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**FACULTE DES SCIENCES SOCIALES
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**LE SENS EXAGÉRÉ DE RESPONSABILITÉ ET SON RÔLE
DANS LE TROUBLE OBSESSIONNEL-COMPULSIF**

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**Mémoire présenté pour l'obtention
du grade maître en psychologie (M.Ps.)**

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Résumé

Les obsessions sont des pensées, images ou impulsions persistantes et répétitives, d'origine interne et difficiles à contrôler. L'obsession se situe sur un continuum, les gens accordant une plus grande importance à leurs pensées intrusives et ayant plus de mal à les contrôler se rapprochant de la population clinique. La responsabilité exagérée est une dimension importante au sein des troubles obsessionnels-compulsifs (Rachman, 1993; Rachman & Hodgson, 1980; Salkovskis, 1985, 1989). Selon un modèle cognitif (Salkovskis, 1985), l'obsessionnel posséderait un schème dysfonctionnel de responsabilité selon lequel il évaluerait ses pensées en fonction du tort qu'il pourrait occasionner à lui-même ou à autrui. Les deux présentes études portent sur la responsabilité chez une population normale. Trois cent quatre-vingt-dix-sept adultes volontaires complètent un questionnaire semi-idéographique portant sur la responsabilité dans des situations typiquement obsessionnelles. Ils doivent décrire les conséquences négatives possibles à 14 situations ambiguës qui leur sont présentées. Ensuite, ils répondent à une série de questions concernant ces conséquences négatives et complètent différents questionnaires.

La première étude vérifie empiriquement le bien fondé d'une définition opérationnelle de la responsabilité s'appliquant aux patients obsessionnels (Salkovskis, Rachman, Ladouceur & Freeston, communication personnelle, 20 juin 1992). Les sujets qui croient avoir une plus grande influence sur les conséquences négatives rapportent qu'ils se sentiraient davantage responsables si de telles conséquences se produisaient réellement. Par contre, la sévérité et la probabilité des conséquences prédisent peu la responsabilité. Les analyses intra-sujets appuient ces résultats.

Dans la seconde étude, un test de fidélité réalisé sur un petit échantillon suggère que le Questionnaire de Responsabilité serait une mesure d'état, variable dans le temps. Des analyses corrélationnelles suggèrent que la responsabilité serait modérément reliée aux symptômes obsessionnels-compulsifs, la suppression de pensées, les pensées obsédantes et les intrusions cognitives. La responsabilité serait faiblement reliée aux symptômes

dépressifs et anxieux. Elle ne serait toutefois pas reliée aux croyances reliées aux obsessions ainsi qu'aux activités compulsives. Une analyse factorielle révèle six facteurs correspondant aux thèmes obsessionnels présentés dans les situations. Ces facteurs concernent respectivement 1) la vérification et les erreurs, 2) la perte de contrôle dans les situations sociales, 3) les préoccupations somatiques, 4) les sensations internes inconfortables, 5) la contamination et 6) la perte de contrôle moteur. La structure factorielle du Questionnaire de Responsabilité serait déterminée par les situations obsessionnelles plutôt que par les items de l'instrument. Enfin, la façon la plus représentative de calculer le score total de responsabilité est discutée.

Les résultats des deux études sont discutés en fonction de la formulation cognitive-béaviorale actuelle des troubles obsessifs-compulsifs (e.g., Salkovskis, 1985; Rachman, 1993). Ces deux études présentent un appui substantiel pour la définition opérationnelle de la responsabilité obsessionnelle (Salkovskis et al., communication personnelle, 20 juin 1992) ainsi que pour les modèles cognitifs plaçant la responsabilité au centre du trouble obsessionnel-compulsif.

Abstract

Obsessions are persistent or repetitive thoughts, images or impulses that intrude on ongoing activity, which are of internal origin and difficult to control. Obsessions are on a continuum, where the people who accord more importance to their intrusive thoughts and experience more difficulty in controlling them are nearest to the clinical population. An exaggerated sense of responsibility is an important dimension in OCD (Rachman, 1993; Rachman & Hodgson, 1980; Salkovskis, 1985, 1989). In a cognitive model (Salkovskis, 1985), obsessions are associated to a dysfunctional responsibility schema, patients evaluating their thoughts in function of the harm they could cause to themselves or others. Two studies on responsibility were conducted in a non-clinical population. Three hundred and ninety seven voluntary adults completed a semi-idiographic questionnaire evaluating responsibility in typical OC situations. They were presented with 14 ambiguous situations where they had to describe a possible negative outcome. They then answered a series of questions about the negative outcome and completed different questionnaires.

In the first study, an operational definition of responsibility in OCD (Salkovskis, Rachman, Ladouceur, & Freeston, personal communication, June 20, 1992) was empirically tested. Subjects who reported having greater pivotal influence on the possible negative outcome, reported that they would feel more responsible for the negative outcome if it occurred. On the other hand, the severity of the consequences and the probability associated were not good predictors of a broader sense of responsibility. Within-subject analyses supported the idea that the pivotal influence that the subject thinks he has on the negative outcome was a better predictor of responsibility than the severity and the probability of the outcome themselves.

In the second study, test-retest reliability carried out on a small sample suggested that the Responsibility Questionnaire would be a state measure, variable over time. Moreover, the total responsibility score was correlated

with different constructs related to OCD. Correlations suggest that responsibility was moderately related to OC symptoms, thought suppression, obsessional thoughts, and cognitive intrusions. Responsibility was weakly related to depressive and anxious states but was not related to beliefs about obsessions and compulsive activities. A factor analysis revealed six factors representing, 1) Checking and Errors, 2) Loss of Social Control, 3) Somatic Concerns, 4) Uncomfortable Internal States, 5) Contamination, and 6) Loss of Motor Control. Results suggest that the factor structure is determined by the OC target situations and not by the individual items rating probability, severity, influence, pivotal influence, responsibility and relevance. Finally, the most representative way of measuring the responsibility total score was discussed.

Results from both studies are discussed in terms of current cognitive-behavioral formulations of OCD (e.g., Salkovskis, 1985; Rachman, 1993). Results provide substantial support for the operational definition of responsibility (Salkovskis et al., personal communication, June 20, 1992) and for cognitive models giving responsibility a central position in OCD.

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Introduction

Obsessions are intrusive, repetitive thoughts, images, or impulses that are unacceptable or unwanted and cause subjective resistance; the person finds them difficult to dismiss or control (Rachman & Hodgson, 1979). Most obsessions occur in association with compulsive behaviors, which consist of repetitive and stereotyped unwanted behaviors. The most common form of compulsions are washing and checking behaviors (Foa & Steketee, 1983). Pure obsessions unrelated to overt behavior occur in about 25% of cases (Akhtar, Wig, Varma, Pershad, & Verma, 1975). More than half of all obsessional patients are troubled by a single rather than multiple obsessions (Rachman, 1978). The obsession's content, which is repugnant, worrisome, blasphemous, obscene, nonsensical, and frequently takes the form of doubting (Rachman & Hodgson, 1979), has been studied by several researchers (see Rachman, 1978). In many of these studies, dirt, disease and contamination were the most common themes, followed by aggression, orderliness and religion while sexual obsessions were less frequent.

The first theoretical account for OCD was presented by Mowrer (1939) who proposed the two-stage theory of fear and avoidance to understand the acquisition and maintenance of obsessive-compulsive symptoms. In the first stage, a neutral stimulus acquires anxiety-evoking properties by being paired with an unconditional stimulus. Next, because of the aversive properties of the stimulus, escape or avoidance responses are developed. These responses are subsequently reinforced through their ability to reduce anxiety. The limitations of the two-stage theory have been noted by several authors (see Foa, Steketee, & Ozarow, 1985).

Cognitive models of OCD are based on the central belief that symptoms are the product of unrealistic appraisals of threat and faulty evaluations of one's ability to cope adequately with such a threat (Carr, 1971, 1974). According to this model, the mistaken beliefs lead to erroneous perceptions of threat, which in turn lead to anxiety. This dysfunctional process is compounded by the obsessive-compulsive tendency to reduce one's ability to deal adequately with subjective appraisal of danger.

These secondary distortions lead to discomfort that is reduced through magical rituals and obsessions. Another cognitive-behavioral model was proposed by Rachman (1971), who suggested that obsessional ruminations could be seen as noxious stimuli to which patients fail to habituate. This would result in mood disturbance, facilitating the sensitization to the thoughts and an upward spiral would follow. Obsessions usually provoke attempts to escape, or avoid, the disturbance induced by these unwanted thoughts. Neutralization which reduces the person's discomfort, would increase the tendency to escape or avoid whenever the obsession recurs (Rachman, 1976). In this model, obsessions are considered from its three major aspects, cognitive, behavioral, and psychophysiological (Hodgson & Rachman, 1974; Rachman & Hodgson, 1974).

A most recent cognitive model has been suggested by Salkovskis (1985) who was inspired by Beck's cognitive theory (1976). According to this model, obsessions are associated with a dysfunctional cognitive schema for responsibility in which patients evaluate their thoughts in terms of the harm they could do to themselves or others. Different stimuli trigger cognitive intrusions provoking negative automatic thoughts that are evaluated according to personal beliefs. Patients having excessive responsibility would tend to neutralize their negative thoughts by reassuring themselves, distracting themselves, or blocking the thought. Although reassurance is a short-term way to diminish discomfort and perceived responsibility (Salkovskis & Warwick, 1988), it has negative long-term effects because it makes cognitive reevaluation impossible (Salkovskis & Warwick, 1986) and increases the probability of neutralizing again in the future (Salkovskis, 1985).

Recent epidemiological studies suggest that the prevalence of Obsessive-Compulsive Disorder is about 1.8 to 2.5% of the general population (Karno, Golding, Sorenson, & Burnam, 1988). OCD is among the most resistant and debilitating of the anxiety disorders and during the seventies, treatment success rate with OCD was not superior to the rate of spontaneous remission (Black, 1974). Traditional psychotherapy has not proven effective in improving obsessive-compulsive symptomatology (Black,

1974). However, in the last fifteen years, OC patients have a better prognosis since behavioral treatments have a success rate around 80% (Foa, Steketee & Ozarow, 1985). For pure obsessions, success rate reaches only 40%.

Several cognitive-behavioral techniques have been tested with OC patients, namely thought stopping, systematic desensitization, and paradoxical intention (see Foa et al., 1985). Poor results have been obtained with these procedures. Ever since Meyer (1966) introduced deliberate exposure and response prevention in the treatment of OCD, many patients have been treated with variants of this procedure (see Foa, Steketee, Grayson, & Doppelt, 1983). Exposure and response prevention have profoundly improved the prognosis for OC patients (Foa & Steketee, 1983).

Despite relatively well established behavioral techniques to treat OCD, cognitive components of the disorder have been less studied. Although clinical observations and reports mention the use of some cognitive interventions with OC patients (Salkovskis, 1985, 1989; Rachman, 1971, 1976, 1993; Hodgson & Rachman, 1985), little information is available on the cognitive mechanisms in OCD and on the efficacy of cognitive correction on the irrational beliefs, automatic thoughts and basic assumptions. In this context, the study of an important cognitive component of OCD and more specifically, the identification of cognitive schema associated with the disorder, such as responsibility, is welcome. Thus, it would allow a better understanding of such a complex mechanism in the development and maintenance of OCD. Despite the few empirical studies on responsibility, a recent effort has been made to operationalize a definition of this concept in OCD. Inflated responsibility was defined as "the belief that one possesses pivotal power to provoke or prevent subjectively crucial negative outcomes. These outcomes may be actual, that is having consequences in the real world or on a moral level" (Salkovskis et al., personal communication, June 20, 1992). This definition opens up different ways to assess responsibility and raises important clinical questions concerning the targets of cognitive correction of responsibility in OCD. The two following studies will

empirically test this definition of responsibility and explore the psychometric properties of the design used to evaluate this complex construct.

La responsabilité et son rôle dans le trouble obsessionnel-compulsif. I.
Validation d'une définition théorique de la responsabilité.

Josée Rhéaume, Robert Ladouceur, Mark H. Freeston and Hélène Letarte

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Résumé

La littérature a associé un sens exagéré de responsabilité au trouble obsessionnel-compulsif selon lequel les patients évalueraient leurs pensées en fonction du tort qu'ils pourraient occasionner à eux-mêmes ou à autrui. Dans une nouvelle définition, l'obsessionnel croirait qu'il possède un pouvoir central (pivotal power) de provoquer ou prévenir des conséquences négatives subjectivement cruciales (Salkovskis, Rachman, Ladouceur, & Freeston, communication personnelle, 20 juin, 1992). Un modèle semi-idéographique, évaluant la responsabilité dans des situations ambiguës pertinentes à la vie des sujets, a été utilisé afin de tester empiriquement la validité de cette définition. Ainsi, le Questionnaire de Responsabilité a été développé en utilisant les principaux thèmes du trouble obsessionnel-compulsif tel que la contamination, la vérification, les préoccupations somatiques, la perte de contrôle, faire des erreurs, la sexualité et la pensée magique. Trois cent quatre-vingt-dix-sept adultes volontaires ont participé à l'étude. Les sujets répondaient au Questionnaire de Responsabilité et à une série de questionnaires présentés dans un ordre aléatoire. Pour chacune des 14 situations, les sujets devaient décrire brièvement une conséquence négative possible et évaluer sur une échelle de 9 points cette conséquence selon quatre dimensions, 1) la probabilité que cette conséquence se produise, 2) la sévérité de cette conséquence, 3) l'influence du sujet sur cette conséquence et 4) l'influence unique du sujet sur cette conséquence. Enfin, les sujets notaient la responsabilité perçue et la pertinence de cette situation dans leur vie. Les situations hautement pertinentes ont été retenues pour les analyses. Les analyses de régression suggèrent que l'influence et l'influence unique constituaient de meilleurs prédicteurs de la responsabilité que la probabilité et la sévérité. Les analyses intra-sujet appuient cette idée, les plus grandes différences entre les situations hautement et faiblement responsables étant observées pour les dimensions de pouvoir central. Les résultats sont discutés en fonction des modèles actuels de l'obsession et des implications pour les recherches futures.

**Responsibility and its role in Obsessive Compulsive Disorder. I.
Validation of a theoretical definition of responsibility**

Josée Rhéaume, Robert Ladouceur, Mark H. Freeston and Hélène Letarte

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Running Head: Defining responsibility in OCD

Abstract

An excessive sense of responsibility had been identified in obsessive-compulsive disorder where patients evaluate their thoughts in terms of the harm they could do to themselves or others. In a new definition of responsibility, the obsessives would believe that they possess pivotal power to provoke or prevent subjective crucial negative outcomes (Salkovskis, Rachman, Ladouceur, & Freeston, personal communication, June 20, 1992). In order to empirically test the validity of this definition, a semi-idiographic design was used to evaluate responsibility across ambiguous situations that were personally relevant. Thus, The Responsibility Questionnaire was developed using major OCD themes like contamination, verification, somatic concerns, loss of control, making errors, sexuality and magical thinking. Three hundred and ninety seven volunteer adults participated in the experiment. Subjects answered the Responsibility Questionnaire and a series of other questionnaires presented in random order. For each 14 situations, subjects briefly described a possible negative outcome and then rated this outcome on four dimensions, 1) probability, 2) severity, 3) influence and 4) pivotal influence, using a 9-point Likert scale. Finally subjects rated perceived responsibility and personal relevance. Highly relevant situations were retained for the final analysis. Regression analysis suggested that influence and pivotal influence were better predictors of responsibility ratings than probability and severity. Moreover, within-subject analyses support this idea, showing greater difference between high and low responsibility situations for the pivotal power dimensions than for probability and severity. Results are discussed in terms of current models of OCD and implications for future research and cognitive treatment are identified.

Responsibility and its role in OCD. I. Validation of a theoretical definition of responsibility

Recent epidemiological studies suggest that the prevalence of Obsessive-Compulsive Disorder is about 1.8 to 2.5% of the population (Karno, Golding, Sorenson, & Burnam, 1988). OCD is often chronic and severe among the most treatment resistant and debilitating of the anxiety disorders (Black, 1974; Greist 1990a, 1990b). Obsessions consist of recurrent and persistent ideas, thoughts, impulses, or images that are experienced by the subject as intrusive, senseless and unacceptable. Compulsions are defined as repetitive intentional behaviors and often accompany obsessions (DSM-III-R: APA, 1987).

Cognitive models have used schema constructs to explain emotional disorders such as depression (e.g., Beck, 1976; Mathews & Bradley, 1983; Teasdale, 1983; Segal, 1988), anxiety disorders (e.g., Ingram & Kendall, 1987; Mathew & MacLeod, 1985; Butler & Mathews, 1983) and obsessive-compulsive disorder (Salkovskis, 1985, 1989; Rachman, 1993). Schemas are commonly defined as pre-existing memory representations employed during retrieval, but that also impose their own structure on new information, directing access to this information (Alba & Hasher, 1985; Fiske & Linville, 1980; Neisser, 1976). People with emotional disorders are thought to rely on schematic processing to anticipate negative features of their environment, so that they are able to retain a fragile sense of control. Cognitive models recognize that we all rely on cognitive strategies to reduce the torrent of incoming data to a manageable stream, but that for someone with a clinical disorder, these routines may be built upon erroneous propositions and beliefs (Safran, Segal, Hill, & Whiffen, 1990).

According to Salkovskis (1985), obsessions would be associated with a dysfunctional cognitive schema for responsibility in which patients would evaluate their thoughts in terms of the harm they could do to themselves or others. Different stimuli (like an event or the recall of this event) would release cognitive intrusions provoking automatic thoughts that would be evaluated according to personal beliefs. Indeed, automatic thoughts

provoked by the obsessions would revolve around personal responsibility, that is, if things go wrong, it might be the person's fault. Thoughts associated with this schema include blame, punishment, guilt, shame, etc (Salkovskis 1985, 1989). Such feeling of responsibility would lead to self-condemnation and would be evaluated as abhorrent to the individual. This responsibility may be direct or indirect (e.g., preventing harm caused by an external agent). Thus, ideas of responsibility can extend to having had the thought itself (see also Freeston, Ladouceur, Gagnon, & Thibodeau, 1993; Borkovec, Robinson, Pruzinsky & DePree, 1983).

Patients with excessive responsibility would tend to neutralize their negative thoughts by reassuring themselves, performing an absorbing activity, distracting themselves, or blocking the thought. Mental activities (neutralization, cognitive rituals) have the same function in obsessive ruminators as overt compulsions in more common forms of OCD (Emmelkamp, 1987; Foa, Steketee, & Ozarow, 1985; Hoogduin & Hoogduin, 1984; Marks, 1987; Mavissakalian, Turner, & Michelson, 1985; Salkovskis, 1985). Indeed, any mental or overt activity that stops the obsessional thought is a form of neutralization (Freeston, Ladouceur, Thibodeau, & Gagnon, 1991). Salkovskis (1985) sees neutralization as an attempt to put things right, and avert the possibility of being blamed by oneself or by others. Persistent reassurance seeking, particularly from those in authority, displayed by many obsessives can be seen as a way of spreading responsibility. This becomes possible by making sure that others know the content of their thoughts or arranging things so that others carry out actions for them. In this way, patients can find a temporary response that will reduce doubts momentarily. Although reassurance is a short-term way to diminish discomfort, perceived responsibility (Salkovskis & Warwick, 1988), and the time of exposed to the stimulus (Wegner, Schneider, Carter, & White, 1987), it has negative long-term effects because it makes cognitive reevaluation impossible (Salkovskis & Warwick, 1986; Warwick & Salkovskis, 1985) and increases the probability of seeking reassurance again in the future (Salkovskis, 1985). Note that reassurance can be overt (e.g., medical consultation) or cognitive (e.g., repeating the doctor's words). Rachman (1993) observed inflated responsibility in obsessional washers and

checkers but when they entered hospital, they became symptom-free during the first days in their new environment, but checking rituals began once they became used to their new context. Rachman explained this short term decrease in rituals by a diminished sense of responsibility, because patients had transferred responsibility to the staff. As the checkers begin to feel a sense of affiliation to the new environment, they would again feel a sense of responsibility for ward management and security.

In our treatment program for obsessional ruminators, cognitive interventions for inflated responsibility were necessary for many of the 35 patients we have treated over the last three years. The varied and often subtle manifestations of responsibility make it difficult for clinicians to use global cognitive methods to correct it. Sometimes inflated responsibility is directly related to the outcome of the situations (e.g., being responsible of causing fire by forgetting to turn off the stove). At other times, it is more like a moral rigidity that pervades much of the patients behavior and thought (e.g., I will be a bad person if I have aggressive thoughts about my love ones). This often gives the impression that excessive responsibility is not related to the obsession for which the patient consulted. For example, a patient consulting with harming obsessions reported that he felt extremely responsible at work and engaged in some compulsive checking to see whether his subordinates had done their work correctly. Moreover, this example shows how an excessive need for control, perfectionism, as well as responsibility can often be interrelated in OC patients.

Although excessive responsibility is very common, some OC patients do not show automatic thoughts about responsibility. It is possible that for these subjects, the neutralizing strategies are highly effective in reducing responsibility, leaving the patient without any signs of the responsibility schema. On the other hand, responsibility may have been present only when the obsession first occurred. Another explanation is that these patients show only little resistance to the obsessions most of the time and that neutralization becomes very stereotyped (Salkovskis, 1985). In this case, patients do not recognize the link between their neutralizing activities and their obsessional thoughts. For example, a patient, who washed his hands

after serving each of 400 clients each day, did not associate his compulsive washing to his fear of contracting AIDS, even when confronted by the therapist.

Although several authors associate responsibility with obsessive-compulsive disorders (Rachman, 1993; Rachman & Hodgson, 1980; Foa & Steketee, 1983; Salkovskis, 1985, 1989; Salkovskis & Warwick, 1988), few studies have empirically addressed responsibility in OCD. In a study on cognitive factors in intrusions of non-clinical subjects, responsibility, guilt and disapproval related to intrusive thoughts were found to be the only significant predictors of compulsive activity scores (Freeston, Ladouceur, Gagnon, & Thibodeau, 1992). In a further study, OC patients reported in the Cognitive Intrusions Questionnaire (CIQ; Freeston, Ladouceur, Letarte, Gagnon, & Thibodeau, 1991) that they would feel more responsible than matched medical outpatient and normal controls if the content of their thought was to happen (Freeston, Ladouceur, Gagnon, & Thibodeau, 1992).

Until now, few studies with OCD patients have attempted to measure excessive responsibility in OC patients. One reason is that because it is not directly observable, it is difficult to measure. Two studies using a Stroop paradigm failed to identify responsibility schema associated with OCD in clinical (Letarte et al., 1992) and non-clinical (Rhéaume, Lamarche, Paquet, & Potvin, 1992) samples. Several confounded variables, such as the emotionality of the words, individual differences, mood state, and clinical status, make it difficult to interpret results in this type of task (see Rhéaume, Freeston, Letarte, & Ladouceur, 1993). Other attempts have been made with specialized irrational belief measures (Freeston, Ladouceur, Gagnon, & Thibodeau, 1993; Hoekstra, 1992; Salkovskis, personal communication). The ultimate utility of these scales needs to be convincingly demonstrated with clinical population. However, a recent effort to operationalize a definition of inflated responsibility opens up different ways to assess responsibility. Inflated responsibility was defined as "the belief that one possesses pivotal power to provoke or prevent subjectively crucial negative outcomes. These outcomes may be actual, that is having consequences in the

real world and/or at a moral level" (Salkovskis et al., personal communication, June 20, 1992).

An excessive sense of responsibility associated with OCD is widely accepted by both clinicians and researchers (de Silva and Rachman, 1981; Salkovskis, 1985, 1989; Rachman, 1993, Rachman & Hodgson, 1980; Freeston, Ladouceur, Gagnon, & Thibodeau, 1993; Ladouceur, Freeston, Gagnon, Thibodeau, & Dumont 1993; Freeston, Ladouceur, Gagnon, & Thibodeau, 1992; Letarte et al., 1992; Rhéaume et al., 1992) but inferential tasks as well as questionnaires have failed to clearly identify a responsibility schema. The question of how best to measure inflated responsibility is reasonably raised.

In their review of schema research, Safran and his colleagues (1990) pointed out that nomothetic methods need to have specific hypotheses about the cognitive content that characterizes a particular disorder. When the information becomes more specific, an idiographic paradigm can be very useful to study more detailed models of cognitive structures as generalization across subjects become difficult. In this type of research, the investigator needs specific hypotheses about the schema for a given individual which can then be used to generate predictions about the typical processing biases for the individual. The validity of the theory may then be evaluated through multiple replications with individual subjects (Chassan, 1979; Safran, Greenberg, & Rice, 1988).

Considering the great complexity of cognitive structures associated with emotional disorders, idiographic script theory has received a great deal of attention in the measurement of cognitive schemas (Abelson, 1981; Schank & Abelson, 1977). These procedural schemas would be less abstract, less generalized, and would be tied more specifically to a class of situations than other schematic conceptualizations like self-referent adjectives. Tompkins (1987) called scripts "nuclear scenes", which use personal narratives and case formulations to capture central life themes for a particular individual. Schemas can best be understood when described in the context in which they occur and they should not be separated from it

(Neisser, 1976). As Muran and Segal (1991) pointed out, it seems only logical to represent schematic activity when facing the stimulus situations that activate it. Since schematic activity seems to impact on and be reflected in how an individual thinks, feels, and behaves in a particular set of circumstances, a nuclear scene that represents all components comprising schematic structure would provide a more complete picture. This would be a step in the direction of construct validity, as well as clinical reality. This idea of using the entire context of the situation in which the manifestations of cognitive schema occur to measure schema is very coherent with OCD symptomatology. Indeed, when patients are symptom-free, they usually have insight and adequate judgment about the irrationality of their thoughts. On the other hand, in the target situation (e.g., when leaving home for a checker, or seeing a knife for a patient with harming obsessions) the obsessions are activated and doubts occur. Patients are often convinced that the feared event will occur, i.e. the house burning down or actually killing someone. Thus, it seems essential to capture the processing biases of the schema while it is activated.

Muran and Segal (1991) introduced self-scenarios as an assessment approach to capture self-schemas in terms of nuclear scenes. Self-scenarios involve extended vignettes of highly distressing events that are idiographically constructed for each patient and are assessed along several significant parameters. They differ from inventory-based and adjective-based schematic assessment measures in that they allow the patient to have substantial input in the generation of assessment stimuli, they present a broader picture of schematic activity, and they measure this activity on multiple parameters. Butler and Mathews (1983) used a semi-idiographic design to measure estimation of subjective personal risk in anxious and depressed patients. They first presented hypothetical situations to subjects and then asked them to order three different explanations for each situation. Compared to questionnaires, this type of semi-idiographic task allows researchers to present situations relevant to a specific disorder without imposing all the processing dimensions on the ambiguous stimuli. This offers the subject the possibility to access his own personal perceptions and beliefs. Semi-idiographic scenarios are more practical than a full

idiographic method because they allow group administration without having to developing a set of scenarios for each subject. Thus, results are more generalizable than using single case methodology.

Semi-idiographic methods represent an interesting design to measure for measuring schematic constructs such as the schema postulated to be associated with responsibility in OCD. It has both theoretical and methodological advantages and would seem to correspond to the way obsessions often occur: although obsessions may occur spontaneously without any identifiable trigger, they are frequently triggered by situations. Moreover, the use of several different situations offers the possibility of studying how responsibility schema appears in different contexts. The present study empirically examines the definition of responsibility proposed by Salkovskis et al. (personal communication, June 20, 1992), using a semi-idiographic design to explore perceived responsibility in personally relevant situations.

Method

Task development (Responsibility Questionnaire)

Situations:

A pool of sixty situations representing OC patients' difficulties was collected from reports of experienced clinicians working with OC patients. Situations too specific or irrelevant for the task were eliminated. To ensure that the situations were both clinically representative of OCD and relevant to the lives of non-clinical subjects, a pool of 28 situations (representing seven OCD themes) was separately submitted to five experienced clinicians and 25 non-expert judges. Clinicians first evaluated how many OC themes were represented by each situation and the degree to which they represented a specific theme. Situations representing more than one theme or judged to inappropriately represent a specific theme by more than one judge were eliminated. Non-expert judges evaluated the extent to which each situation was relevant to their life on a nine-point scale. Situations with a mean rating of less than a little relevant were eliminated. In order to ensure that each theme was adequately represented, two situations were retained for each of

seven themes commonly found in OCD, namely contamination, verification, somatic concerns, loss of control, making errors, sexuality and magical thinking (see Foa et al., 1985; Khanna & Channabasavanna, 1988; Rachman, 1976).

Items:

Items were developed by referring to two operational elements in the proposed definition of responsibility. The first element, the "subjectively crucial negative outcomes", was represented by two items, severity and probability. The second element in the definition, the "pivotal power to provoke or prevent" the outcomes, was represented by two items, influence and pivotal influence. A fifth item measured perceived responsibility. Items on probability and responsibility were taken from the Cognitive Intrusions Questionnaire (CIQ; Freeston et al., 1991). The preliminary version was presented to 10 non-clinical and 5 OC patients in treatment. There were some difficulties for subjects in evaluating abstract constructs about hypothetical situations when the outcomes were not defined. To facilitate ratings, an open question was added after each situation in which subjects had to describe the possible negative outcomes before rating the outcome on the different items. This is fully coherent with the semi-idiographic design of the instrument. Moreover, it provided an interesting additional source of descriptive data for later analysis. The last item rated the relevance of each situation. This item first served to ensure that situations were sufficiently relevant to the lives of non-clinical subjects. Second, it allowed control of the situations' relevance to ensure that variability in responsibility was not due to variance in the situations' relevance. This continues the semi-idiographic nature of the instrument by allowing only relevant situations to be selected and studied. The six items were then submitted to a panel of four clinical researchers working in OCD to evaluate the appropriateness of the construct. A linguist was consulted about the main elements of the definition of responsibility.

The task was presented in a 15 page booklet, the first page containing the instructions and each of the 14 subsequent pages started with a different target situation followed by the six items and rating scales.

Subjects and procedure:

Three hundred and ninety seven adults volunteers in musical history, counseling and psychology undergraduate courses participated in the study. Financial compensation was offered in the form of a draw in each group. Anonymity and confidentiality were ensured by using the last four numbers of subject's telephone numbers for the lottery and by separating the consent form and the questionnaires. Each subject received the RQ and a series of other questionnaires presented in random order. For each of the 14 situations in the Responsibility Questionnaire, subjects briefly described the possible negative outcome and then rated the outcome on four dimensions using 9-point Likert scales. Finally, subjects rated perceived responsibility and personal relevance also using 9-point Likert scales. The data from the other questionnaires is reported elsewhere (Rhéaume, Ladouceur, Freeston, & Letarte, 1993).

Results

The overall sample contained 199 men with a mean age of 23.19 ($sd = 3.63$) and 198 women with a mean age of 23.62 ($sd = 5.87$). Preliminary analyses on the RQ demonstrated good homogeneity of responsibility ratings across situations ($\alpha = .81$). The mean responsibility score was 66.15 ($sd = 15.46$) for men and 64.98 ($sd = 15.59$) for women. Mean scores and standard deviations are presented in Table 1. T-tests were conducted to compare women and men on age, total RQ score, and the total scores for the other items of the Responsibility Questionnaire. No differences were found for age, severity of outcomes, influence, pivotal influence, responsibility and relevance of situations. A significant difference was found for probability, $t(393) = 2.78$, $p < .01$; women evaluated the probability of negative outcomes significantly higher than men.

Insert Table 1 about here

Controlling for relevance

In order to compare situations with the same level of relevance, only situations evaluated as very relevant or more (scores of 7 or higher) were retained for analysis. A total of 582 situations was retained, a mean of 1.45 situations per subject. In order to ensure that variability in responsibility ratings did not depend on personal relevance, zero-order correlations were calculated between each item (severity, probability, etc.) and the degree of relevance (item 6). Results, presented in Table 2, show weak correlations between relevance and severity ($r=.34, p < .0001$), probability ($r=.36, p < .0001$), influence ($r = .33, p < .0001$), pivotal influence ($r = .30, p < .0001$), and responsibility ($r = .31, p < .0001$). These results suggest that relevance significantly but weakly influences the ratings of responsibility and the other items for the selected relevant situations, but that these constructs are reasonably independent (the correlations account for between 9 and 13% of the common variance with relevance).

 Insert Table 2 about here

Correlations between items

The items rated for very relevant situations (7 or more on the scale) were intercorrelated. The matrix of correlations is presented in Table 3. The principal results are described here. While severity ($r = .32, p < .0001$) and probability ($r = .45, p < .0001$) of relevant situations were weakly and moderately correlated with responsibility, influence ($r = .72, p < .0001$) and pivotal influence ($r = .85, p < .0001$) were highly correlated with responsibility ratings. Correlations between individual items suggest two distinct components in the definition of responsibility because correlation between influence and pivotal influence was high ($r = .76, p < .0001$) and their correlations with probability and severity were weak or moderate.

 Insert Table 3 about here

Regression analysis

Multiple regression analysis with simultaneous entry was used to investigate the unique contribution of each item in predicting the responsibility ratings. Severity was entered first, followed by probability, influence, and pivotal influence. Results show that probability was not a significant predictor and severity was a weak predictor of responsibility (explaining 4% of the variance). However, influence (explaining 34% of the variance) and pivotal influence (explaining 28% of the variance) were moderate predictors of responsibility ratings (See Table 4).

 Insert Table 4 about here

Since pivotal influence was a strong predictor ($\beta = .71, p < .0001$), a second regression model was used entering two variables. When influence was entered first, it explained 69% of the variance while pivotal influence explained a further 14% of the remaining variance. When the order of entry was reversed, pivotal influence explained 80% of the variance and influence explained only 3% of the remaining variance. Since the correlation between influence and pivotal influence was very high ($r = .81, p < .0001$), these results suggest that these two variables are measuring essentially the same dimension or something similar.

Within-subject analyses

In order to explore how the key dimensions would vary for different situations evaluated by a same subject, within-subject analyses compared situations of equal personal relevance but with different levels of perceived responsibility. Again, only situations with high levels of relevance were initially retained for these analyses ($N = 582$). From this sample of very relevant situations, the highest responsibility situation and the lowest responsibility situation were compared for a same subject. Only subjects who had at least two situations of equal personal relevance but different



levels of responsibility were retained for analysis. After selection, a total of 42 pairs of situations were compared.

Means scores and standard deviations for each item are presented in Table 5. Means scores were 8.45 ($sd = 0.83$) for high responsibility situations and 3.90 ($sd = 2.24$) for low responsibility situations. Results indicate once again that the largest differences between high and low responsibility situations were for pivotal influence, $t(41) = 8.03$, $p < .0001$, and influence, $t(41) = 7.13$, $p < .0001$. Weak difference was obtained for probability, $t(41) = 2.65$, $p < .05$ and no difference was obtained for severity.

 Insert Table 5 about here

Discussion

This study verified the relevance of the components of an operational definition of responsibility specially formulated for obsessive-compulsive disorder. The first operational element was the subjectively crucial aspect of the outcomes, represented by the perceived severity of the negative outcome (item 1) and the probability that the outcome would occur (item 2). The second component was pivotal power to prevent or provoke the outcome. This component was operationalized as influence (item 3) over the outcome, that is the degree of influence that subjects believed that they had over the outcome, and more specifically, the pivotal influence (item 4), referring to the part of the outcome judged to be solely under the subjects influence. In order to test these operational elements, a semi-idiographic across situation design was used to respond to criticisms about belief scales (see Arnkoff & Glass, 1982) and inferential tasks (Rhéaume et al., 1993) in assessing dysfunctional schema. Placing subjects in hypothetical ambiguous situations and then questioning them on the possible negative outcomes that they themselves had identified was judged to be more efficient than asking them about the severity, probability, and responsibility they generally

attribute to events in their lives. Only situations judged as very relevant for the subject were retained for the analyses because it was assumed that irrelevant situations for individuals would not be salient enough to activate responsibility schema and that assessing responsibility without controlling for relevance could confound responsibility with relevance.

In fact, even for situations rated as highly relevant or more (rated as 7, 8, or 9), there were significant but low correlations for each item with the relevance score showing that responsibility and its proposed components were weakly related to relevance. These results support the idea that even when only very relevant situations were retained for the analysis, the variability in responsibility ratings could still be partially explained by the relevance of the situation, thus supporting the decision to use highly relevant situations only.

While severity and probability were weakly and moderately correlated with responsibility, influence and pivotal influence were highly related to responsibility ratings. These results suggest that the subjectively crucial aspect of the negative outcomes would be less related to the responsibility construct than pivotal power. A high correlation between influence and pivotal influence suggests that these two variables are confounded. These results are the first to provide empirical support for the pivotal power aspect of the responsibility definition as well as partial support for the subjectively crucial aspect of responsibility.

Regression analysis showed that probability was not a significant predictor of responsibility ratings while severity was only a weak predictor. This suggests that an exaggerated perception of severity of the consequences would better represent the subjectively crucial aspect of the outcome in the proposed definition of responsibility. The contribution of influence and pivotal influence is not as straightforward. Overall, these two variables explained most of the variance in responsibility ratings. However, the unique contribution of each variable is more difficult to understand. When entered first, each accounted for the majority of the variance. However, the Beta coefficients are more revealing. Indeed, the standardized regression

coefficient for pivotal influence was three times that for the influence. This result suggests that the pivotal aspect of the influence would be the better predictor of responsibility.

Within-subject analyses comparing two different situations with the same level of relevance and different levels of responsibility provided interesting results. The largest differences between high and low responsibility situations were for the two pivotal power items. These results lend additional support to the importance of the pivotal power variables in perceived responsibility. Note that there was a small difference for probability and no difference for severity between situations with low and high perceived responsibility. These results have important implications for future research on OCD as well as for clinicians. Even if we see a tendency in OCD to overestimate the probability and severity of the possible negative outcomes, these elements would be separate from responsibility schema and may be related to another cognitive schema, such as a general awareness and overestimation of danger. This is coherent with the cognitive appraisal model of OCD proposed by Carr (1974) in which threat is the product of subjective probability and subjective cost. However, this model has been shown to apply to other forms of anxiety (Butler & Mathews, 1983), agoraphobic avoidance (Warren, Zgourides, & Jones, 1989), physiological arousal in agoraphobia (McNally & Foa, 1987), and health related intrusive thoughts (Freeston et al., 1993). Thus, although the model proposed by Carr may well be associated with OCD, it may be a better model of general threat across anxiety disorders rather than being specific to OCD.

The present study provides empirical support for the proposed definition of responsibility in OCD. First, it suggests that the belief or feelings of pivotal power to provoke or prevent negative outcomes would be the best predictor of perceived responsibility in typical OC situations. However, the subjectively crucial aspect of the outcomes would be less central to responsibility and could be more related to a general threat schema. A new definition of responsibility would then put more emphasis on the pivotal power aspect. Since anxiety and depression often accompany

OCD (Rachman, 1981), manifestations of a more general threat schema are still coherent with theory and clinically relevant to OCD.

Major findings of the present study have important implications for future research in OCD. First, they give support to the cognitive model of OCD proposed by Salkovskis (1985). In this model, a personally relevant stimulus would trigger cognitive intrusions provoking automatic thoughts that would be evaluated in terms of the personal beliefs of responsibility. This cognitive schema would distort the pivotal power over eventual negative consequences that an individual believes that he possesses. That is, he would evaluate his intrusive thoughts as a function of the impact he thinks he has on modifying the outcome of the ambiguous situations in which he is confronted. Distortions of probability and severity could also occur, but these cognitions would not be central to responsibility. They would be a manifestation of another cognitive schema often associated to OCD, related to general threat. Thus, there would be room for at least two cognitives schemas in OCD, namely, responsibility and general anxious threat.

How does this distinction between a general threat schema and more specific responsibility schema translate into clinical reality? Further, can we distinguish the more abstract moral level of responsibility from the more concrete situational level? We have observed clinically that responsibility is most readily identifiable among checkers and less easily identifiable, but nonetheless present, among pure obsessives. On the one hand, checkers would represent the case where the threat and responsibility schemata are simultaneously present and directly related to the target thought/situation. For example, a secretary who checked repeatedly before leaving work to see that no important papers were left lying around, returned to work when halfway home, and sought reassurance from her husband, feared being blamed and losing her job for negligence if anyone took the papers. On the other hand, in some types of harming obsession the general threat schema is related to the target thought whereas the situational aspects of the responsibility schema are more easily seen in unrelated situations. For example, a mother with obsessional fears of electrocuting, stabbing, or throwing her infant son off a bridge was horrified by the danger (threat)

that she represented for her son. This person also showed exaggerated responsibility in her job, such as maintaining files in an impeccable state to be ready for all eventualities. In both cases, the moral implications were present. In the first case, negligence was a sign of an unforgivable character fault, and in the second case, murderous thoughts revealed an unacceptable murderous nature. Thus, we would expect both danger and responsibility schemata to be present in almost all types of obsessions, but the closeness of the relationship between the responsibility schema and the target obsessions will vary. In most cases, the responsibility schema must be addressed clinically, whether at a situational or moral level.

Indeed, an operational definition of the responsibility construct will facilitate future studies on other important theoretical questions raised by current models of OCD, such as appraisal of thoughts, cognitive neutralization, strategies, and mood states. Moreover, these results support the utility of semi-idiographic designs in the measurement of cognitive schemas. Thus, this type of technique allows evaluation of complex cognitive material in the context where it occurs, even when schema is not preactivated. The next steps in the study of cognitive aspects of OCD would be to further explore the role of responsibility schema in the appraisal of obsessional thoughts, the interaction between responsibility schema and neutralization and the effect of mood on responsibility schema activation (Salkovskis, 1985; Rachman, 1993; Freeston et al., 1992).

The findings of the present study show that responsibility appraisals are easily made by non-clinical subjects about typical OCD situations. An effort was made to break down responsibility into its major components and findings show that responsibility is mostly composed of the belief in pivotal power over negative outcomes. If this same pattern holds among clinical subjects, these findings highlight the importance of cognitive restructuring power issues as a way of modifying responsibility schema, independently of severity and probability assessments associated with negative outcomes which are also likely to require correction. Further research comparing OCD, clinical controls, and normal subjects is needed to replicate the present

findings and to confirm the presence of responsibility schema among OC patients.

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Author notes

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Table 1
Means and Standard Deviations for Women and Men on Items of RO

| Items | Women | | Men | |
|--------------------|----------|-----------|----------|-----------|
| | <u>M</u> | <u>SD</u> | <u>M</u> | <u>SD</u> |
| Severity | 63.02 | 15.50 | 60.72 | 15.70 |
| Probability | 56.52 | 13.39 | 52.82 | 13.04 |
| Personal influence | 60.14 | 16.62 | 61.95 | 16.58 |
| Pivotal influence | 64.68 | 15.26 | 66.63 | 15.76 |
| Responsibility | 64.98 | 15.59 | 66.15 | 15.46 |
| Relevance | 52.90 | 19.67 | 52.95 | 17.03 |

N = 397.

Table 2
Zero-Order Correlations between Items and Relevance.

| Items | Relevance r |
|--------------------|------------------|
| Severity | .34*** |
| Probability | .36*** |
| Personal influence | .33*** |
| Pivotal influence | .30*** |
| Responsibility | .31*** |

$N = 582$. Situations with high relevance ratings (7 or more on the scale).

***= $p < .0001$

Table 3
Matrix of Correlations between Items

| Item | Items | | | | |
|--------------------|-------|--------|--------|--------|--------|
| | sev | prob | pers | uniq | resp |
| Severity | | .38*** | .29*** | .26*** | .32*** |
| Probability | | | .45*** | .40*** | .45*** |
| Personal influence | | | | .76*** | .72*** |
| Pivotal influence | | | | | .85*** |

N = 582. Situations with high relevance ratings (7 or more on the scale).

***= $p < .0001$

Table 4

Regression analysis explaining responsibility: % of variance, Beta and t for items of the RQ

| Items | % variance explained | Beta | t |
|--------------------|----------------------|--------|----------|
| Severity | 4% | .09*** | 4.03*** |
| Probability | 4% | .10 | -0.94 |
| Personal influence | 34% | .16*** | 5.19*** |
| Pivotal influence | 28% | .71*** | 23.77*** |

N = 603. Situations very relevant (7 or more on the scale)

*** $p < .0001$.

Table 5
Means scores, Standard Deviations and t for High and Low Responsibility Situations in High Relevant Situations.

| Item | High-Resp. Situations | | Low-Resp. Situations | |
|--------------------|-----------------------|-----------|----------------------|-----------|
| | <u>M</u> | <u>SD</u> | <u>M</u> | <u>SD</u> |
| Severity | 6.45 | 2.23 | 5.66 | 2.24 |
| Probability | 5.57 | 1.94 | 4.71 | 1.73 |
| Personal influence | 7.43 | 1.59 | 4.19 | 2.40 |
| Pivotal influence | 7.55 | 1.38 | 4.07 | 2.18 |
| Responsibility | 8.45 | 0.83 | 3.90 | 2.24 |
| Relevance | 7.43 | 0.70 | 7.43 | 0.70 |

N = 42. Situations selected from the total sample with the same level of relevance but different responsibility ratings.

*** = $p < .0001$

Le sens exagéré de responsabilité et son rôle dans le trouble obsessionnel-compulsif. II. Etudes psychométriques d'une mesure semi-idéographique.

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Résumé

Dans les modèles actuels du trouble obsessionnel-compulsif (Salkovskis, 1985; Rachman, 1993; Ladouceur, Freeston, Letarte, & Rhéaume, 1993), un sens exagéré de responsabilité a été mis en relief. La responsabilité est un construit difficilement mesurable. La plupart des patients obsessionnels n'ont pas rapporté une responsabilité exagérée à l'entrevue structurée Yale-Brown, même si des manifestations de responsabilité exagérée ont été observées chez plusieurs d'entre-eux lors de leur traitement. Les questionnaires de responsabilité disponibles semblent mesurer des construits différents de la responsabilité associée à l'obsession. La présente étude explore les qualités psychométriques du Questionnaire de Responsabilité, une mesure semi-idéographique de la responsabilité. Trois cents quatre-vingt-dix-sept adultes volontaires ont répondu au Questionnaire de Responsabilité et à une série de questionnaires, présentés dans un ordre alléatoire. Une analyse test-retest démontre une bonne fidélité de l'instrument après 6 semaines. Les corrélations suggèrent que la responsabilité serait significativement reliée aux symptômes obsessionnels-compulsifs, à la suppression de pensées, aux croyances irrationnelles et aux pensées obsessionnelles. L'analyse factorielle révèle une structure à 6 facteurs, représentant les situations obsessionnelles plutôt que les items de l'instrument. Les résultats sont discutés en fonction des modèles actuels de l'obsession et des implications pour les recherches futures.

**Inflated responsibility and its role in OCD. II.
Psychometric Studies of a Semi-Idiographic Measure**

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Running Head: Responsibility Questionnaire

Abstract

An excessive sense of responsibility has been attributed a key role in recent models of Obsessive-Compulsive Disorder (Salkovskis, 1985; Rachman, 1993; Ladouceur, Freeston, Letarte, & Rhéaume, 1993). Responsibility is a difficult construct to measure. Obsessional patients without overt compulsions rarely report pathological responsibility on the Yale-Brown Obsessive Compulsive Scale even if an excessive sense of responsibility is identifiable during treatment. Responsibility questionnaires reported in the literature seem to measure different constructs than responsibility as referred to in models of OCD. On the other hand, belief scales already used in the measurement of responsibility in OCD may not measure responsibility adequately. This study presents the development and initial validation of a semi-idiographic instrument, the Responsibility Questionnaire. Three hundred and ninety seven volunteer adults participated in the study. The Responsibility Questionnaire demonstrated adequate stability over a six week interval. Correlation analysis showed that responsibility was significantly related to obsessive-compulsive symptoms, thought suppression, irrational beliefs, and obsessional thoughts. Factor analysis revealed a six factor structure based around target situations. Results are discussed in terms of current models of OCD and the implications for future research.

Inflated responsibility and its role in OCD. II.

Psychometric Studies of a Semi-Idiographic Measure.

An excessive sense of responsibility has been given a central role in recent models of Obsessive-Compulsive Disorder (Salkovskis, 1985; Rachman, 1993; Ladouceur et al., 1993). According to Salkovskis (1985), obsessions would be associated with a dysfunctional cognitive schema involving responsibility that would lead patients to evaluate their thoughts in terms of the harm they could do to themselves or others. Cognitive models have often used the schema construct to explain emotional disorders such as depression (e.g., Beck, 1976; Teasdale, 1983; Mathews & Bradley, 1983; Segal, 1988), anxiety disorders (e.g., Ingram & Kendall, 1987; Mathews & MacLeod, 1985; Butler & Mathews, 1983), and obsessive-compulsive disorder (Salkovskis, 1985, 1989; Rachman, 1993). Schemas are commonly defined as pre-existing memory representations employed during retrieval, but which also impose their own structure on new information, directing access to this information (see Ingram & Kendall, 1987). People with emotional disorders are thought to rely on schema to anticipate negative features of their environment, so that they are able to retain a fragile sense of control. Cognitive models recognize that we all rely on cognitive strategies to reduce the torrent of incoming data to a manageable stream, but that in the case of someone with a clinical disorder, these operations may be built upon erroneous propositions and beliefs (Safran, Segal, Hill, & Whiffen, 1990).

Although inflated responsibility has been widely observed with both clinical obsessions and non-clinical intrusive thoughts (e.g., Foa & Steketee, 1983; Freeston, Ladouceur, Gagnon, & Thibodeau, 1993; Ladouceur, Freeston, Gagnon, Thibodeau & Dumont, 1993; Rachman & Hodgson, 1980; Rachman, 1993; Salkovskis, 1985, 1989; Salkovskis & Warwick, 1988), the components of responsibility have not been operationalized until recently (see Rhéaume, Ladouceur, Freeston, & Letarte, 1993). A new definition of responsibility for OCD has been proposed which states that "responsibility is the belief that one has pivotal power to provoke or prevent subjectively

crucial negative outcomes. The outcomes may be actual, that is real world, or moral" (Salkovskis, Rachman, Ladouceur, & Freeston, personal communication, June 20, 1992).

Responsibility has received a great deal of attention from educational and social psychological researchers. Several self-report measures, such as the Attributional Responsibility Questionnaire (Hakstian, Suedfeld, Ballard, & Rank, 1986), the Personal Responsibility Inventory (Martel, Mckelvie, & Standing, 1987), and the Individual Responsibility Scale (Franken, 1988) have been developed to measure responsibility in different contexts. Further, responsibility has also been studied in social psychology (Brewer, 1977; Phares & Lamiell, 1973; Fincham & Schultz, 1981; Gebotys & Dasgupta, 1987; Sosis, 1974). In most of these studies, stories are presented to subjects in vignette form (for example, road accidents or attacks) who must then evaluate the degree of responsibility that they attribute to the actor in the story. Several variables influencing attributions of responsibility have been manipulated such as severity (Walster, 1966; Whitehead & Smith, 1974), valence (Fincham & Jaspars, 1983), predictability (McGraw, 1987) of consequences, and intentionality (McGraw, 1987). In these experiments, the subject is observer of a scene and is not an actor. These studies address responsibility in a normal population and do not associate responsibility with psychopathology. Experimental manipulations of these variables have produced inconsistent results (Walster, 1966; Landy & Aronson, 1969; Shaver, 1970a, 1970b; Shepherd & Bagley, 1970). In sum, it seems that these inventory-based and experimental manipulations of responsibility in educational and social psychology do not represent responsibility as described by Salkovskis (1985) in his model of OCD.

The Obsessive-Compulsive Disorder literature contains several attempts to measure exaggerated responsibility. First, two studies used the Stroop paradigm to identify responsibility schema associated with OCD in clinical (Letarte et al., 1992) and non-clinical (Rhéaume, Lamarche, Paquet, & Potvin, 1992) samples. Both color naming tasks, which used responsibility words, failed to show interference for responsibility words even when primed. Further, several confounded variables make it difficult

to interpret results from this type of task (Rhéaume, Freeston, Letarte, & Ladouceur, 1993). Moreover, in clinical settings, many patients fail to spontaneously report pathological responsibility even if it becomes easily observable with detailed behavioral analysis. Thus, it may be easily missed in an initial interview leading to under-reporting on the Yale-Brown Obsessive Compulsive Scale. For example, although a patient that we evaluated recently stated that his checking and ordering behavior was much reduced while on holiday or away from home, he failed to connect this fact to responsibility. Likewise, another patient who cleaned and ordered compulsively where she lived, she did not do so when staying with her in-laws or in her work as a chamber maid: she denied feeling more responsible at home.

Belief scales have also been developed for measuring beliefs associated with OCD. The Inventory of Beliefs about Obsessions (Freeston, Ladouceur, Gagnon, & Thibodeau, 1993) contains six items about responsibility. The R-Scale (Salkovskis, personal communication, May, 1992) is a belief scale about responsibility in OCD. It contains statements typical of obsessional patients (e.g., doing nothing to prevent a negative outcome is as bad as causing the problem). However, certain problems have identified with belief scales (e.g., Arnkoff & Glass, 1982; Barnes & Vulcano, 1982; Smith & Allred, 1986; Sutton-Simon, 1981). First, they often mix self-referent and other-referent formulations, which are not necessary assessing the same schema (Arnkoff & Glass, 1982) and in fact the R-Scale (Salkovskis, personal communication, May, 1992) contains both types of formulations. Second, beliefs scales may be influenced by socially desirable responding (Barnes & Vulcano, 1982). Third, responsibility schema may not always be accessible to the subject's consciousness and subjects may not identify or recognize responsibility related statements. Belief scales may not be strong enough to trigger or activate responsibility schema. As others have pointed out (e.g., Nisbett & Wilson, 1979; Williams et al., 1988), if core cognitive processes and structures are hypothesized to be nonconscious, then it seems very unlikely that clients could identify them from an inventory of attitudes and beliefs (see Muran, 1991). Thus,

methodological problems exist for inferential methods, structured interview, and belief scales.

Although self-report inventories have become the standard for the assessment of schemas in clinical literature (e.g., Kendall & Ingram, 1987), another possibility is the use of personal narratives or case formulations to represent core schematic content (e.g., Persons, 1989; Safran, Segal, Hill, & Whiffen, 1990;). Safran and his colleagues (1990) have pointed out that an idiographic paradigm can be very useful for studying cognitive structures when generalization across subjects becomes difficult. In this type of research, the investigator needs specific hypotheses about the schema for a particular individual. The validity of the theory may then be evaluated through multiple replications with individual subjects (e.g., Safran, Greenberg, & Rice, 1988). Idiographic techniques have been widely used in the measurement of personality traits (see Safran et al., 1990).

Considering the complexity of cognitive structures associated with emotional disorders, a schema can best be understood when described in the context in which it occurs and should not be separated from the context. Muran and Segal (1991) have used self-scenarios to capture self-schemas. Self-scenarios entail extended vignettes of highly distressing events that are idiographically constructed for each patient and are assessed along several significant parameters. Since schematic activity seems to impact on and be reflected in how an individual thinks, feels, and behaves in a particular set of circumstances, a nuclear scene that represents all components comprising schematic structure would provide an adequate representation of this activity. The idea of using a situational context to measure schema is also coherent with clinical observations of OCD symptoms which are familiar to clinicians: when patients are symptom-free or away from target situations, they usually have good judgment and insight about the irrationality of their thoughts. On the other hand, when their obsession is activated and doubts become more important, patients are often convinced that the content of their thought is true. It thus seems essential to ensure that a responsibility schema is activated before trying to measure it.

Thus, self-scenarios would create a context relevant to a particular client and would be more likely to be an effective prime (Muran, 1991). Muran (1991) suggested that self-referenced material is better for recall, acting as a highly salient retrieval cue, and should be an essential element for any self-report measure that attempt to access unconscious processes and structures. Thus, self-scenarios could differ from most self-report inventories measuring cognition that typically measure only frequency, belief, or representativeness, and assess the subject's experience along several relevant dimensions (e.g., Hollon & Kendall, 1980; Higgins & Bargh, 1987; Safran & Segal, 1990). However, a fully idiographic design represents a major investment of resources and may best be suited to single-case designs. On the other hand, semi-idiographic designs are more practical because they allow group administration and analysis, and are more easily generalizable across subjects than single case designs.

For example, Butler and Mathews (1983) used a semi-idiographic design to measure estimation of subjective personal risk in anxious and depressed patients. They presented anxious patients, depressed patients and normal subjects with ten brief scenarios with ambiguous outcomes. First, subjects answered an open-ended question to identify the first outcome that came to mind. Next, on the following page, they ordered three explanations (only one explanation by situation was threat relevant) in the order in which they would be most likely to come to mind in a similar situation. Compared to questionnaires, this type of semi-idiographic task allows researchers to present situations relevant to a specific disorder without imposing all the dimensions of the ambiguous stimuli. This offers the subject the possibility of accessing his own personal perceptions and beliefs, including those related to dysfunctional cognitive schema.

A semi-idiographic method seems to be a good compromise between traditional inventory-based instruments and full idiographic techniques. By providing OCD-relevant vignettes, the questionnaire may be able to trigger responsibility schema by providing specific behavioral reference points. Subjects can then identify the outcome before rating the situation and outcome on several theoretically important dimensions. The present study

examines psychometric properties of a semi-idiographic instrument measuring responsibility in personally relevant situations with ambiguous outcomes. The instrument is idiographic in two ways. First, the outcomes are chosen by the subjects themselves, and second, the subjects rate the personal relevance of each situation.

Method

Subjects and Procedure

A sample of 397 adult volunteers completed the Responsibility Questionnaire and other questionnaires (199 men, $M = 23.19$ yrs., $SD = 3.63$; 198 women, $M = 23.62$ yrs., $SD = 5.87$). Subjects were recruited in musical history, psychology, and counseling courses and completed informed consent forms. Since the original version of the Responsibility Questionnaire (RQ; Rhéaume, Ladouceur, Freeston, & Letarte, 1993) is quite long, four subgroups completed different combinations of the questionnaires together with the Responsibility Questionnaire (Rhéaume et al., 1993) presented in random order. Financial compensation was offered in the form of a draw in each group. Anonymity and confidentiality were ensured by using the last four numbers of the subjects' telephone numbers for the lottery and by separating the consent form and the questionnaires. A group of 30 subjects answered the RQ a second time, six weeks after the first administration.

Instruments

The Responsibility Questionnaire (Rhéaume et al., 1993) was developed to give empirical support to a new definition of responsibility in OCD. It consists of a 15-page booklet, the first page contains the instructions and each subsequent page starts with a different OCD-relevant target situation. The fourteen situations were: 1) Not sure if the stove is turned off, 2) Transmitting a cold by sharing a glass, 3) Thinking about a loved one and an accident, 4) Doubt about finished work, 5) Persistent pain-imagine serious illness, 6) Touching dirty products, 7) Mailing a letter, 8) Cause a head on collision, 9) Thinking you have forgotten to lock the door,

10) Unacceptable sexual thought, 11) A bad feeling about upcoming news, 12) Afraid of being too intimate, 13) Fear of saying something inappropriate, and 14) Thinking persistent numbness maybe serious. Target situations were selected so that they would be relevant to OCD patients but sufficiently based in everyday life so that they could also be relevant for normal subjects. After reading each of the 14 situations, subjects described a possible negative outcome. Next, they rated this outcome on six different dimensions, each rated on a nine-point scale: severity, probability, influence, pivotal influence, responsibility and relevance. The first two items represented severity and probability corresponding to the "subjectively crucial aspect" of the responsibility definition. Two items, influence and pivotal influence, correspond respectively to power and pivotal power. A fifth item measured perceived responsibility. The last item rated the personal relevance of each situation. The reader is referred to the previous study (Rhéaume et al., 1993) for details on the development of the instrument.

The Beck Depression Inventory (BDI; Beck, Rush, Shaw, & Emery, 1979) measures the presence and severity of depressive symptoms. The French version (Bourque & Beaudette, 1982) shows good reliability ($\alpha = 0.92$; test-retest: $r = .62$). The 13-item abridged version was used.

The Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988) is a list of 21 anxiety symptoms corresponding to principal symptoms of Panic Disorder and Generalized Anxiety Disorder (DSM-III-R, APA, 1987). The psychometric properties of a French translation (Freeston, Ladouceur, Thibodeau, Gagnon & Rhéaume, 1993) demonstrate good reliability (test-retest: $r = .63$; $\alpha = .85$) and good convergent, discriminant and factorial validity.

The Padua Inventory (PI; Sanavio, 1988) is a 60-item measure of obsessive and compulsive symptoms. Four factors have been identified and replicated in Italy, Holland, the United States and Quebec: Mental Control, Contamination, Verification and Impulse Control. The psychometric properties of the French version are excellent (Freeston et al., 1991).

The Inventory of Beliefs Related to Obsessions (IBRO; Freeston, Ladouceur, Gagnon, & Thibodeau, 1993) indicates perceptions of cognitive intrusions in terms of three themes (a) responsibility, (b) overestimation of threat and consequences of thoughts, and (c) intolerance to uncertainty. The instrument shows good reliability ($\alpha = .82$; test-retest after 4 weeks, $r = .70$; Freeston et al., 1993).

The Cognitive Intrusive Questionnaire (CIQ; Freeston, Ladouceur, Letarte, Gagnon, & Thibodeau, 1991) evaluates six cognitive intrusions common to both normal and obsessional populations and strategies used to cope with the intrusions. The questionnaire shows good internal consistency, ($\alpha = .77$) and good stability (test-retest), $r = .77$ (Freeston et al., 1991). This questionnaire also permits the detection of strategies used by subjects to cope with intrusions.

The Compulsive Activity Checklist (CAC; Marks, Hallam, Connolly, & Philpott, 1977) assesses interference caused by obsessive-compulsive behavior. A French version shows good internal consistency ($\alpha = .79$) and good stability (test-retest: $r = .68$) (Freeston, Ladouceur, Gagnon, & Thibodeau, 1993). The short 19-item version is a French translation by Cottraux, Bouvard, Defayolle, & Messy (1988).

The Obsessive Thoughts Checklist (OTC; Bouvard, Mollard, Cottraux, & Guerin, 1989) consists of 29 items evaluating the presence of obsessional thoughts and the degree of disturbance caused by these thoughts.

The Belief Scale (BS; Malouff, & Schutte, 1986). This scale measures irrational beliefs. During development, the scale's authors addressed criticisms of irrational belief measures concerning discriminant validity (Smith, & Allred, 1986) by excluding items that referred to emotional reactions rather than beliefs. The French version demonstrates good reliability (Freeston, Ladouceur, Thibodeau, & Gagnon, 1991).

The Penn State Worry Questionnaire (PSWQ; Meyer, Miller, Metzger, & Borkovec, 1990) (translation: Ladouceur, Freeston, Dumont, Letarte, & Rhéaume, 1993). This inventory measures the worry construct that is central to Generalized Anxiety Disorder. The PSWQ items are not content-specific and reflect a single general factor. The PSWQ has good internal consistency and reliability and convergent and discriminant validity has been shown in both student and clinical samples (Brown et al., 1991; Ladouceur et al., 1993; Meyer et al., 1990).

The White Bear Suppression Inventory (WBSI; Wegner & Zanakos, 1992). This inventory measures individual differences in the tendency to suppress unwanted thoughts. Good temporal stability varying between 0.69 and 0.92 indicated that self-reports of thought suppression fulfill an important criterion for recognition as a trait. The French translation has good internal consistency ($\alpha = .87$) and other psychometric properties are currently under study (Letarte, Freeston, Dugas, Rhéaume, & Ladouceur, 1992).

Results

Gender differences

T-tests were conducted on the questionnaire scores comparing men and women. The mean scores are presented in Table 1. No differences were found for anxious and depressive symptoms, compulsive behavior, obsessive-compulsive symptoms, thought suppression, cognitive intrusions, and irrational beliefs. Near significant differences were obtained for obsessional thought and beliefs related to obsessions. These results indicate that there were no differences between men and women for the different measures of psychopathology and related constructs.

 Insert Table 1 about here

Test-Retest Reliability

Responsibility scores were calculated by adding the responsibility ratings for the 14 situations. Mean responsibility scores for the first and second administrations were 65.52 ($SD = 14.57$) and 60.04 ($SD = 16.19$) respectively. The correlation between the two administrations was .59, $p < .001$. A paired sample t-test indicated that there was no significant difference between the two tests. These results support the reliability of the instrument and suggest that the RQ would be a state measure of responsibility.

Construct validity

In order to study how the different dimensions (severity, probability, influence, pivotal influence, relevance) were related to responsibility, total scores for each dimension were calculated by summing the ratings of each item for the 14 situations, the same as for the responsibility ratings. The total scores were correlated with the responsibility total score. All item scales were highly correlated with responsibility. Very high correlations were obtained for pivotal influence, $r = .89$, $p < .0001$ and for influence, $r = .83$, $p < .0001$. Severity, $r = .62$, $p < .0001$, relevance, $r = .61$, $p < .0001$ and probability, $r = .59$, $p < .0001$ were correlated with responsibility ratings in the high-moderate range.

Concurrent validity

Concurrent validity was studied by correlating the responsibility score with other theoretically-relevant constructs. The responsibility total score was calculated by summing the responsibility ratings for the 14 situations. Zero-order correlations showed that responsibility was most strongly correlated with obsessive-compulsive symptoms ($r = .58$, $p < .001$) and was in the high-moderate range whereas more moderate correlations were found for thought suppression ($r = .44$, $p < .0001$), irrational beliefs ($r = .44$, $p < .0001$) and obsessional thoughts ($r = .35$, $p < .001$). Weak correlations were found between responsibility and anxiety ($r = .27$, $p < .0001$) and depression symptoms ($r = .33$, $p < .0001$) and cognitive intrusions ($r = .28$, $p < .001$). Non significant correlations were found for beliefs about obsessions and compulsive activities. The high correlations

obtained with the PI measuring OCD symptoms may have been partly explained by confounded situations between the RQ and the Padua Inventory. In order to control for the confounded situations, 18 items in the Padua Inventory that were similar to situations presented in the RQ (e.g., verification of unlocked doors or having dirty hands) were eliminated from the total score. The correlation between responsibility and obsessive-compulsive symptoms remained in the high-moderate range, $r = .56$, $p < .01$. (see table 2)

Insert Table 2 about here

Factor analysis

A principal factor analysis followed by an oblique rotation (promax) was conducted on the intercorrelation matrix for the 84 items of the RQ. The Kaiser Measure of Sampling Adequacy was 0.88, indicating that factor analysis was appropriate. Six factors were retained based on Cattell's scree test (Cattell, 1966), explaining respectively, 32%, 9%, 6%, 6%, 5% and 5% of the variance (see Table 3). Eigenvalues were 18.59, 5.21, 3.35, 3.18, 2.85 and 2.65. The first factor, Checking and Errors, contained 18 items that were judgments about the four situations concerning verification and errors. There were 6 items from the two checking situations, 8 items from the two situations about making errors, and 4 items of the first magical thought situation were more weakly loaded. In the same way, the second factor, Loss of Social Control, contained 17 items about losing control in social situations. The third factor, Somatic Concerns, contained 13 items of a somatic nature. The fourth factor contained 18 items and was named Uncomfortable Internal States and the fifth factor, Contamination, contained 14 items. The sixth factor, Loss of Motor Control, contained 10 items of which the highest loadings were for swerving and causing a head-on collision.

Nine hyperplane items did not load above .30 on any of the six factors: four were severity ratings, three were for probability and two were

for relevance. There were eighteen complex items that loaded on a second factor but no items loaded on more than two factors. Examination of Table 3 allows the observation that the highest loadings found for all situations were for the influence (item 3), pivotal influence (item 4), and responsibility (item 5).

Insert Table 3 about here

Note that the two loss of control situation items were loaded on different factors. The first situation, saying unpleasant things, was loaded on Loss of Social Control with sexual situations whereas the other situation referring to a physical loss of control (deliberately causing a head on collision) loaded on the sixth factor. Although both the second and sixth factor correspond to highly egodystonic themes, they differed as a function of the social versus physical nature of the situations. Likewise, items of one magical thinking situation also loaded on the Somatic Concerns factor. When a solution with more than six factors were interpreted, the factors were less clearly identifiable. For example, the seven factor solution contained a factor made up of probability and relevance ratings from several situations.

A second order factor analysis was conducted on the six factor scores to explore the relationship between the first order factors identified above. The Kaiser Measure of Sampling Adequacy was 0.77, indicating that second order factor analysis was appropriate. One factor was retained based on Cattell's scree test (Cattell, 1966): the eigenvalues for the first and second factors were 1.70 and 0.15 respectively. The first factor explained 38 % of the variance. All six factors had loadings greater than 0.45 on the first factor (see Table 4), supporting a unidimensional structure.

Insert Table 4 about here

Total responsibility scores

In order to explore the options for calculating total responsibility scores, two different total scores were calculated. The first was the sum of the 14 ratings of responsibility and the second, was the sum of influence, pivotal influence and responsibility ratings for the 14 situations. The consistency coefficients were .81 for the 14-item one dimension score and .93 for the 42-item three dimension score. The correlation between the one dimension total score and the three dimension total score was very high, $r = .96$, $p < .0001$. Correlations between the alternative total scores and the other measures were calculated. Results indicated that the one and three dimension total scores showed an almost identical pattern of correlations with the other questionnaire measures; no significant differences were observed.

Discussion

The objective of this study was to demonstrate reliability, construct and concurrent validity, and to explore the factor structure of the Responsibility Questionnaire. It also examined the question of calculating the most representative responsibility total score. Each of these points will be addressed in turn before considering the implications of this study.

First, the non significant difference between the two administrations, and a moderate correlation between the two administrations give preliminary support for the instrument's reliability and suggest that RQ would be a state measure of responsibility. However the accuracy of the reliability estimate is limited by the small sample and should be replicated.

Second, correlations between the responsibility total score and each of the other RQ dimensions were all moderate to strong, thus supporting the questionnaire's construct validity. In particular, very high correlations were obtained for pivotal influence and for influence, whereas severity, probability and relevance were moderately correlated with responsibility

ratings. These results replicated correlations observed for personally relevant situations selected on the basis of relevance ratings (Rhéaume et al., 1993). That is, the pivotal power to provoke or prevent negative outcomes is the best correlate of responsibility as measured by the influence and pivotal influence ratings. However, severity and probability total scores were quite strongly related to responsibility across all situations, whereas they were only weakly to moderately correlated to responsibility when only very relevant situations were considered. Thus, when the all situations are summed in the calculation of dimension scores, including the less relevant situations, the distinction between the subjectively crucial negative aspect and the pivotal power aspect of the definition seems to be less clear compared to analysis of highly relevant situations only as used in the previous study. When all situations are considered, it seems that severity and probability ratings as well as relevancy ratings are also part of a more broadly defined responsibility construct.

Correlations between responsibility ratings of the 14 situations and other instruments showed that responsibility was moderately related to obsessive-compulsive symptoms, thought suppression, irrational beliefs and obsessional thoughts. Responsibility was weakly related to anxious and depressive symptoms and cognitive intrusions. These findings support recent models of obsession (Salkovskis, 1985; Rachman, 1993; Ladouceur et al., 1993) in that responsibility was most strongly correlated with core OCD symptoms, and, to a lesser degree, with symptoms of more general psychopathology. Thus, these results argue strongly in support of the instrument's convergent validity.

Moderate correlations between responsibility and thought suppression suggest that there would be a link between responsibility, thought suppression and typical OC situations. These results are particularly interesting because they reflect current research on the effect of appraisal on thought suppression in (e.g., Letarte, Ladouceur, Freeston, & Rhéaume, 1993). Moreover, it gives an additional support to previous findings by Freeston, Ladouceur, Thibodeau and Gagnon (1992) who found a link between a responsibility appraisal of intrusive thoughts escape/avoidance

strategies and compulsive activity scores and in a non-clinical sample. The stronger correlation obtained with the Padua Inventory could have been partly explained by overlapping situations common to both the RQ and the Padua Inventory but once 18 common situations were eliminated from the Padua Inventory total score, the correlation with responsibility hardly changed. This result confirms that responsibility, as measured by the RQ, is moderately associated with obsessive-compulsive symptoms. This result is very important for theoretical models (e.g., Salkovskis, 1985, 1989; Rachman, 1993; Ladouceur et al., 1993) that give a central role to responsibility schema in the development and maintenance of OCD.

The non significant correlation between responsibility and beliefs about obsessions was quite unexpected. Even when only the six responsibility items of the IBRO were retained for analysis, the correlation remained non significant. It seems that responsibility as measured by the IBRO (Freeston et al., 1993) does not refer to the same construct as the RQ. Cognitive theory may provide an answer. Ingram and Kendall (1986) have described different levels of cognition, which include cognitive structure, cognitive propositions, cognitive operations, and cognitive products. Structure is seen as the associations and linkages among internally stored information (which constitute cognitive propositions or content). Together, these two components are usually defined as schemas. Operations in the most general sense, are viewed as the processes that encode and manipulate incoming information and access and retrieve previously stored information. Products are conceptualized as the cognitions, thoughts, decisions, and images that result from the interaction of incoming information with internal structures and propositions. Schemas are fundamental cognitive structures that would operate by selectively organizing the on-going experience of each person into subjectively meaningful patterns, derived from their past experience (Pace, 1988). Thus, the vignettes used in the RQ would provide the subjects with a point of reference. Relevant situations would facilitate entry to deeper processing by giving situational or behavioral references. The RQ's target situations may be powerful enough to activate the cognitive schema and make responsibility schema accessible to the subject.

On the other hand, recent evidence suggests that belief scale endorsement is mood dependent (Freeston et al., 1993a; Madigan & Bollenbach, 1986). Likewise, in their study, Freeston and his colleagues (1992) found that changes in endorsement of IBRO items were strongly correlated with changes in mood state among obsessional patients. This is consistent with Bower's (1981) and Teasdale's (1983) findings that the accessibility of cognitions is mood-dependent. Thus, in a non-clinical population responsibility beliefs would not be expected to be chronically accessible, especially in the abstract impersonal form of the statements used in the IBRO. Further, in the absence of disturbed mood, the IBRO may not be able to access responsibility schema as easily as the RQ with its more concrete reference points.

A surprising result was that responsibility was not related to interference caused by compulsive activities. Examination of the distribution of the scores obtained with the CAC showed that range of scores was restricted. The result may be explained by the restricted range which could weaken the correlation (Howell, 1992). The restricted range is probably due to the fact that the version of the CAC used in the present study is highly specific to clinical OCD rather wider phobic avoidance or more frequently reported sub-clinical obsessive-compulsive behavior (Cottraux, Bouvard, Defayolle, & Messy, 1988).

Factor analysis identified a six factor structure for the RQ where the factors emerged as a function of the target situations rather than as a function of the dimensions of responsibility. The factors were Checking and Errors, Social Loss of Control, Somatic Concerns, Uncomfortable Internal States, Contamination, Loss of Motor Control. Although 18 hyperplane items were found, all influence, pivotal influence, and responsibility items were loaded on a factor. The first factor corresponded to checking and fear of making errors, obsessional concerns that are well-established subtypes of OCD (Insel, 1984; Rachman & Hodgson, 1980; Rachman, 1976; Khanna, Kaliaperumal, & Channabasavanna, 1990; Khanna & Channabasavanna, 1988). These two themes are highly related in clinical populations. It is

interesting that checking was the first factor to emerge because responsibility is at its most obvious among compulsive checkers (Rachman, 1993). However, the responsibility items were loaded above .50 on all factors, suggesting that responsibility is present across all subtypes of OC target situations identified in the factor analysis. Moreover, the highest loadings for all situations were for influence, pivotal influence and responsibility. This suggests that the pivotal power and responsibility ratings are more strongly related across the different situations that make up a factor than the severity and probability ratings. This result gives an additional support for the construct validity of the instrument.

As noted above, the two situations referring to loss of control were loaded Social Loss of Control and Loss of Motor Control. Likewise, the two sexual situations were also separated. The first, referring to an internal event (having an unacceptable sexual thought), was loaded on the fourth factor, Uncomfortable Internal Sensations, together with one example of magical thinking (having a bad feeling). On the other hand, the second sexual situation had social implications (afraid of making an inappropriate sexual gesture) and was loaded on Social Loss of Control together with one example of aggressive situation (fear of saying something inappropriate). Although the loss of control and sexual themes both seem to reflect egodystonic obsessional preoccupations described by Clark (1992), the division between the factors seen here is a function of the social versus internal nature of the target situations. Finally, the second order factor analysis suggests one underlying factor, which given that the first-order factors are characterized by high responsibility and influence loadings, suggesting that the underlying construct is responsibility.

The next question of interest is the most representative way to calculate a total score representing the construct of responsibility. This question is quite complex because of the number of considerations. The first question concerns the need to use all vignettes or only situations evaluated as relevant by the subject. The postulate is that if the subject cannot relate to the situation, it seems unlikely that the schema will be activated (Ingram, 1984). However, the strong internal consistency reported here for the 14

responsibility ratings suggests that responsibility ratings are quite stable across situations, that is, subjects have the tendency to make similar ratings of responsibility across the 14 situations. This result would support the use of all situations in calculating the total score without eliminating the less relevant situations.

A second question concerns the number of situations to retain. Since the task is quite long, another possibility is to shorten the task by reducing the number of situations by half, keeping one situation for each of the seven obsessive-compulsive themes. The factor analyses do not support this solution, because two situations representing the same theme may load on different factors and conversely, some vignettes representing two different themes may load on the same factor. In fact, the factor structure reflects not only obsessional content but also the focus of the concerns (social vs internal). Thus, it would not be possible to eliminate a vignette without removing potentially important OC themes. Further, results obtained in the previous study suggest that all situations are highly relevant for separate subgroups of subjects. This question should be evaluated in a large clinical sample with obsessives presenting different OC preoccupations.

A third question concerns which items should be kept for the total responsibility score. First, a partial answer was provided in the earlier study (Rhéaume et al., 1993), in which regression analyses showed that influence and pivotal influence were the best predictors of responsibility ratings. Moreover, within-subject analyses have also demonstrated significant differences between high and low responsibility situations for influence and pivotal influence, while severity and probability did not differ. In the present study, correlations between total scores for each dimension with responsibility ratings showed very high correlations for the two pivotal power dimensions whereas moderately high correlations were obtained for severity and probability. These results suggest that responsibility and the two influence dimensions are strongly related, whether for selected personally relevant situations, or for ratings summed across all target situations.

There are empirical ways to answer the question. As Salkovskis has mentioned (1985), some OC patients do not show inflated responsibility, and as described above, some patients are not aware that their behavior reflects exaggerated responsibility. It may be expected that patients without observable exaggerated responsibility would not provide high ratings of influence, pivotal influence and responsibility. If, however, these patients provide high ratings on the pivotal power dimensions but not on the responsibility question, it would support the need to use the three items with the clinical OCD population. It is possible that judgments about influence are easier to make than judgments about responsibility as such and help subjects evaluate responsibility. If so, even if there is statistical redundancy, it may be important to keep the pivotal power dimensions if they help the subject make responsibility ratings.

The present study has provided initial evidence of reliability and construct and convergent validity. The semi-idiographic questionnaire resulted in responsibility ratings that were significantly correlated with obsessive-compulsive symptoms, thought suppression, irrational beliefs and obsessional thoughts. As well as supporting the validity of the Responsibility Questionnaire, these results are coherent with current models of OCD (Salkovskis, 1985; Rachman, 1993; Ladouceur et al., 1993) and provide additional empirical support to the proposed connection between responsibility and the development and maintenance of obsessive-compulsive behavior.

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Author notes

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Table 1
Questionnaire means and standard deviations for women and men.

| Item | Women | | | Men | | |
|------------------------|----------|----------|-----------|----------|----------|-----------|
| | <u>N</u> | <u>M</u> | <u>SD</u> | <u>N</u> | <u>M</u> | <u>SD</u> |
| Anxiety and depression | | | | | | |
| BAI | 136 | 10.05 | 7.13 | 121 | 8.88 | 8.16 |
| BDI-short | 136 | 4.44 | 3.86 | 119 | 3.88 | 4.16 |
| OCD variables | | | | | | |
| PI | 17 | 38.65 | 23.12 | 13 | 34.46 | 17.83 |
| CAC | 42 | 2.06 | 3.60 | 63 | 3.09 | 4.07 |
| OTC | 43 | 27.74 | 12.64 | 65 | 22.61 | 13.91 |
| Cognitive variables | | | | | | |
| CIQ | 76 | 77.80 | 19.55 | 63 | 71.65 | 17.30 |
| IBRO | 42 | 68.06 | 10.34 | 62 | 63.96 | 11.30 |
| WBSI | 60 | 48.66 | 11.44 | 53 | 49.60 | 9.49 |
| BS | 59 | 60.05 | 10.70 | 53 | 61.47 | 10.33 |

Table 2
Zero-order correlations between responsibility ratings and other questionnaires

| Instruments | <u>N</u> | Resp. total score |
|--|----------|-------------------|
| Beck Anxiety Inventory | 257 | .27*** |
| Beck Depression Inventory (short) | 256 | .44*** |
| Padua Inventory | 30 | .56** |
| Compulsive Activity Checklist | 106 | .18 |
| Obsessional Thought Checklist | 109 | .35** |
| Cognitive Intrusive Questionnaire | 139 | .28** |
| Inventory of Beliefs related to obsessions | 105 | .16 |
| White Bear Suppression Inventory | 114 | .44*** |
| Belief Scale | 113 | .44*** |

** $p < .001$

*** $p < .0001$

Table 3
First order factor analysis of the intercorrelation matrix for th RQ items

| Items | M | SD | r ¹ | Factors | | | | | |
|---|------|------|----------------|---------|----|----|-----|-----|-----|
| | | | | F1 | F2 | F3 | F4 | F5 | F6 |
| Not sure if the stove is turned off | | | | | | | | | |
| Sev. | 5.85 | 2.05 | .36 | | | | | | |
| Prob. | 4.57 | 1.76 | .31 | | | | | | |
| Inf. | 6.07 | 2.24 | .33 | .58 | | | | | |
| Piv. inf. | 6.63 | 1.99 | .28 | .59 | | | | | |
| Resp. | 6.97 | 1.73 | .44 | .60 | | | | | |
| Rel. | 4.34 | 2.35 | .47 | | | | | .30 | |
| Transmitting a cold by sharing a glass | | | | | | | | | |
| Sev. | 2.83 | 1.51 | .33 | | | | | .56 | |
| Prob. | 3.71 | 1.63 | .33 | | | | | .48 | |
| Inf. | 3.65 | 1.95 | .40 | | | | .36 | .57 | |
| Piv. inf. | 3.62 | 1.84 | .28 | | | | .33 | .63 | |
| Resp. | 3.21 | 1.71 | .31 | | | | .37 | .56 | |
| Rel. | 3.01 | 1.95 | .42 | | | | | .61 | |
| Thinking about a lovedone and an accident | | | | | | | | | |
| Sev. | 3.98 | 2.76 | .25 | | | | | | .34 |
| Prob. | 2.49 | 1.68 | .26 | .31 | | | | | |
| Inf. | 1.94 | 1.62 | .28 | .38 | | | .39 | | |
| Piv. inf. | 1.78 | 1.52 | .28 | .36 | | | .41 | | |
| Resp. | 1.91 | 1.64 | .36 | .33 | | | .45 | | |
| Rel. | 2.88 | 2.24 | .37 | | | | | | |

Table 3 (continued)

| Items | M | SD | r^1 | Factors | | | | | |
|---|------|------|-------|---------|----|-----|----|-----|-----|
| | | | | F1 | F2 | F3 | F4 | F5 | F6 |
| Doubt about finished work | | | | | | | | | |
| Sev. | 4.41 | 1.65 | .50 | | | | | | |
| Prob. | 4.89 | 1.69 | .49 | .31 | | | | | |
| Inf. | 5.58 | 2.29 | .49 | .69 | | | | | |
| Piv. inf. | 6.52 | 2.05 | .49 | .77 | | | | | |
| Resp. | 6.43 | 2.03 | .48 | .74 | | | | | |
| Rel. | 5.41 | 2.15 | .53 | | | | | | |
| Persistent pain-imagine serious illness | | | | | | | | | |
| Sev. | 5.16 | 2.05 | .43 | | | | | | .34 |
| Prob. | 3.99 | 1.66 | .46 | | | .40 | | | |
| Inf. | 3.46 | 2.05 | .42 | | | .74 | | | |
| Piv. inf. | 3.85 | 2.16 | .45 | | | .77 | | | |
| Resp. | 3.66 | 2.09 | .44 | | | .76 | | | |
| Rel. | 3.83 | 2.24 | .50 | | | .46 | | | |
| Touching dirty products | | | | | | | | | |
| Sev. | 3.02 | 1.87 | .41 | | | | | .45 | |
| Prob. | 3.36 | 2.02 | .30 | | | | | .45 | |
| Inf. | 4.07 | 2.34 | .45 | | | | | .63 | |
| Piv. inf. | 4.39 | 2.38 | .44 | | | | | .56 | |
| Resp. | 4.39 | 2.28 | .51 | | | | | .57 | |
| Rel. | 2.84 | 2.00 | .46 | | | | | .61 | |

Table 3 (continued)

| Items | M | SD | r ¹ | Factors | | | | | |
|---|------|------|----------------|---------|-----|----|----|-----|-----|
| | | | | F1 | F2 | F3 | F4 | F5 | F6 |
| Mailing a letter | | | | | | | | | |
| Sev. | 3.89 | 1.80 | .45 | | | | | | |
| Prob. | 4.03 | 1.95 | .49 | | | | | | |
| Inf. | 5.26 | 2.30 | .56 | .58 | | | | | |
| Piv. inf. | 6.12 | 2.23 | .55 | .67 | | | | | |
| Resp. | 5.88 | 2.20 | .54 | .60 | | | | | |
| Rel. | 3.63 | 2.17 | .49 | | .34 | | | | |
| Cause a head on collision | | | | | | | | | |
| Sev. | 6.37 | 2.63 | .41 | | | | | | .66 |
| Prob. | 4.53 | 2.63 | .36 | | | | | | .66 |
| Inf. | 5.01 | 2.64 | .45 | | | | | | .77 |
| Piv. inf. | 5.32 | 2.53 | .49 | | | | | | .70 |
| Resp. | 5.71 | 5.57 | .49 | | | | | | .71 |
| Rel. | 3.72 | 2.48 | .44 | | .38 | | | | .45 |
| Thinking you have forgotten to lock the door | | | | | | | | | |
| Sev. | 4.97 | 2.23 | .49 | | .33 | | | | .33 |
| Prob. | 3.88 | 1.79 | .41 | | | | | | .32 |
| Inf. | 5.49 | 2.37 | .56 | .50 | | | | | |
| Piv. inf. | 6.02 | 2.23 | .52 | .52 | | | | | |
| Resp. | 6.20 | 2.24 | .50 | .45 | .34 | | | | |
| Rel. | 4.52 | 2.30 | .56 | | .43 | | | .31 | |

Table 3 (continued)

| Items | M | SD | r^1 | Factors | | | | | |
|--|------|------|-------|---------|----|-----|-----|----|----|
| | | | | F1 | F2 | F3 | F4 | F5 | F6 |
| Inacceptable sexual thought | | | | | | | | | |
| Sev. | 2.95 | 2.29 | .40 | | | | .53 | | |
| Prob. | 2.78 | 2.00 | .39 | | | | .51 | | |
| Inf. | 3.85 | 2.38 | .56 | | | | .63 | | |
| Piv. inf. | 4.16 | 2.33 | .49 | | | | .68 | | |
| Resp. | 4.14 | 2.44 | .50 | | | | .67 | | |
| Rel. | 3.23 | 2.28 | .48 | | | | .31 | | |
| A bad feeling about upcoming news | | | | | | | | | |
| Sev. | 4.24 | 1.89 | .55 | | | | | | |
| Prob. | 3.97 | 1.69 | .50 | | | | | | |
| Inf. | 3.26 | 2.04 | .50 | | | .36 | .38 | | |
| Piv. inf. | 3.42 | 2.05 | .46 | | | .32 | .42 | | |
| Resp. | 3.45 | 2.02 | .49 | | | .36 | .41 | | |
| Rel. | 3.97 | 2.14 | .52 | .35 | | | | | |
| Afraid of being too intimate | | | | | | | | | |
| Sev. | 4.18 | 1.99 | .47 | .35 | | | | | |
| Prob. | 3.73 | 1.70 | .49 | .43 | | | | | |
| Inf. | 4.65 | 1.91 | .55 | .30 | | | .37 | | |
| Piv. inf. | 4.65 | 1.83 | .54 | | | | .42 | | |
| Resp. | 4.75 | 1.90 | .57 | .31 | | | .38 | | |
| Rel. | 3.90 | 2.18 | .52 | .41 | | | | | |

Table 3 (continued)

| Items | M | SD | r ¹ | Factors | | | | | |
|---|------|------|----------------|---------|-----|-----|----|----|----|
| | | | | F1 | F2 | F3 | F4 | F5 | F6 |
| Fear of saying something inappropriate | | | | | | | | | |
| Sev. | 5.02 | 1.80 | .47 | | .68 | | | | |
| Prob. | 4.77 | 1.75 | .49 | | .70 | | | | |
| Inf. | 5.43 | 2.00 | .53 | | .75 | | | | |
| Piv. inf. | 5.58 | 2.00 | .47 | | .78 | | | | |
| Resp. | 5.60 | 2.05 | .49 | | .77 | | | | |
| Rel. | 4.58 | 2.26 | .47 | | .66 | | | | |
| Thinking persistent numbness maybe serious | | | | | | | | | |
| Sev. | 5.27 | 2.03 | .44 | | .37 | | | | |
| Prob. | 3.98 | 1.65 | .45 | | .30 | .35 | | | |
| Inf. | 3.17 | 1.89 | .43 | | | .76 | | | |
| Piv. inf. | 3.46 | 2.03 | .40 | | | .87 | | | |
| Resp. | 3.32 | 1.99 | .40 | | | .82 | | | |
| Rel. | 3.35 | 2.18 | .48 | | | .42 | | | |

1. Corrected item-total correlations.

Table 4

Second order factor analysis on the RQ first order factor scores

| First Order Factor | Factor 1 |
|-------------------------------|----------|
| Checking and Errors | .46 |
| Social Loss of Control | .64 |
| Somatic Concerns | .56 |
| Uncomfortable Internal States | .45 |
| Contamination | .51 |
| Loss of Motor Control. | .55 |

Note. N = 347

1. Factor 1 has an Eigen value of 1.70.

General Conclusion

Both these studies have given empirical support for the presence of excessive responsibility in OCD. Study one provides initial empirical support for Salkovskis et al.'s definition of responsibility in OCD (personal communication, June 1992). First, it suggests that the belief or feeling of pivotal power to provoke or prevent the negative outcomes is the best predictor of perceived responsibility in the target situations. Otherwise, the subjectively crucial aspects of the outcomes are less central to responsibility and could be more related to a general threat schema. These findings have important implications for both future research and clinical treatments of OCD.

Several directions are opened up by these findings. The next steps in the cognitive study of OCD would be to explore the relative role of responsibility schema in thought appraisal, the interaction between responsibility schema and neutralization, a question as yet unanswered (Salkovskis, 1985; Rachman, 1989; Freeston et al., 1992), and the effect of mood on responsibility.

In a clinical context, these findings first emphasize the importance of responsibility as a cognitive component in OCD, giving support for the cognitive model of OCD proposed by Salkovskis (1985). Thus, an effort has been made to break down responsibility in its major components. Findings show that responsibility is mostly composed of the belief in pivotal power over the outcome. These findings highlight the importance of cognitive correction of power issues as a way of modifying responsibility schema, independently of severity and probability associated with the outcome. Future research comparing OCD and normal subjects is needed to replicate the present findings and to confirm the presence of responsibility schema among OC patients.

Study two aimed at demonstrating for the first time, reliability and validity of the RQ and to explore the factorial structure of the instrument. First, it showed relatively good reliability of the construct over time with a small sample. Second, it gave initial evidence of validity of the RQ, suggesting that responsibility is related to OC symptoms, thought suppression, irrational beliefs and obsessional thoughts. Responsibility was weakly related to anxious and depressive symptoms and cognitive intrusions. These findings are coherent with recent models of obsession (Salkovskis, 1985; Rachman, 1993). They suggest that responsibility is not only related to general psychopathology but to more specific constructs. Factor analysis identified a six factor structure for the RQ as a function of the target situations rather than the dimensions of responsibility. This structure is plausible when considering that the situations are the reference points for the 6 items that are repeated for each situation and measure the theoretically relevant dimensions.

Finally, the best way to calculate responsibility total score was discussed. First, the use of all situations in calculating the total score found more support than eliminating the less relevant situations. Next, factor analysis did not support keeping only one situation by theme, because it would not be possible to eliminate a vignette without removing potentially important OC themes. A third question concerned which items should be kept for the total score of responsibility. When one and three dimension versions of a responsibility total score were compared, influence and pivotal influence ratings did not add much to the total responsibility score, suggesting that the two dimensions would measure much same construct as responsibility, and add little new information. Despite the lack of empirical support for keeping the influence and pivotal influence in the total score, prudence should be exercised before eliminating these items. Thus, it is possible, that the responsibility ratings depend on prior ratings of the other dimensions.

These two studies are particularly stimulating for future cognitive research on OCD. This method highlighted the importance of a semi-idiographic design in the measurement of cognitive schemas. It seems to be

a very useful paradigm because it bypasses limitations of inferential as well as endorsement techniques. Thus, this type of technique allows the evaluation of complex cognitive material in its context of occurrence, even when schema is not preactivated. Previous studies attempting to identify responsibility failed because of methodological problems. The RQ seems to solve the lack of power of these techniques, giving concrete reference points for the subjects. These two studies underline the need for further research on responsibility and its role to OCD.

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