Pubblicato su Journal of Anxiety Disorder vol 16 (4), pp 401-412 (2002)

Obsessions and Compulsions and Intolerance for Uncertainty in a non-clinical sample.

Francesco Mancini, Francesca D'Olimpio, Marisa Del Genio, Fabrizio Didonna, Elena Prunetti.

Scuola di Specializzazione in Psicoterapia Cognitiva. Associazione di Psicologia Cognitiva.
Via Marcantonio Colonna, 60 –00192 Roma – Italia

Running title: OCD and intolerance for uncertainty

Key words: Intolerance for uncertainty, Padua Inventory, Need for Closure Scale, Trait anxiety, State anxiety, Depression.

Corresponding author:
Francesco Mancini, MD
C/o Scuola di Specializzazione in Psicoterapia Cognitiva e Comportamentale. Associazione di Psicologia Cognitiva.
Via Marcantonio Colonna, 60
I-00192 Roma – Italia
Tel. +39 06 3216801
Fax +39 06 3222743
E-mail: Mancini@apc.it

Abstract

It has been hypothesized that decision-making difficulties in patients with obsessive-compulsive disorder may arise from intolerance for uncertainty. We investigated the relationship between obsessivity and intolerance for uncertainty (defined in terms of need for cognitive closure), controlling for state and trait anxiety and depression. We tested non-clinical subjects through the Need for Closure Scale (NFCS), the Padua Inventory Revised (PI-R), the Beck Depression Inventory (BDI) and the State Trait Anxiety Inventory (Form-Y; STAI-Y). A principal component analysis showed a lack of correlation between the PI-R and the NFCS subscales. A set of multiple regression analyses performed on PI-R subscales showed that the need for cognitive closure cannot be considered as a strong predictor of obsessions and compulsions. These results speak against the hypothesis that people with high obsessivity have difficulties in taking decisions because of a cognitive need for certainty. We instead argue that difficulties in taking decisions may be related to other specific cognitive beliefs or meta-beliefs.

Introduction

Intolerance for uncertainty and indecision have been considered central cognitive features of the obsessive-compulsive disorder (OCD). Patients with OCD have long been described as extremely doubtful and as having difficulties in coming to a decision (e.g. Beech & Liddell, 1974; Guidano & Liotti, 1983; Kozak, Foa & McCarthy, 1987). In addition, Beech and Liddel (1974) proposed that ritualistic behaviors are maintained not only to reduce immediate discomfort, but also to partially address the need for certainty before terminating an activity. Support comes from studies showing that OCD subjects, compared to other groups, are more cautious, take longer to categorize objects and more frequently request information to be repeated (e.g. Frost, Lahart, Dugas & Sher, 1988). People with OCD also display greater doubt about their decisions being correct (Frost & Shows, 1993).

Recently, the Obsessive Compulsive Cognitions Working Group (1997) hypothesized that decision-making difficulties may arise from beliefs about the need for certainty. Intolerance for uncertainty has long been observed in OCD patients (e.g. Carr, 1974; McFall & Wollersheim, 1979; Guidano & Liotti, 1983). Intolerance for uncertainty can be defined as a relatively broad construct representing cognitive, emotional and behavioral reactions to uncertainty in everyday life situations. Sookman et al. (Sookman & Pinard, 1995; Sookman et al., 1997) defined "intolerance for uncertainty" so as to include difficulty with ambiguity, newness, and unpredictable change. In this view, intolerance for uncertainty would be a dispositional feature of obsessive patients: they would be intolerant for uncertainty in any situation, not only in symptomatic ones, and even before decompensation. These authors (Sookman et al., 1997), reported that the Domain of Vulnerability and the Response to Unpredictability, Newness and Change (RUNC), strongly discriminated between OCD and other psychiatric patients and normal control.

Although several instruments have been developed to measure intolerance for uncertainty (Steketee et al. 1998, Sookman and Pinard, 1995), this construct is still ambiguous. It is unclear whether it has to be considered either as

an instrumental need or as an epistemic need. In fact, there could be two ways of showing intolerance for uncertainty. In the first one we could imagine that people are intolerant because they would achieve the right answer. In this sense, intolerance for uncertainty can be described as an instrumental need: who is intolerant for uncertainty in this sense, is not looking for any answer, he/her doesn't want to achieve a certainty *per se*. The certainty is only a step, a way for the achievement of an aim (for instance, to know that he/she fulfils his/her duty, or to be sure he/she did the right think). In the second sense, intolerance for uncertainty could be viewed as an epistemic motivation. People who are intolerant for uncertainty may orient their cognitive processes in order to reduce uncertainty and achieve a reliable, doubt-free knowledge, through adequate cognitive operations, independently of the amount of available information (epistemic need).

Because of the increasing number of instruments act to measure intolerance of uncertainty, and the subsequent increasing ambiguity about it, the first aim of this work was to give an operational definition of intolerance of uncertainty, in terms of an epistemic need. To do this, we used a questionnaire developed in a psychosocial area: the Need For Cognitive Closure Scale (NFCS, Webster and Kruglansky, 1994). We describe intolerance for uncertainty in terms of need for cognitive closure, the epistemic motivation underlying Kruglansky's Lay Epistemic Theory (LET: Kruglansky, 1980). Need for cognitive closure is defined in terms of a desire for "an answer on a given topic, any answer, ... compared to confusion and ambiguity" (Kruglansky, 1990). Specifically, the aim of this work was to investigate, in non-clinical subjects, the possible link between obsessive-compulsive behavior and intolerance for uncertainty, defined as a cognitive need for closure, controlling for state and trait anxiety and depression. In our opinion, if OCD were intolerant for uncertainty, they should be not in the sense of a need of any answer, they instead need, and struggle for the right one. In this way, it seems that OCD patients, looking for the right answer, could show more doubts and have difficulties in decision making relating to a specific answer to a given topic. If this is, we should have a lack of correlation between obsessive-compulsive behavior and need for cognitive closure.

Behavioral and cognitive-behavioral theories argue for a continuum between OCD patients and normals, i.e., for a dimensional basis of OCD (Rachman & De Silva, 1978; Salkovskis, 1989), and suggest that non-clinical and clinical obsessivity will differ more in degree than in kind. A number of empirical studies (Freeston et al, 1992; Clark, 1992; Purdon, 1992) have shown a significant link between unwanted intrusive thoughts and obsessivity in non-clinical subjects. Furthermore, there is some empirical evidence that OCD in non-clinical populations is similar to clinical OCD. Burns et al. (1995) found that most students with the highest score in a self-report measure of obsessional symptoms met diagnostic criteria for OCD. These results, then, support the notion of a connection between clinical and non-clinical obsessive symptoms and suggest the possibility to study obsessivity in non-clinical subjects.

Method

The sample included 144 volunteers (62 males and 82 females), aged 18 to 35 (mean = 26.4; S.D. = 4.7), recruited from three geographical areas: north Italy, central Italy and Sardinia. The 88% of the participants had completed the high school at least. Participants were recruited from normal population. No a-priori criteria of exclusion were give. Personal information about subjects were processed according to the regulations in force, after obtaining a written informed consent.

Subjects were requested to fill in the following tests in a balanced sequence:

Need For Closure Scale (NFCS)

The Need For Closure Scale (NFCS: Webster & Kruglansky, 1994) consists of 42 items. Each item is rated on a 7-point scale (1=”completelly disagree”; 7= “completely agree”). Theoretically, people with a high need for closure should desire definite order and structure in their lives and abhor unconstrained chaos and disorder. They should experience lack of closure as an aversive situation , in which their motivation is frustrated. They should experience an urgent desire to reach closure and stable knowledge. The NFCS has a 5 factor structure:

a) preference for predictability to future contexts (e.g. “I do not like to go into a situation without knowing what can I expect from it”) (alfa =.79);

b) preference for order and structure in environment (e.g. “I think that having clear rules and order at work is essential for success”) (alfa=.82);

c) affective discomfort occasioned by ambiguity (“I’d rather know bad news than stay in a state of uncertainty”) (alfa=.67);

d) decisiveness of judgements and choices (“I am usually fast and resolute in taking decisions”) (alfa=.70);

e) closed-mindedness (“I do not usually consult many different opinions before forming my own view”) (alfa=.62).

The scale is very reliable (alfa=.84) and its discriminant and convergent validity has been demonstrated with respect to related psychological constructs (Webster & Kruglansky, 1994). Specifically, it manifested low to moderate association with authoritarism, intolerance for ambiguity, dogmatism, impulsivity and fear of invalidity. We used the Italian version of the NFCS, which has been demonstrated to be equivalent to the original version (Pierro et al., 1995).

Padua Inventory-Revised version (PI-R)

The PI-R (van Oppen et al., 1995) consists of 41 items. Each item is rated on a 5-point scale according to the degree of disturbance caused by the thought or behavior (0=”not at all” to 4=”very much”) (alfa =.92).

The PI-R gives a global score, from 0 to 164, indicating the presence of obsessive-compulsive features, and 5 sub-scale scores :

a) impulses: for example, violent impulses directed against animals and objects, unaccountable urge to kill oneself and others; fear of losing control over antisocial or sexual urges. Scored between 0 and 28 (alfa =.67).

b) washing: for example, stereotyped cleaning activity, severe preoccupation with dirt, unrealistic fear of contamination, etc. Scored between 0 and 40 (alfa =.76).

c) checking: for example, checking whether doors have been closed, gas and other taps turned off; etc. over and over. Scored between 0 and 28 (alfa =.85).

d) rumination: for example, reduced capacity to remove undesirable thoughts, difficulty in making simple decisions, uncertainty concerning one's responsibility in the case of incidents, rumination over unlikely hazards, etc. Scored between 0 and 44 (alfa =.86).

e) precision: for example, feeling yourself obliged to follow a particular order in doing something, counting letters, money, numbers for no reason, etc. Scored between 0 and 24 (alfa =.58).

The PI-R appears to be more suitable for research purposes than the original Padua Inventory (60 items, Sanavio, 1988). Its factorial structure is invariant across various clinical samples (i.e. obsessive-compulsive, panic disorder and social phobic patients) and normal subjects (van Oppen et al., 1995).

State-Trait Anxiety Inventory - Form Y (STAI)

The STAI (Spielberg, Gorsuch, Lushene, Vagg & Jacobs, 1983) consists of two 20-item scales aiming at measuring state and trait anxiety. The STAI State subscale asks respondents to rate how they feel “right now... at this moment” using a 4-point scale (1 = Not at all, 4 = Very much so) in response to a series of self-descriptive statements (alfa =.93). The STAI Trait subscale asks respondents to rate how they “generally” feel using a 4-point scale (1 = Almost never, 4 = Almost always) in response to a series of self-descriptive statements (alfa =.90). Factor analytic validation of the state-trait distinction has been demonstrated, and the improved psychometric properties of the STAI over an earlier version of this inventory are well documented (Spielberg et al., 1983).

Beck Depression Inventory (BDI)

The BDI (Beck & Steer, 1987) is a 21-item questionnaire where subjects rate themselves (on a scale from 0 to 3) according to the extent to which they exhibit cognitive, affective, somatic, and vegetative symptoms of depression. The BDI has been extensively used in clinical and non-clinical samples. There is much support for its reliability and validity as a measure of dysphoria in non-clinical groups (Kendall, Hollon, Beck, Hammen & Ingram, 1987). A review of its psychometric properties showed the BDI to have strong internal consistency (alfa between .81 and .88).

Results

Table 1 reports mean scores and standard deviations in each test, for the whole sample and for males and females separately.

Table 1. Mean scores (standard deviations) in each test, for males, females and the whole group.

	Males	Females	All subjects
NFCS	174.9 (24.59)	170.8 (24.02)	172.59 (24.27)
PI-R	20.53 (10.30)	25.74 (18.01)	23.46 (15.31)
State Anxiety	35.98 (8.41)	38.71 (10.71)	37.52 (9.83)
Trait Anxiety	37.43 (8.51)	41.23 (10.34)	39.57 (9.74)
Depression	6.88 (5.41)	6.86 (5.84)	6.87 (5.64)

It can be observed that, compared to other samples (e.g., Frasure-Smith et al., 2000), Italian subjects seem to report higher BDI scores. Similar results was jet reported both in italian (e.g. Scilligo, 1988) and australian (Bhar and Kyrios, 1999) non-clinical samples.

We used a principal components analysis (PCA) with oblimin rotation to examine the relationship between the sub-scales of each test, i.e., preference for predictability, preference for order, discomfort with ambiguity, decisiveness and closed-mindedness (NFCS), impulses, washing,

checking, rumination and precision (PI-R), state and trait anxiety (STAI-Y) and depression (BDI). Six factors had eigenvalues greater than 1. The scree-test suggested a 3-factor solution, accounting for 59% of variance. Table 2 presents the correlation matrix from oblimin rotation.

Table 2. Correlation matrix between the three factors from the principal components analysis.

	Factor I	Factor II	Factor III
Factor I	1		
Factor II	.068	1	
Factor III	-.15	-.10	1

The factor correlation matrix points to an independence between the three factors. We performed a varimax rotation. Table 3 present factor loadings of the variables.

Table 3. Factors from the Principal Component Analysis and corresponding factor loadings of the sub-scales of each test (varimax rotated solution). Only loadings > 0.4 are displayed.

Test	Sub-scale	Factor I General Distress	Factor II Need For Closure	Factor III Obsessions and Compulsions
NFCS	Predictability		.88	
	Order		.67	
	Ambiguity		.67	
	Decisiveness	-.67		
	Closed-mindedness		.46	
PI-R	Impulses	.59		
	Washing			.75
	Checking			.80
	Rumination	.61		.54
	Precision			.66
STAY-Y	State anxiety	.79		
	Trait anxiety	.87		
BDI	Depression	.83		

The first factor accounted for 27% of the variance and was named “general distress”. It included not only state and trait anxiety and depression, but also decisiveness from the NFCS and impulses and rumination from the PI-R. The impulses variable loaded only on the first factor, while rumination loaded on the third one too. Decisiveness was negatively correlated with the other variables, and did not load on the second factor (“need for closure”; see below), confirming previous data from both American (Webster & Kruglansky, 1994) and Italian (Pierro et al., 1995) subjects, showing that decisiveness is not significantly correlated with the other NFCS sub-scales.

The second factor accounted for 16% of the variance and was termed “need for closure”, according to Webster and Kruglansky (1994). It included the remaining four NFCS sub-scales (preference for predictability, preference for order, discomfort with ambiguity and closed-mindedness).

The third factor accounted for 16% of the variance and was termed “obsessions and compulsions”(OC). It included four out of five PI-R sub-scales (washing, checking, rumination and precision).

To investigate the contribution of age, sex and NFCS subscales in predicting OC symptoms, a series of hierarchical multiple regression analyses were performed on PI-R total scores and on each PI-R subscale. Sex and age were entered first, followed by the NFCS subscales. Results on PI-R total scores showed that sex and age were significant, though weak predictors of OC symptoms (explaining 4% of the variance), and the NFCS subscales were moderate predictors, explaining 15% of variance overall. The

significant NFCS variables were the order scale (beta=.35, p<.05) and the decisiveness scale (beta=-.56, p<.01). In a second analysis, controlling for anxiety and depression scores, the variance explained by the NFCS was 21%, and trait anxiety (beta=.44, p<.05) and the NFCS order subscale (beta=.40, p<.05) were the only significant predictors of PI-R total scores.
The analyses separately conducted on the PI-R subscales (impulses, checking, washing, rumination and precision), showed decisiveness as a weak predictor of impulses (R^2=.09, beta=-.08, p<.001) and a moderate predictor of rumination (R^2=.34, beta=-.41, p<.0001). The order NFCS subscale revealed as a weak predictor of both checking (R^2=.07, beta= 12, p<.01) and precision (R^2=.08, beta=.07, p=.001). No significant links were established for washing (R^2=.01, NS).
These findings were pursued and extended in a set of regression analyses, where we examined the influence of the NFCS subscales on the PI-R subscales after entering (1) sex and age, (2) state and trait anxiety and depression, and (3) the NFCS subscale scores in a third step, to examine each subscale as a predictor after controlling for sex, age, anxiety and depression. These analyses showed that decisiveness was still significant in relation to rumination (R^2=.45, beta=-.22, p< .001), while it lost its part on impulses. Age (beta=-.24, p< .01) and trait anxiety (beta=.30, p< .01) were also significant predictors of ruminations. With regard to the impulses scale, after controlling for anxiety and depression, the explained variance raised to 26%. Depression (beta=.17, p< .01) and predictability (beta=-.05, p< .05) were the significant predictors of impulses. The regression equation seems to indicate that people showing low preference for predictability to future contexts and high depression scores easily generate impulses.
After controlling for anxiety and depression, the explained variance did not essentially change either for checking (R^2=.05) or precision (R^2=.07). The only one significant predictor of both checking (beta = .11, p< .05) and precision (beta=.07, p< .001) was the order NFCS scale. No significant links were established for washing (R^2=.012, NS).

Discussion

The main result of the present work is the lack of a substantial relationship between obsessivity and need for cognitive closure. The principal component analysis indicated that “need for closure” and “obsessions and compulsions” are two unrelated factors. Although a scale from NFCS (decisiveness), and the impulses and ruminations subscales from the PI-R all loaded on the same factor (general distress), it still has to be noted that these sub-scales (mostly decisiveness and impulses) are partially unrelated to specific factors measured by the NFCS and the PI-R, respectively, and that their interrelation is rather mediated by aspecific aspects such as anxiety or depression, also loading on the same factor.
As to the “impulses” subscale, van Oppen et al. (1995) observed that it was the only one failing to discriminate obsessive-compulsive patients from patients with panic disorder or social phobia; they also found that impulses and rumination showed high positive correlations with anxiety and depression, while the other PI-R sub-scales did not. These observations, together with our results, suggest that the “impulses” and “rumination”

scales are sensitive not only to obsessivity but also to general emotional factors, reflecting thoughts linked to worry about either loss of control (impulses) or doubts (ruminations). Similarly, decisiveness is not significantly correlated with the other NFCS sub-scales (Webster & Kruglansky, 1994; Pierro et al., 1995). The NFCS items which contribute to decisiveness (e.g. "when facing a problem, I usually find the best solution very quickly", "I am an irresolute person ") refer to subjects' perceived ability to take decisions quickly, rather than to their preference to do so. Differently from the other NFCS scales, decisiveness concerns the state of things rather than a need: one may be irresolute although wishing to quickly come to a decision. This result seems to corroborate results from Emmelkamp and Aardema (1999), who found that decision making did not contribute, in terms of explained variance, to the PI-R subscales scores. Regression analyses showed that decisiveness could be indeed a predictor of ruminations. This result can be fully understood by observing that some rumination scale items (for instance: "I find it difficult to take decisions, even about important matters") partially overlap some decisiveness scale items (for instance: "I find it very difficult to take a great many of decisions"). Furthermore, trait anxiety was a fairly high predictor of ruminations: higher the trait anxiety scores, higher the rumination scores. On one hand, this association could make us think that the rumination scale does not discriminate for OC symptoms; on the other hand, if we also consider the PCA results, it could suggest a specific role for trait anxiety in OCD patients showing rumination symptoms.

As a whole, the results of the present work seem to be in favor of an independence of OC symptoms from intolerance for uncertainty, at least if the latter is considered as a cognitive motivation, i.e., need for cognitive closure. The PI-R sub-scales that are most representative from the PCA (i.e. checking, washing and precision) do not show evident relationships with any NFCS sub-scale.

Sookman and Pinard (1997) and Steketee et al. (1998) found a significant link between OC symptoms and intolerance for uncertainty. We argue that intolerance for uncertainty, as measured by these authors, could be interpreted as an instrumental need, rather than a cognitive motivation. The NFCS measures the preference for a cognitive state, characterized from certainty (people with high NFCS scores "would rather have bad news than remain in a state of uncertainty"), while the RUNC measures the fear of sudden and unexpected dangerous events. Salkovkis (1985) proposed that the appraisals that lead to OC symptoms are those when one regards him/herself as being responsible for the intrusion and for its perceived dangerous consequences. Thus, the occurrence of an intrusive thought about a possible future harm is interpreted by the OCD patient as indicating that he/she is responsible for preventing the harm. Steketee et al. (1998) reported that beliefs about responsibility, control, risk estimation and uncertainty are highly correlated, indicating considerable overlap. Emmelkamp et al. (1999) instead found that inflated responsibility did not account for the variance in obsessive-compulsive behavior in most of the PI-R subscales (explaining only a small part of the variance in "precision"). These authors argued that this result could indicate, according to Wells and Matthews (1994, Wells, 1997), that responsibility appraisal is an emergent property of meta-cognitive

processing, and is a marker for dysfunctional beliefs about the danger and influences of thought, which are more central to obsessive-compulsive disorder.

Our results suggest that subjects suffering from OC symptoms may not prefer cognitive closure to uncertainty *per se*. According to Emmelkamp et al. (1999) Intolerance for uncertainty could be considered as a relevant factor in a cognitive model of obsession and compulsion, only if it is meant like an instrument subserving other specific cognitive beliefs or meta-beliefs. In this sense, patients' doubts could be the result of a prudential attitude, due to their tendency to think that there is a right answer and they have to be absolutely sure they did all in their power to gain it.

Acknowledgements

We are grateful to Gaspare Galati for his comments and his valuable help in reviewing an early version of the manuscript.

References

Beck, A. T., & Steer, R. (1987). *Beck Depression Inventory Scoring Manual. The Psychological Corporation*. New York: Harcourt Brace Janovich.

Beech, H. R., & Liddell, A. (1974). Decision-making, mood states and ritualistic behaviour among obsessional patients. In H. R. Beech (Ed), *Obsessional states* (pp. 143-160). London: Methuen.

Bhar, S. S. & Kyrios, M. (1999). Cognitive personality styles associated with depressive and obsessive compulsive phenomena in a non-clinical sample. *Behavioural and Cognitive Psychotherapy*, **27**, 329-343.

Burns, G. L., Formea, G. M., Keortge, S., & Sternberger L. (1995). The utilization of nonpatients samples in the study of obsessive compulsive disorder. *Behaviour Research and Therapy*, **33**, 133-144.

Carr, A. (1974). Compulsive neurosis: A review of the literature. *Psychological Bulletin*, **81**, 311-318.

Clark, D. A. (1992). Depressive, anxious and intrusive thoughts in psychiatric inpatients and outpatients. *Behaviour Research and Therapy*, **30**, 93-102.

Emmelkamp, P. M. G. & Aardema, A. (1999). Metacognition, Specific Obsessive-Compulsive Beliefs and Obsessive-Compulsive Behaviour. *Clinical Psychology and Psychotherapy*, **6**, 139-145.

Frasure-Smith, N., Lesperance, F., Gravel, G., Masson, A., Janeau, M., Talajic, M. & Bourassa, M. G. (2000). Depression and health-care costs during the first year following myocardial infarction. *Journal of Psychosomatic Research*, **48**, 471-478.

Freeston, M., Ladoceur, R., Thibodeau, N., & Gagnon, F. (1992). Cognitive intrusions in a non-clinical population. II. Associations with depressive, anxious, and compulsive symptoms. *Behaviour Research and Therapy*, **30**, 263-271.

Frost, R. O., & Shows, D. (1993). The nature and measurement of compulsive indecisiveness. *Behaviour Research and Therapy*, **26**, 275-277.

Frost, R. O., Lahart, C. M., Dugas, K. M., & Sher, K. J. (1988). Information processing among non-clinical compulsives. *Behaviour Research and Therapy*, **26**, 275-277.

Guidano, V. F., & Liotti, G. (1983). *Cognitive processes and emotional disorders*. New York: Guilford.

Kendall, P. C., Hollon, S. D., Beck, A. T., Hammen, C. L., & Ingram, R. E. (1987). Issues and recommendations regarding the use of the Beck Depression Inventory. *Cognitive Therapy & Research*, **11**, 289-299.

Kozak, M., Foa, E., & McCarty, P. (1987). Assessment of obsessive-compulsive disorder. In C. Last, & M. Hersen (Eds), *Handbook of anxiety disorders*. New York: Pergamon.

Kruglansky, A. W. (1980). Lay epistemologic, its process and content: Another look at attribution theory. *Psychological Review*, **87**, 70-87.

Kruglansky, A. W. (1990). Motivations for judging and knowing: Implications for causal attribution. In E. T. Higgins, & R. M. Sorrentino (Eds), *The Handbook of motivation and cognition: Foundation of social behavior*. New York: Guilford Press.

McFall, M. E., & Wollersheim, J. P. (1979). Obsessive-compulsive neurosis: A cognitive-behavioral formulation and approach to treatment. *Cognitive Therapy and Research*, **3**, 333-348.

Obsessive compulsive cognitions working group (1997). Cognitive assessment of obsessive-compulsive disorder. *Behaviour Research and Therapy*, **35**, 667-681.

Pierro, A., Mannetti, L., Converso, D, Garsia, V., Miglietta, A., Ravenna, M., & Rubini, M. (1995). Caratteristiche strutturali della versione italiana della scala di bisogno di chiusura cognitiva (di Webster e Kruglanski). *TPM*, **2**, 125-141.

Purdon, C. L. (1992). *Obsessional intrusive thoughts in normal: Are they a distinct cognitive phenomenon?* Unpublished Master's thesis, University of New Brunswick, Fredericton, New Brunswick, Canada.

Rachman, S., & de Silva, P. (1978). Abnormal and normal obsessions. *Behaviour Research and Therapy*, **16**, 233-248.

Salkovskis, P. M. (1985). Obsessional-compulsive problems: a cognitive-behavioral analysis. .*Behaviour Research and Therapy* ; **23**, 571-583

Salkovskis, P. M. (1989). Obsession and intrusive thoughts: Clinical and nonclinical aspects. In P. Emmelkamp, W. Evaerard, & M. van Son (Eds), *Anxiety disorders: Annual series of European research in behavior therapy*, Vol. 4. Amsterdam: Swets.

Sanavio, E. (1988). Obsessions and compulsions: the Padua Inventory. *Behaviour Research and Therapy*, **26**, 167-177.

Scilligo, P. F. (1988). La scala di depressione di Beck. In P. F. Scilligo (Ed.), *Scale Psicologiche 1. Stili – Coppia – Depressione – Amore – Narcisismo*. Roma: IFREP.

Sookman D., & Pinard, G. (1995). *The cognitive Schemata Scale: A multidimensional measure of cognitive schemas in obsessive compulsive disorder*. Paper presented at the World Congress of Behavioral and Cognitive Therapies, Copenhagen, Denmark.

Sookman D., & Pinard, G. (1997). *Vulnerability and response to unpredictability, Newness and*

Change in Obsessive Compulsive Disorder. Congress of European Association of Behavioral & Cognitive Therapies. Venezia (Italy).

Spielberg, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory (Form Y)*. Palo Alto, CA: Consulting Psychologists Press.

Steketee, G., Frost, R. O., & Cohen, I. (1998). Beliefs in obsessive-compulsive disorder. Journal of Anxiety Disorder; **12**, 525-537.

van Oppen P., Hoekstra R. J., & Emmelkamp M. G. (1995). The structure of obsessive - compulsive symptoms. *Behaviour Research and Therapy*, **33**, 15-23.

Webster, D. M. & Kruglansky, A. W (1994). Individual differences in Need for Cognitive Closure. *Journal of Personality and Social Psychology*, **67**, 1049-1062.

Wells, A. (1997). *Cognitive Therapy and Anxiety Disorders: a Practice Manual and Conceptual Guide*. Chichester: Wiley.

Wells, A. & Matthews, G. (1994). *Attention and Emotion: a Clinical Perspective*. Hove: Erlbaum.