines the relevance of the cognitive theory for depression in late adulthood, which, to our knowledge, has never been studied.

Patients who had been diagnosed with major depression and who were currently in remission were followed up for a period of 6 months. Life events were categorized as either interpersonal, accomplishment events or self-control events on the basis of an a priori classification by the researchers as previous studies have done. But, in addition, they were assessed in terms of the subjective impact on the social, accomplishment and self-control domains. The model was tested for the prediction of relapse into major depression, a discrete variable.

In summary, we used a logistic regression analysis approach to evaluate two hypotheses with older patients. Does congruency between type of depressogenic schema and content of life event (the interaction term) account for variance in relapse prediction (and if that is the case, also in depressive symptomatology at relapse) beyond the prediction eventually provided by each variable individually? Does congruency between type of depressogenic

schema and subjective impact of life event in schema-specific domain account for variance in relapse prediction (and if that is the case, also in depressive symptomatology at relapse) beyond the prediction eventually provided by each variable individually?

## Method

### *Participants*

The participants were recruited from the patients receiving outpatient treatment monitored by psychiatrists at a psychogeriatric clinic of a psychiatric hospital and at a day hospital of a long term care institution for older adults. The team of psychiatrists and nurses first identified those patients under their current care who had suffered an episode of diagnosed major depression in the last 6 months and were currently in remission. For the persons who participated in the study these inclusion criteria were later ascertained through a formal diagnostic assessment (see below ‘‘Diagnostic assessment’’). This team did not refer for the study patients who had been diagnosed with dementia or other cognitive disorder, or who showed drug or alcohol abuse. The sample was constituted of 41 participants with an average age of 76 years (76% of women). A total of 54% had an elementary school education and 46% a secondary or post-secondary education. Seventy-eight percent had low incomes. The majority (63%) lived autonomously in the community, the others living in nursing homes. The majority (62%) rated their health as fair or poor, with half the sample considering physical illness as a major obstacle for activities. A large majority reported having a good social network, 80% indicating 2-6 social encounters in the past week, and 82% mentioned the availability of a confident.

### *Instruments and measures*

*Sociodemographic data.* The participants completed a sociodemographic questionnaire, gathering information on such characteristics as age, education, income, and living arrangement. Three questions taken from the OARS Multidimensional Functional Assessment Questionnaire and Services Supplement (Fillenbaum, 1988) assessed subjective health status and four questions evaluated social resources.

*Cognitive screening.* The Modified Mini-Mental State (3MS; Teng, 1990; Teng & Chui, 1987) was used to screen for cognitive impairment. This test is an extension of the widely used Mini-Mental State Examination (MMSE; Folstein, Folstein, & McHugh, 1975) with good psychometric properties (Teng, Chui, & Gong, 1990; Tombaugh, McDowell, Kristjansson, & Hubley, 1996). It contains 15 items measuring short and long-term memory, orientation, verbal fluency, semantic associations, attention and calculation, language, and constructional praxis, on a total maximum score of 100. Instructions for administration and scoring are precise. Authors of the scale have proposed a score of less than 80 as indicative of dementia-related cognitive impairment. On the basis of a previous study (Cappeliez et al., 1996), we adopted the cutoff score of 79 for participants with 8 or more years of education, and 71 for participants with 7 or less years of education.

*Diagnostic assessment.* The diagnosis of depression was established with the Structured Clinical Interview for DSM-IV (SCID; First, Spitzer, Gibbon, & Williams, 1996), depres-

sion module, patient version. Information on levels of agreement on the test/retest reliability of diagnostic formulations with the SCID can be found in Williams et al. (1992) and usefulness in assessing depression with older adults in Stukenberg, Dura and Kiecolt-Glaser (1990). This clinical interview, administered by an independent researcher, was used to determine if the most recent episode of depression met the criteria for a major depressive episode. Admission to the study was conditional on no longer meeting the criteria for major depression. This diagnostic procedure was readministered upon relapse to ascertain the recurrence of a major depressive episode meeting diagnostic criteria. No participant had ever received cognitive therapy before.

*Depressive symptomatology.* The severity of depressive symptomatology was measured with the Geriatric Depression Scale (GDS; Yesavage et al., 1983). This self-rating scale, specifically designed for and standardized with an elderly population, contains 30 items representing as many depressive symptoms and it is answered in a yes-no format. Yesavage et al. (1983) reported that the GDS is a reliable and valid self-rating depression scale. The internal consistency is high (Cronbach alpha: .94). The authors have indicated a cut-off score of 10 for depression, with average scores of 5.75 for non-depressed individuals, 15.05 for mildly depressed, and 22.85 for severely depressed persons.

*Depressogenic schemas.* These schemas were assessed with the 24-item version of the Dysfunctional Attitude Scale (DAS-24; Power et al., 1994). Weissman and Beck (1978) developed the original DAS. It proposed two parallel forms, A & B, each containing 40 items, with scores on 2 subscales, approval from others and performance evaluation. Power et al. (1994) submitted these two versions to factor analysis and obtained a 3-factor solution. The three factors were labelled dependency (need for approval and dependency), achievement (need for independence and goal attainment), and self-control (need for self-control). The final version is made of the 8 items for each factor with the best item-total correlation indices. The participant rates each statement on a 7-point Likert scale from 1 (totally agree) to 7 (totally disagree). The internal consistencies of each subscales were reported by Power et al. (1994) as Cronbach alpha values of .85 for achievement, .74 for dependency and .68 for self-control.

Since dysfunctional attitudes indicative of each of the three depressogenic schemas as measured on the DAS-24 can be present at varying degrees, data were considered as continuous variables. Justification for considering scores on a continuum and not classifying participants according to threshold-based types is two-fold. This procedure circumvents the problem of deciding for the presence/absence of depressogenic schemas on the basis of arbitrary cut-off criteria (Coyne & Whiffen, 1995). Additionally, it avoids the exclusion of a significant number of depressed participants who demonstrate elevation on more than one scale (40% of the sample in Segal et al., 1989), thus adding to the validity of the statistical analyses.

*Life events.* Life events were assessed with a modified version of the Recent Life Change Questionnaire (RLCQ-M; Rahe, 1975), as adapted for use with older adults by French, Gekoski and Knox (1995). This questionnaire lists 76 life events. After having indicated which event on the list they had experienced in the previous two months, participants were asked questions regarding the impact of the event, following a procedure similar to the one used by Shrout et al. (1989). The questions were: "Did that event have an impact on your

social network and relationships (spouse, family members, friends or acquaintance)? If so, to which extent?" "Did that event bring about a change in your level of autonomy? If so, to which extent?" "Did that event lead to a change in your sense of control over your emotions? If so, to which extent?" For each question, the impact was rated on a 4-point scale: 1 (no impact at all), 2 (little influence), 3 (moderately serious), 4 (very serious).

Following the method used by Segal et al. (1992) for coding events, life events of the RLCQ-M were classified a priori before the start of the study by two independent raters, with knowledge in cognitive theory of depression, in one of three categories: events of an interpersonal nature consistent with issues of dependency (e.g. separation from spouse), events corresponding to the domain of accomplishment (e.g. physical symptoms interfering with mobility), events related to issues of self-control (e.g. control over emotions). The Kappa test of inter-rater agreement (.78) indicated a very good level of agreement between the two raters. There was full agreement on classification of 66 items. For the remaining 10 items, the raters reached agreement after discussion.

### *Procedure*

In order to preserve confidentiality, patients were first contacted about participation in the study by their attending psychiatrist or nurse. Patients who agreed to participate were then contacted by the researcher and interviewed in their own place of living. The study followed a remission protocol. Participants previously diagnosed with major depression were included in the study if they did not meet the criteria of major depression, as diagnosed with the SCID, at the start of the study. They were followed up until a relapse into major depression, or to a maximum of 6 months.

On the first interview, in addition to the SCID and sociodemographic questionnaire, participants completed the 3MS (to screen out participants with cognitive impairment indicative of dementia), GDS and DAS-24. Participants were recontacted once every month during the 6-month period for a telephone assessment of depression with the verbally presented GDS. If the score was below 15, the contact was terminated and the person was recontacted the following month. If the score was 15 or more, a home interview was scheduled to administer the SCID. If the SCID results indicated no relapse into depression, the interview was terminated, and the person was recontacted the following month. If SCID results signalled a depressive relapse, the interview continued with completion of GDS, DAS-24 and RLCQ-M, and the participation of the person in the study ended there. For participants who did not experience a relapse as diagnosed with the SCID during the 6-month period, a final interview was scheduled at the end of this period for completion of GDS, DAS-24 and RLCQ-M.

### *Statistical analyses*

Using the parameters reported in Segal et al. (1992), we estimated that an effect of large size could be anticipated ( $f^2 = .42$ ) with alpha level set at .05. On this basis and given the number of participants, only 4 independent variables could be included in the analysis of  $R^2$  for a power of .80.

Since relapse is a categorical variable, we used logistic regression analysis to evaluate the contribution of each independent variable to the prediction of relapse. Multi-categorical predictor variables, such as type of events, were dummy coded 0–1 before entry in the

analysis (e.g. in the case of interpersonal event: interpersonal event = 1; no interpersonal event = 0). To test the congruency hypotheses, we used a sequential method, entering first the schematic variable, then the event variable and finally the interaction between these two terms. For each analysis only the score on the schema variable under scrutiny and its corresponding (or mismatched event) event were used. For logistic regression, the first step in the analysis was the calculation of the log-likelihood for two models, one containing only the constant, and the other containing all predictors. Test of the difference between the two models was based on the G ("Goodness-of-fit") statistics (chi-square). The second step used the univariate Wald Test statistics to identify the significant predictors.

## Results

### *Characteristics of relapsers*

Among the 41 participants, 16 (39%) relapsed into major depression at some time during the 6 month follow-up. This is a higher proportion than the 20% reported by the majority of studies conducted with older patients (e.g. Hinrichsen, 1992; Murphy, 1983). It is closer to the proportion (51%) reported by Segal et al. (1992) in a study with an adult sample adopting a similar design, although in a one-year follow-up period. The participants who relapsed and those who remained well did not differ significantly on age [ $t(39) = 1.73, ns$ ], sex [ $t(39) = -.07, ns$ ], marital status ( $\chi^2 = .40, ns$ ), education ( $\chi^2 = .14, ns$ ), income ( $\chi^2 = 2.6, ns$ ), living arrangement ( $\chi^2 = .58, ns$ ), continued use of medication (all 41 participants), change in medication regimen ( $\phi = .28, ns$ ), and number of previous episodes of depression [ $t(39) = -.78, ns$ ]. On average, participants who relapsed had experienced 1.7 previous episodes and participants who remained well, 1.5 episodes.

### *Test of the congruency hypothesis for relapse*

In order to test this hypothesis, two hierarchical regressions were calculated with the DAS-24 dependency and achievement scores. The categorized type of event was used as predictor in the first regression analysis, and the subject's rated impact of the event on the corresponding domain of functioning was used as predictor in the second regression analysis.

*Dependency: type of event.* Predictor variables were entered in this order in the hierarchical logistic regression with relapse as the dependent variable: (1) score on the dependency scale (time 1), (2) type of event, (3) the interaction of these two terms. The goodness-of-fit chi square statistic was not significant,  $\chi^2(2, N = 41) = 6.49, p = .72$ .

*Dependency: impact of event.* Predictor variables were entered in this order in the hierarchical regression: (1) score on the dependency subscale (time 1), (2) impact of event on social network, (3) interaction of these two variables. This analysis produced significant results. The chi square for the goodness-of-fit model was  $\chi^2(1, N = 41) = 9.69, p = .002$ , demonstrating a correspondence between observed and predicted frequencies when all predictors were included in the model. As reported in Table 1, while the dependency score failed to predict relapse, the impact variable, which was introduced later, was a significant

**Table 1.** Dependency and impact of event on social relations as predictors of relapse in depression

Variables	<i>B</i>	<i>S.E.</i>	<i>Wald</i>	<i>df</i>	<i>p</i>
1. Dependency	.02	.03	.50	1	.48
2. Impact of event on social relations	1.22	.39	9.81	1	.002**
3. Dependency × Impact of event	.20	.08	5.69	1	.017*

\*  $p < .05$ ; \*\*  $p < .01$ .

predictor. Furthermore, the interaction between the two terms contributed an additional power of prediction above and beyond the two variables taken singly.

*Achievement: type of event.* Predictor variables were entered in this order in the hierarchical logistic regression: (1) score on the achievement subscale (time 1), (2) type of event, (3) the interaction of these two variables. The chi square of the goodness-of-fit test,  $\chi^2$  (2,  $N = 41$ ) = .15,  $p = .93$ , indicated no significant correspondence between observed and predicted variables when all three variables were included in the model.

*Achievement: impact of event.* Predictor variables were entered in this order in the hierarchical logistic regression: (1) score on the achievement subscale (time 1), (2) impact of event on functional autonomy, (3) the interaction of these two variables. Although there was a clear tendency, the chi square for the goodness-of-fit test just did not reach significance level,  $\chi^2$  (1,  $N = 41$ ) = 3.79,  $p = .052$ .

#### *Test of the non congruency hypothesis for relapse*

In order to test this contrasting hypothesis, two hierarchical logistic regressions were calculated with the participant's rated impact of the event on the non-matching domain of functioning as predictor.

*Dependency and impact on functional autonomy.* Predictor variables were entered in this order in the hierarchical logistic regression: (1) score on the dependency subscale (time 1), (2) impact of event on functional autonomy, (3) the interaction of these two variables. The chi square for the goodness-of-fit test was not significant,  $\chi^2$  (1,  $N = 41$ ) = .42,  $p = .51$ .

*Achievement and impact on social network.* Predictor variables were entered in this order in the hierarchical logistic regression: (1) score on the achievement subscale (time 1), (2) impact of event on social network, (3) the interaction of these two variables. The chi square for the goodness-of-fit test was significant,  $\chi^2$  (1,  $N = 41$ ) = 4.28,  $p = .04$ . As indicated in Table 2, the impact of the event on social relations was a significant predictor. However, beyond that step the interaction term did not significantly add to the prediction of relapse.

#### *Analyses with the DAS-24 self-control subscale*

Even though the variable of self-control is not relevant to the congruency model, we tested the hypothesis that a type of negative life event affecting the domain of self-control combined with a relatively higher score on the DAS-24 self-control subscale would predict a relapse into depression. This analysis was not significant,  $\chi^2$  (2,  $N = 41$ ) = 4.20,  $p = .12$ .



**Table 2.** Achievement and impact of event on social relations as predictors of relapse in depression (non congruency hypothesis)

Variables	<i>B</i>	<i>S.E.</i>	<i>Wald</i>	<i>df</i>	<i>p</i>
1. Achievement	.03	.03	1.11	1	.29
2. Impact of event on social relations	1.25	.39	9.93	1	.002*
3. Achievement × Impact of event	.10	.06	3.02	1	.08

\*  $p < .01$ .

Similarly, the analysis with the impact of the event on the self-control domain lead to a non significant result,  $\chi^2 (1, N = 41) = .20, p = .65$ .

#### *Analyses with the Dysfunctional Attitude Scale*

In the present study, dependency scores ranged from 19 to 55 ( $M = 34.50, SD = 9.93$ ), achievement scores ranged from 9 to 49 ( $M = 27.37, SD = 9.16$ ) and self-control scores ranged from 12 to 48 ( $M = 27.50, SD = 8.62$ ). The coefficient alpha was .69 for dependency, .81 for achievement and .63 for self-control.

Correlations between DAS-24 scores at time 1 and relapse were not significant: dependency ( $r = .11$ ), achievement ( $r = .17$ ), self-control ( $r = -.07$ ), as well as total score on the three subscales ( $r = .09$ ). These results further support the notion that scores on DAS-24 on their own have no predictive value for relapse.

Stability of DAS-24 scores from time 1 (entry of the participant into the study) and time 2 (relapse) was assessed for the total score and the three subscales. Pearson correlation coefficients were all significant at  $p < .05$ , dependency ( $r = .73$ ), achievement ( $r = .65$ ), self-control ( $r = .78$ ), and total score ( $r = .65$ ), results consistent with the idea that the DAS-24 subscales measure stable features of the person and not transient mood.

To examine whether DAS-24 scores of remitted depressed participants were altered once these participants relapsed, paired  $t$  tests were performed to compare DAS-24 scores of relapsers from the time they entered the study when remitted to the time they relapsed. No difference was found between the two assessment times: dependency ( $t = .98, p = .34$ ), achievement ( $t = .11, p = .91$ ), and self-control ( $t = -.55, p = .58$ ).

### **Discussion**

The cognitive theory of depression postulates that a negative life event matching the domain of cognitive vulnerability would be more likely to activate this depressogenic structure and hence to cause depression than a non specific negative life event. Specifically, an individual with a sociotropic-dependent schema is viewed as more susceptible to suffer from depression when facing a stressful life event in the interpersonal domain, and a person with an autonomous-self-critical schema is viewed as vulnerable if confronted by an event corresponding to the domain of personal accomplishment. This congruency hypothesis was tested in the context of relapse prediction with a sample of older adults followed for 6 months after they had experienced remission from major depression.

In a first set of analyses, we adopted the approach of previous studies and tested a model

of prediction with categorized types of life events. Participants identified on a list the life events they had experienced. Listed events had been classified a priori by the researchers as representative of one of the domains of cognitive vulnerability. These analyses, looking at the interaction of both specific cognitive vulnerabilities and their respective matching events, were not successful in predicting relapse in the present sample of older adults.

A second set of analyses addressed the issue of prediction from the perspective of the impact of the negative life event as perceived by the person. Life events identified by the person were considered in terms of their impact on the two domains of cognitive vulnerability under scrutiny, i.e. the domain of interpersonal relationships and the domain of autonomous functioning. The interaction of the dependency vulnerability structure and an event perceived as influencing the schema-specific domain of social relationships predicted the occurrence of relapse. It should be noted that this interaction was a significant predictor above and beyond the prediction afforded by the impact of the event on social relations on its own. This finding concurs with previous studies (e.g. Hammen et al., 1985, 1989; Lam et al., 1996; Robins, 1990; Segal et al., 1989; Zuroff & Mongrain, 1987), and underlines the importance of this cognitive-interpersonal link for the understanding of depression (Ingram et al., 1998). To our knowledge it represents the first demonstration that the congruency model on the dependency side can also be validly extended to the prediction of a depressive episode, and more specifically relapse, in an older population.

Results of the test of the congruency hypothesis for the other vulnerability dimension of achievement revealed a similar pattern. Again, whereas considering simply the event type was unhelpful in the prediction of depressive relapse, taking into account the impact of the event on the same domain led to useful prediction. However, the results were not as clear-cut as for the dependency structure. For relapse prediction, although the result was quite close to significance level and indicative of a trend, the congruency hypothesis was not supported. Such a weaker link for autonomy-self-criticism compared to sociotropy-dependency finds an echo in the research literature, which indicates that a combination of elevated dependency-negative social events leads to somewhat greater depression than an autonomy-self-criticism match (Nietzel & Harris, 1990). In their review of research on the cognitive diathesis-stress model of depression, Coyne and Whiffen (1995) noted that most studies did not support the congruency hypothesis for the autonomy-self-criticism schema. Lam et al. (1996) also reported that the majority of the matching events were in the interpersonal domain and that matching adversity and dependency significantly predicted relapse.

The clearer findings for the dependency domain may also be attributed, at least in part, to the nature of the sample. As it was entirely constituted of women, whose self identity and sense of worth appear more intimately linked with relationships (Gilligan, 1982), the detection of an impact of life events on the interpersonal domain may have been facilitated. This combined with the fact that our sample presented clearly higher scores on the dependency dimension compared to the achievement dimension may have facilitated the detection of relationships for the former dimension.

To address the uniqueness of the congruency hypothesis for the prediction of relapse, we also tested the opposite predictions of non-congruency. Neither dependency vulnerability together with an event impacting on autonomous functioning nor achievement vulnerability combined with impact of event on social relations predicted relapse. However, again impact of event on social relations emerged on its own as predicting relapse. Several other researchers have reported that this type of impact is associated with the onset of a depressive episode

among older patients (Murphy, 1993) and relapse for an adult population (Segal et al., 1992). George, Blazer, Hughes and Fowler (1989) conducted a follow-up study with 130 adults including older people. They found that the scope of social network and social support (subjective) were predictors of the depressive symptoms. In addition, numerous studies have indicated that depression is particularly associated with interpersonal and marital difficulties (for review: Joiner, Coyne, & Blalock, 1999).

There has been a debate for some time about the exact nature of the processes measured by instruments such as the DAS-24. The findings with the DAS-24 suggest that this instrument measures enduring personal characteristics. Scores on the subscales were remarkably consistent from the start of the study to the time of reassessment when 39% of the participants had relapsed into major depression. A more detailed analysis of the evolution of DAS-24 scores for the subgroup of relapsers showed no significant change from remission to relapse time.

Several limitations of the present study must be acknowledged. Although the sample was sufficient for the purpose of the present research, it was limited in number. Evaluation of impact of negative life events was confined to a global assessment on networks of social relationships and levels of autonomous functioning. Further research on this topic may want to refine the assessment of this influence, probing the nature of negative changes experienced by older adults in relationships, goal pursuits, and independent living.

In conclusion, the cognitive theory assumes that the appraisal of an event is a critical factor in determining its potential for activating the depressogenic structures. However, until now, this basic tenet has been neglected in research on the diathesis-stress model of depression, as critics have noted (Clark et al., 1999; Coyne & Whiffen, 1995). The present research suggests that due consideration should be given to the appraisal of the event by the person, i.e. the process that gives subjective meaning to life events, and in particular the perceived effects of the event on social relations. This type of inquiry, considering event evaluation, will provide a more complete test of cognitive theory.

#### Author note

This study was conducted by Marlène Voyer as partial fulfilment of her doctoral (PhD) degree at the University of Ottawa.

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