

A COMPREHENSIVE MODEL FOR OBSESSIVE-COMPULSIVE DISORDER
SYMPTOMS:
A CROSS-CULTURAL INVESTIGATION OF COGNITIVE AND OTHER
VULNERABILITY FACTORS

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ABSTRACT

**A COMPREHENSIVE MODEL FOR OBSESSIVE-COMPULSIVE SYMPTOMS:
A CROSS-CULTURAL INVESTIGATION OF COGNITIVE AND OTHER
VULNERABILITY FACTORS**

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The current cognitive models of the Obsessive-Compulsive Disorder (OCD) symptoms focuses on the different cognitive factors. Like other nonspecific and noncognitive variables, these factors may also function as vulnerability factors. However, they have been mostly studied separately and majority of the findings in the literature come from the Western samples. Accordingly, the studies examining these factors together and the impact of the culture in these studies are sparse in number. The present study suggested a comprehensive cognitive model for OCD symptoms, including several distal and proximal vulnerability factors. It was aimed to adapt three instruments to examine the interrelationships among the vulnerability factors and OCD symptoms in

different cultures. Relevant ten instruments were administered to the university students from Turkey and Canada. The analyses showed that Turkish versions of three instruments had satisfactory psychometric properties for Turkish students. These analyses also revealed some cross-cultural similarities and differences in these factors and OCD symptoms. Neuroticism, age, introversion, OCD beliefs on responsibility/threat estimation, perfectionism/certainty and thought-action fusion in likelihood dimension were found to be associated with the OCD symptoms in both Turkish and Canadian samples. The relational paths between non-specific, appraisal and control factors, and OCD symptoms were also significant in both samples. However, religiousness was only significant factor in OCD symptoms and contributed to several belief and control factors toward these symptoms, only for Turkish subjects. The analyses of the religiousness differences indicated that psychological fusion in general and in morality was more related to the religiosity for Canadian Christians. Besides, Turkish students seemed to utilize worry more for OCD symptoms; whereas, Canadian participants used self-punishment. These common and unique patterns of the relationships were discussed within relevant findings about characteristics of the religion and culture.

Keywords: Obsessive-Compulsive Disorder, Vulnerability Factors, Cognitions, Cognitive Model, Culture, Religiosity.

ÖZ

OBSESSİF-KOMPULSİF BOZUKLUK SEMPTOMLARI İÇİN KAPSAMLI BİR

MODEL:

BİLİŞSEL VE DİĞER YATKINLIK FAKTÖRLERİNİN

KÜLTÜRLERARASI İNCELENMESİ

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Obsessif-Kompulsif Bozukluk (OKB) semptomlarına ilişkin son dönem bilişsel modeller, yorumlama ve kontrol süreçleriyle ilgili farklı bilişsel faktörlere odaklanmaktadır. Diğer spesifik olmayan değişkenler gibi, bu faktörler de yatkınlık faktörleri olarak işlev gösterebilir. Ancak, çoğunlukla, bu faktörler tek başlarına ele alınmış olup, çoğu çalışmada batılı ülkelerdeki örneklemeler kullanılmıştır. İlgili literatürde, bu yatkınlık faktörlerini birlikte ele alan ve kültürün etkisini inceleyen çalışma sayısı çok azdır. Bu çalışma, OKB semptomlarındaki çeşitli yatkınlık faktörlerini spesifik olmayanlar, yorumlama ve kontrol grupları altında toplayarak,

kapsamlı bir bilişsel model önermektedir. Araştırmada, OKB semptomlarında yorumlama ve kontrol süreçleri ile ilgili üç yeni ölçeğin Türkçe'ye uyarlanması, çeşitli yatkınlık faktörleri ve OKB semptomları arasındaki ilişkilerin farklı kültürlerde incelenmesi amaçlanmıştır. İlgili on ölçek, Türk ve Kanadalı üniversite öğrencilerine uygulanmıştır. Analizler, bu üç ölçeğin Türk öğrencileri için tatminkar psikometrik özelliklere sahip olduğunu göstermiştir. Ayrıca analizler, bazı kültürlerarası benzerlik ve farklılıklara da işaret etmektedir. Nörotisizm, yaş, içe-dönüklük, sorumluluk/tehdit algısı, mükemmeliyetçilik/ kesinlik inançları ve olasılık boyutundaki düşünce-davranış karmaşasının her iki örnekleme OKB semptomları ile ilişkili oldukları gözlenmiştir. Spesifik olmayan, yorumlama ve kontrol grubu faktörleri arasındaki ilişkiyel bağın, her iki grupta anlamlı olduğu bulunmuştur. Ancak dindarlık, OKB semptomlarında sadece Türk öğrencilerde anlamlıdır ve bu semptomlara yönelik bazı inanç ve kontrol süreci faktörlerine katkıda bulunmaktadır. Dindarlık farklılığı analizleri, dindarlığın sadece Kanadalı Hristiyanlarda, genelde ve ahlak boyutundaki psikolojik düşünce-davranış karmaşası ile ilişkili olduğunu göstermiştir. Ayrıca, OKB için kontrol yöntemi olarak Türk öğrenciler endişelenmeyi, Kanadalılar ise kendini cezalandırmayı daha çok kullanmaktadır. Bu ortak ve özgül ilişkilere dair bulgular ise, din ve kültürün özellikleriyle ilgili literatür bulguları ışığında tartışılmıştır.

Anahtar Kelimeler: Obsessif-Kompulsif Bozukluk, Yatkınlık Faktörleri, Bilişler, Bilişsel Model, Kültür, Dindarlık

To My Wife and Family

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CHAPTER 1

INTRODUCTION

Obsessive-Compulsive Disorder (OCD) is an anxiety disorder characterized by the presence of clinical obsessions and mostly accompanying neutralization acts such as compulsions that bring a great amount of distress and that lead serious interference in various aspects of functioning in daily life (DSM-IV-TR; American Psychiatric Association [APA], 2000). Current cognitive models of OCD (Clark, 2004; Rachman, 1993; Salkovskis, 1999) emphasize appraisal processes of intrusive thoughts. The core element in Rachman's model (1993) is the misinterpretation of intrusive thoughts, while inflated sense of responsibility is a main and important cognitive mediator according to Salkovskis' model (1999). Clark (2004) accepts the role of these cognitive factors in the primary appraisal but he also implements the appraisal of thought control efforts as a secondary process. In line with these cognitive models, Obsessive-Compulsive Cognitions Working Group (OCCWG, 1997; 2001; 2003) defined six faulty belief domains that are influential contributors in OCD, including inflated sense of responsibility, overestimation of threat, over-importance of thoughts, emphasis of

thought-control, intolerance of uncertainty and perfectionism. Furthermore, among some other factors which are assumed to have an effect on the vulnerability for OCD, there are morality, religion and superstitious beliefs (e.g., Sica, Novaro & Sanavio, 2002a, 2002b; Tek & Uluğ, 2001), negative affectivity and personality characteristics such as neuroticism (e.g., Bienvenu, Samuels, Costa, Reti, Eaton, & Nestadt, 2004), cognitive self-consciousness (i.e., thought-monitoring proneness; Cohen & Calamari, 2004), ambivalent and uncertain self-evaluation (Clark, 2004), self-esteem (e.g., Ehnholt, Salkovskis & Rimes, 1999), and depression and anxiety proneness (Rachman, 1997; Riccardi & McNally, 1995). On the other hand, it is possible to mention cultural differences, despite similarities in epidemiology and phenomenology among different cultures (e.g., Weissmann et al., 1994). These differences seem to be more salient especially in the content of obsessions (e.g., Clark, 2004; Greenberg & Witztum, 1994) and the impact of cognitive factors in this psychopathology (e.g., Kyrios, Sanavio, Bhar & Liguori, 2001). On the other hand, emphasizing qualitative similarities between people with and without OCD in terms of intrusive thoughts and neutralization efforts (Abramowitz, 2006), the relevant studies in the literature also included non-clinical samples or in a more concrete term, subclinical samples. As a consequence, the core elements in the current cognitive models were examined and empirically supported separately. Moreover, in the relevant literature, the samples of the majority of the studies were mostly drawn from Western countries. Thus, this point reveals a gap with regard to the impact of culture on etiology and maintenance of OCD to some extent. Accordingly, the present study aims to assess three cognitive models in a comprehensive model of OCD Symptoms which include cognitive and other vulnerability factors, and to explore

the impact of the culture on these factors by the examination of relevant data from two different countries, namely Turkey and Canada.

In this section, clinical characteristics of OCD, current cognitive models, general vulnerability, appraisal and cognitive factors, the impact of culture, and a comprehensive model for OCD symptoms will be discussed in detail.

1.1. Phenomenology of Obsessive-Compulsive Disorder

According to DMS-IV-TR criteria for OCD (APA, 2000), obsessions are intrusive, unwanted thoughts, images and impulses that a person finds inappropriate, unacceptable and/or repugnant. They cause distress or anxiety and give rise to the resistance, and the person tries to suppress or neutralize their effect with some other thoughts or actions. Compulsions are urges to perform behavioral or mental acts, in response to obsessions. The compulsions are repetitive rituals performed deliberately and aimed at prevention or reduction of distress or feared consequences, but they are perceived as clearly excessive or senseless. These obsessions and compulsions are time-consuming (e. g., more than 1 hours a day) and they seriously interfere with daily life. It is also stressed that these features are not secondary to another mental disorder.

Although the person seems to be active in the obsessions, it is essentially a passive experience, since s/he is exposed to these abnormal intrusive thoughts as a passive recipient (De Silva, 2003). An obsession can be a thought, image, impulse or doubt. Three main themes of obsessions are aggressive (e.g., thoughts of harming other

people), sexual (such as inappropriate sexual acts or gestures), and blasphemous (e.g., inappropriate gestures in holy places, the pollution of prayers by disgusting thoughts) (Rachman, 2006). Person recognizes that these thoughts are their own product, but the content of obsessions is incongruent with his/her own belief system; thus, s/he views them as ego-dystonic (i.e., contrary to their personal view). They are iterative in nature and may not be easily switched off or erased from the mind (De Silva, 2003). Because the person considers these experiences as unique, s/he tries to conceal them, feels guilty and considers the possibility of loss of control. Distress and uncontrollability are the main factors of all obsessions, and among obsessions, the impulses seem to be the most unpleasant version (Newth & Rachman, 2001; Rachman, 2006). The diagnostic features of obsessions are their subjective compulsive quality, intrusiveness, unwantedness/unacceptability, difficulty to control, repetitiveness, persistence, internal attribution/recognition of the product of own mind, recognition of its senselessness and rejection of its reality, resistance and attempts for ignoring or suppressing them (Jenike, 2001).

A compulsion is an active experience in which the person tries to neutralize or to put matters right, as a result of a strong and subjective urge. The aims are to relieve from discomfort and anxiety caused by obsession, and to prevent a feared consequence; thus, they are motivational and intentional constructs. Compulsions can be overt and motor behavior, like washing hands or checking electric switches, locks, windows, and ordering and arranging many materials. (De Silva, 2003). The diagnostic properties of overt compulsions are performance of behavior in response to an urge or pressure to engage and acknowledgment of the urge to the internal source (Rachman, 2002). The

compulsions can also be covert and cognitive actions such as saying silently a series of words in a certain sequence, reviewing conversations and counting. Since they are purely cognitive phenomena and less concrete than overt performance such as checking and cleaning, they are difficult to recognize. Nevertheless, they are also intentional and the aim is again to reduce distress (Abramowitz, 2006). In any form, compulsions are mostly conducted in a certain order and in a ritualistic way; thus, it is invalidated, if the behavior chain is distorted somehow. This may be really time-consuming and exhausting, and it may lead and contribute to the primary obsessional slowness. Furthermore, many OCD patients also seek reassurance from others to attain ultimate certainty that feared consequence will not occur. However, it only provides temporary relief from discomfort (De Silva, 2003).

The most common obsession are related to the contamination, doubt, aggression and harming, need for symmetry, while the most common compulsions are checking, cleaning, counting, ordering, repeating and hoarding (Parkin, 1997). Among clinical samples, the majority of the patients (i.e., over 70%) have both obsessions and compulsions (Samuel & Nestadt, 1997). Therefore, the most prevalent phenomenological presentation is the fear of contamination or dirt coupled with cleaning compulsions to prevent a feared disaster such as a disease. Anxiety and disgust are the dominant emotions. The next most common couple is the pathological doubt about harming self/others and checking compulsions to prevent a catastrophe, embracement or rejection, with anxiety as the main emotion. Reassurance and confession accompany sexual and aggressive obsessions, and guilt and anxiety are common emotion. Repeating compulsions are magical rituals such as a group of statements, lifting an object in order

to again prevent harm from occurring (e.g., a loved one dying in an accident). Ordering and symmetry are two other relatively less common compulsions in which person arranges objects to have symmetry. Lastly, some OCD patients have hoarding symptoms and they may collect and keep large numbers of useless objects in any kind excessively such as magazines, cans and bags etc. in case that they may need in future (Parkin, 1997; Rasmussen & Eisen, 1991, 1992; Rasmussen & Tsuang, 1986; Steketee & Frost, 1988). Though the majority of OCD patients usually experience multiple obsessions and compulsions (Stein, Forde, Anderson & Walker, 1997), some patients exhibit only one obsession and/or one compulsion. Moreover, obsessions and compulsions seem to be very closely related; nevertheless, some cases may present only obsessions without compulsions. This can result from the use of internal neutralization strategies (Rachman, Shafran, Trant & Teachman, 1996). Interestingly there are also some patients who present themselves with only compulsions, without any obsessions (Rasmussen & Eisen, 1991). In addition, occasionally compulsive behavior can lead to an obsession (e.g., repeated checking of gas may remind the doubt on mental stability and reliability; Rachman & Shafran, 1998).

Sometimes there are some triggers in the environment that function as a cue or an event for starting out obsessions. These triggers might be external such as a knife or any other sharp object for someone who has harming obsessions and whose obsessions are easily provoked when s/he sees them. Triggers might also be internal and these are mental events that bring about the same conclusion such as remembering a friend who died in an accident and experience of harming obsession. Furthermore, avoidance pattern is also very closely related to these triggers. The patient with OCD exhibits

avoidance from any stimuli and conditions that can activate the obsessions

(Abramowitz, 2006; De Silva, 2003).

Until 1980's, OCD was once thought as extremely rare in the general population (as low as 0.5 %). However, relatively recent epidemiological studies revealed that it is more frequent in the community than was previously considered. To illustrate, with DSM criteria, the Epidemiologic Catchments Area study found 2.6 % as the lifetime prevalence in adults (ranging from 1.9-3.3%) in five US communities (Karno, Golding, Sorenson & Burnam, 1988). With similar methods, a survey in Canada found that OCD life-time prevalence is 2.9 % in adults (Kolada, Bland & Newman, 1994). Moreover, a cross-national epidemiological study (Weissmann, Bland, Canino, Greenwald, Hwu, Lee et al., 1994) reported the mean of 2 % lifetime prevalence for OCD (ranging from 0.7-2.5%) among seven countries including USA, Canada, Puerto Rico, Germany, Taiwan, Korea and New Zealand.

Even though it was considered that OCD is equally common for both males and females, epidemiological studies indicate a slight preponderance of females among OCD patients (Rasmussen & Eisen, 1991; Rasmussen & Tsuang, 1986; Weissmann et al., 1994). On the other hand, gender difference is more easily observable in OCD symptom clusters, prevalence and onset of illness. For instance, females suffer from more OCD-cleaning subtype, while males predominately suffer from OCD-checking symptoms. Females also seem to have higher lifetime prevalence; whereas, males had earlier age of onset for illness (Jones & Menzies, 1997; Rasmussen & Eisen, 1991; Weissmann et al., 1994).

OCD typically begins by the age of 25 or in the late adolescence and early adulthood (Rasmussen & Tsuang, 1986). Rasmussen and Eisen (1992) reported that among 512 OCD patients, the symptoms initiated before the age of 15 in about one-third, before 25 years old in about two thirds and in less than one-fifth of the patients after the age of 35. However, it can also be observed during childhood (Samuels & Nestadt, 1997). There are similarities between children and adults with OCD in terms of many aspects (Grados, Labuda, Riddle & Walkup, 1997). Onset of the illness can be either acute or insidious (Kolada et al., 1994). Many patients reported stressful or traumatic life events/experiences related to changes in life demands, before the onset (Cromer, Schmidt & Murphy, in press; Rasmussen & Tsuang, 1986). OCD symptoms seem to emerge out at higher rate than expected among women and their partners after childbirth or pregnancy (Abramowitz, Moore, Carmin, Wiegartz & Purdon, 2001; Abramowitz, Schwartz, Moore & Luenzmann, 2003; Fairbrother & Abramowitz, in press; Maina, Albert, Bogetto, Vashetto & Ravizza, 1999). Some other stressful life events are significant loses, promotion to a new job or position (Albert, Maina, Bogetto, 2000), sexual problems, severe physical illness (Jenike, 2001) and streptococcal infections (Albert et al., 2000). In most case, the content of obsessions is parallel with the events. Furthermore, stressful life events even worsen the symptoms (Mania et al., 1999).

OCD is a chronic mental illness with very low rate of spontaneous remission. Majority of the OCD patients reported waxing and waning of symptoms (De Silva, 2003). Being male with early onset of OCD symptoms, symmetry symptoms, hopelessness, delusions or hallucinations, family history of OCD and presence of tics are

the signals for poor prognosis (Steketee & Frost, 1988). The Epidemiological Catchment Area study yielded that OCD was more common in young, divorced, separated, unemployed subjects (Karno et al., 1988). Quality of life of the patients, their family and relatives is also important matter. Although OCD was found to be in the 10th order of disability among all medical conditions, quality of life of the OCD patients was seriously and negatively affected from OCD symptoms, depending on the severity of the illness and comorbid conditions (Bobes et al., 2001; Eisen, Mancebo, Pinto, Coles, Pagano, Stout et al., 2006). Family members of OCD patients are also involved in patients' rituals and this even causes impairment in their personal quality of life (Stengler-Wenzke, Kroll, Matschinger, Angermeyer, in press).

Despite the general impression that OCD patients tend to be from middle and upper socio-economic status and to have above-average intelligence, this situation did not confirmed by epidemiological studies (Samuels & Nestadt, 1997). Prevalence rate of OCD were reported to be slightly higher among the firstborn, only and oldest children but this difference did not reach at significance level (Honjo, Hirano, Murase, Kaneko, Sugiyama, Othaka et al., 1989; Pollard, Wiener & Merkel, 1990).

Patients with OCD are at an increased risk for additional Axis I and II psychopathologies (Abramowitz, 2006). Major depressive disorder is the most comorbid condition accompanying OCD (Samuels & Nesdadt, 1997; Steketee & Frost, 1998). Lifetime prevalence of depression among OCD patients ranged from 12 % to 60 % across seven countries (Horwath & Weissman, 2000; Okasha, Saad, Khalil, Seif El Dawla & Yehia, 1994; Weissman et al., 1994). Depressive symptoms usually occur in response to distress and functional impairment related to the OCD (Abramowitz, 2006).

Comorbidity of OCD with other anxiety disorders is also common, and among these disorders, there are panic disorder, special phobia, social phobia and generalized disorder (Rasmussen & Eisen, 1992). Owing to share of common features, Tourette's syndrome, trichotillomania, kleptomania, body dysmorphic disorder, eating disorder, hypochondriasis are all called Obsessive-Compulsive Spectrum Disorders (Yaryura-Tobias & Neziroglu, 2005). The most frequent diagnoses among Axis II pathologies are avoidant, dependent, histrionic and schizotypal personality disorders in order (Baer, Jenike, Ricciardi, Holland, Seymour, Minichiello et al., 1990; Black & Noyes, 1997; Steketee & Frost, 1998). It was considered once that obsessive-compulsive personality disorder was closely related to OCD. However, recent researches showed that despite having some common traits, only few cases met diagnostic criteria for this personality disorder (Black & Noyes, 1997; Jenike, 2001)

In brief, OCD is characterized by clinical obsessions and accompanying compulsions (APA, 2000). Unwantedness, intrusiveness, repetitiveness, ego-dystonicity, resistance, distress, fear of uncontrollability are some features of the obsessions, while the compulsions are subjective urges, in overt or covert form, to relieve from distress and to neutralize. The prevalence rate of the OCD is about 2 % in average for different countries, and gender difference is more prominent for OCD symptom subtypes (e.g., more female cleaners vs. more male checkers). Typically it begins by the age of 25, probably after a stressful life event such as pregnancy, childbirth and the major comorbid disorder is depression. These phenomenological properties of OCD seem to have similar pattern among various different Western and non-Western countries (Weissman et al., 1994; Okasha et al., 1994). In recent years, the number of studies

focusing phenomenology of OCD in Turkey has also been increasing. To illustrate, Çilli, Telcioğlu, Aşkın, Kaya, Bodur and Kucur (2004) reported that even though the prevalence rate in accordance with ICD-10 criteria was found to be 0.5% previously, the use of DSM criteria revealed 3 % as the prevalence rate in Turkey. Similarly, from several studies conducted in Turkey, it can be concluded that many characteristics such as age of onset, gender difference in the symptom profile and comorbid conditions etc. showed quite consistency with the findings from Western cultures (Çilli et al., 2004; Karadağ, Oğuzhanoglu, Özdel, Ateşçi & Amuk, 2006; Eğrilmez, Gülseren, Gülseren & Kültür, 1997; Tezcan, Millet, 1997; Tek & Uluğ, 2001; Tükel, Oflaz, Özyıldırım, Aslantaş, Ertekin, Sözen, Alyanak & Atlı, 2006; Tükel, Polat, Genç, Bozkurt & Atlı, 2004; Tükel, Polat, Özdemir, Aksüt & Türksöy, 2002). On the other hand, only difference in these clinical studies that might result from the impact of the culture in OCD appears to be in the content of obsessions (Karadağ et al., 2006; Tek & Uluğ, 2001; Tezcan & Millet, 1997). This point will be discussed in detail later.

1.2. Current Cognitive Models

Possibly, the first fictional citation of OCD is Shakespeare's illustration of Lady Macbeth in the play of "Macbeth" in the 16th century. This character exhibits a clear example of contamination obsession and cleaning compulsion to get rid of guilt that resulted from murder of her husband. However, Janet in 1903 was the first to take the psychological view into consideration for OCD. He defined an abnormal personality

with some anxious features for OCD patients and presented a treatment for compulsions, which might have become a source of inspiration for behavioral therapy later. Around that time, with some famous clinical cases such as Rat Man, Freud (1896) explained OCD in psychoanalytic approach as being a fixation and unresolved conflict at the anal stage (cited in Krochmalik & Menzies, 2003).

With an increase in the popularity of behavioral model in 1950's, learning theory was also applied to the OCD. According to the behavioral model, there is a strong relationship between obsessions that evoke anxiety and compulsions that provide relief from anxiety. Obsessions are conditioned stimuli that are resistant to extinction, while compulsions are negatively reinforced by their consequence which is the termination of anxiety and discomfort. In other words, patient keeps compulsive rituals in response to obsessional anxiety and this activity provides temporary but immediate relief. However, it becomes counterproductive, since it prevents disconfirmation of feared consequence and anxiety increase again relatively short time after (Abramowitz, 2006; Salkovskis, 1993). On the other hand, behavioral treatment methods such as exposure with response prevention still lead a great amount of resistance for some OCD patients, namely who have especially religious obsessions, and in some extent, they end up with failure. Thus, cognitive models are proposed in order to strengthen the power of therapy (Clark, 2005; Van Oppen & Arntz, 1994).

The cognitive approach assigns a significant role to the appraisal of event, instead of event itself for explanation of anxiety disorders (Beck, Emery & Greenberg, 1985). Along with this assumption, there is a great deal of similarity between cognitive conceptualizations for many anxiety disorders, because the core element of anxiety

disorders is biased appraisal of stimuli as threatening agent to individual's physical and psychological well-being, owing to the pathological anxiety (Beck & Clark, 1997). For panic disorder (Clark, 1986), hypochondrias (Salkovskis & Clark, 1993), social phobia (Clark & Wells, 1995) and post-traumatic stress disorder (Ehlers & Clark, 2000), specific appraisals lead to the particular reactions. In other words, a common condition is that some "normal" situations or stimuli, which may cause some degree of anxiety in people without any disorders, provoke some reactions in vulnerable individuals. The important dimensions are the way they are appraised, how preoccupied the person is with these negative appraisals, how much the person's daily life is interfered by these appraisals and the extent to which they diminish over time (Salkovskis & McGuire, 2003).

Roots of the current cognitive models of OCD seem to be originated from two important models. The first model that has cognitive connotations for OCD belongs to Carr (1974). Carr suggested that with unrealistic threat appraisal focusing on harm, person overestimates probability and cost of undesired outcome, and compulsions provide relief and prevent unfavorable outcome. However, this model did not present answers for the reason of possessing high threat appraisals (cited in, Van Oppen & Arntz, 1994). Another cognitive model for OCD was proposed by McFall and Wollersheim (1979) and compared to others, this model has more similarity with the current models. They suggested two appraisal processes: under the influence of the problematic beliefs (e.g., perfectionism, mistake-punishment match, self-influence on outcomes, unacceptable thoughts & possible catastrophic outcomes), primary appraisal focuses on the unrealistic threat appraisals; secondary appraisal is about coping with

threat but affected by feeling of upset, influence on outcome, disconfirmation, intolerance of uncertainty and loss of control (Van Oppen & Arntz, 1994).

1.2.1. Inflated Sense of Responsibility

Among these recent cognitive models for OCD, the most influential one belongs to Salkovskis (1985, 1989, 1993, 1999), which provides accounts for both etiology and maintenance of the disorder with inflated sense of responsibility as a core element for the appraisal process. For instance, perception of threat associated with intrusions is a common concept for both OCD and generalized anxiety disorder. However, it is crucial for OCD, if the content and occurrence of intrusions are misinterpreted as indicating a danger to or serious risk for self or other people and as referring personal responsibility for bringing about or preventing the danger (Salkovskis & McGuire, 2003). According to the model as given in Figure 1, dysfunctional responsibility schema, which is developed during childhood as a result of the experiences (e.g., Salkovskis, Shafran, Rachman, & Freeston, 1999) becomes active with critical incident(s). Individual starts appraising the occurrence and content of his/her intrusive thoughts, which are experienced by the majority of people, as harmful and/or cues for harm/danger for themselves and/or others and thus, s/he feels personal responsibility. Increase in discomfort (not only confined to anxiety and depression) that results from the appraisals leads to rise in attention and focus for checking for intrusive thoughts and triggers in environment; in turn, this brings about an increment in salience and frequency of these thoughts. Accordingly, person

exhibit neutralization acts like compulsions and/or suppression, avoidance that are counterproductive safety strategies in order to reduce anxiety, discomfort and responsibility. On the other hand, due to neutralization efforts that prevent any disconfirmation in the consequence of intrusive thoughts, decrease in anxiety and increase in perceived control result in a vicious cycle.

Intrusions can be in the forms of thoughts, images, impulses and doubts, and they are functioning in automatic process. At the same time, they are related to current concerns and may play a role in problem-solving and creativity. Depending on the way they are appraised, intrusive thoughts get emotional significance. If the intrusion is appraised as having no implications, then, there will be no further processing. On the other hand, if the appraisal is based on a specific reaction such as danger/harm and responsibility in OCD, controlled processing will start (Salkovskis & McGuire, 2003; Van Oppen & Arntz, 1994). On the other hand, early experiences are important according to the model. Salkovskis et al. (1999) exemplified five ways for these experiences: a) a sense of responsibility for preventing threat encouraged deliberately or implicitly during childhood by significant figures, b) rigid and extreme codes of conduct and duty, c) childhood experience in which sensitivity to responsibility improves that result from being protected from it, d) a specific event or series of events in which actions or inactions actually contributed to the trouble that has adverse effect on oneself, but more importantly significant others, e) an incident which supported falsely the idea that one's thoughts or actions contributed to a serious misfortune.

Salkovskis, Wroe, Gledhill, Morrison, Forrester, Richards et al. (2000) also defined sense of responsibility as the belief of possessing a pivotal role for bringing

about or preventing subjectively negative and crucial outcomes, which might have results in real world and/or at moral level. In other words, it refers that person becomes the cause of harm (i.e., commission) and the agency to take some preventive actions (i.e., omission) (Wroe & Salkovskis, 2000). The pivotal influence (i.e., main responsible agent for the harmful event) was reported to be better predictor of perceived responsibility than potential negative influences (i.e., probability and severity of the event) (Ladouceur, Rheume & Aublet, 1997; Rheume, Ladouceur, Freeston & Letarte, 1995). The latter distortion was even suggested to be driven from general anxious threat schema that was necessary but insufficient condition for OCD (Rheume et al., 1995).

The role of the exaggerated responsibility was supported by clinical observations (e.g., Rachman, 1993), questionnaires (Freeston, Ladouceur, Thibodeau & Gagnon, 1992; Foa, Amir, Bogert, Minar, & Preworski, 2001; Foa, Sacks, Tolin, Preworski & Amir, 2002; Rachman, Thordarson, Shafran & Woody, 1995; Rheume, Ladouceur, Freeston & Letarte, 1995; Salkovskis et al., 2000; Scarrabelotti, Duck & Dickerson, 1995; Yorulmaz, Karancı & Tekok-Kılıç, 2006), experimental manipulations (Arntz, Voncken & Goosen, 2007; Ladouceur, Rheume, Freeston, Aublet, Jean, Lachance et al., 1995; Lopatka & Rachman, 1995; Shafran, 1997), and treatment efficacy studies (e.g., Freeston, Rheume & Ladouceur, 1996; Ladouceur, Leger, Rheume, & Dube, 1996). Moreover, the inflated sense of responsibility in OCD was further supported with the findings from non-Western countries. To illustrate, Ghassemzadeh, Bolhari, Birashk and Salavati (2005) supported the role of responsibility in OCD in Iran. In addition, similar findings were also obtained in studies conducted with both non-clinical and clinical samples in Turkey (Yorulmaz, Yılmaz & Gençöz, 2004; Yorulmaz et al., 2006;

Yorulmaz, Karancı & Tekok-Kılıç, 2002; Yorulmaz, Karancı, Baştuğ, Kısa & Göka, 2007).

Responsibility appraisals oriented to harm is supposed to be specific to OCD (Salkovskis, 1989, 1999), which differ from depression with ruminations about the future catastrophic events and from other anxiety disorders with high responsibility condition (Van Oppen & Arnzt, 1994). However, responsibility may not be specific to OCD, but may also be influential in other anxiety disorders (Foa et al, 2001). For the most of anxiety disorders, the perception of threat focuses on the overestimation of harm oriented to self; whereas, the concern in OCD is more likely to harm affecting others as well as the self. Self-referent concern is about being personally responsible for harm and/or being blamed for causing or not preventing this harm (Ehnholt, Salkovskis & Rimes, 1999; Mancini & Gangemi, 2004). Moreover, the differential characteristic of the inflated responsibility in OCD seems that it appears to be more situation specific, idiosyncratic (Rachman et al, 1995). Also the urges to correct potentially harmful situations and distress resulted from not doing so seem to be more unique features of OCD (Foa et al, 2001).

On the other hand, there are some studies that refers to either weak or no association between responsibility and OCD (e.g., Emmelkamp & Aardema, 1999; Frost, Steketee, Cohn & Griess, 1994; Freeston et al, 1992; Rachman et al., 1995). The discrepancy between the findings was assumed to result from the definition of responsibility and/or in the measurement methods (Mancini, D'Olimpio & D'Ercole, 2001). Rachman et al. (1995) suggested that manifestation of the responsibility in OCD might be situation-specific, and the situation specificity of responsibility is more salient,

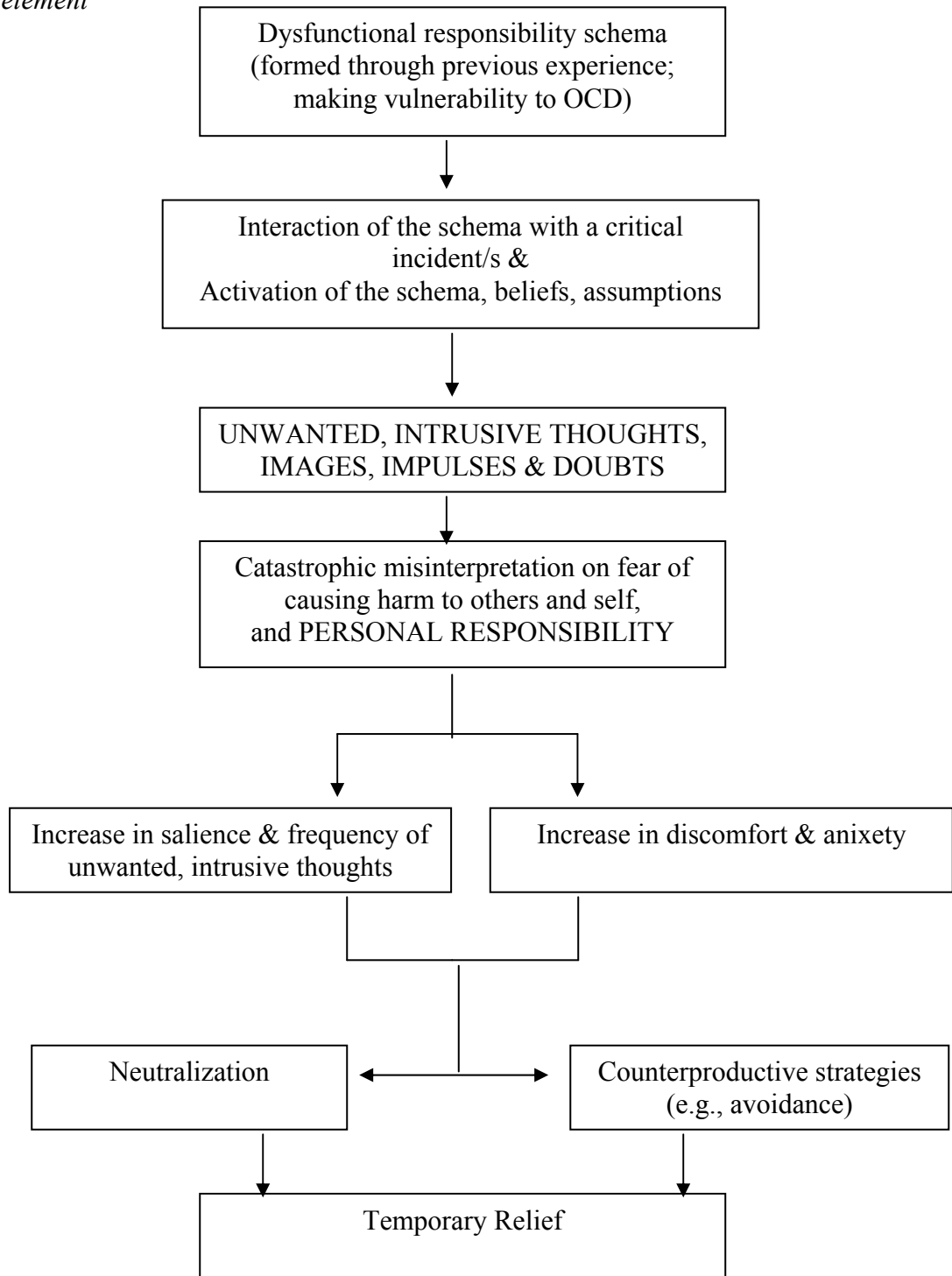
when the person views himself as mainly responsible for the dangerous/harmful event. Furthermore, it was also stated that the measurement of this construct requires multifactorial assessment, instead of using unitary structure. Yorulmaz, Altın and Karancı (2007) examined the factor structure of the Responsibility Attitude Scale (RAS; Salkovskis et al., 2000), which aimed at the examination of harm and responsibility concerns in OCD, and found that along with operational definition of responsibility in OCD, the RAS has two factors: responsibility based on self-dangerousness refers to the belief of possessing potential power for causing harm and of self-blame for the role in possible harm; whereas, prevention responsibility points to the importance and necessity of prevention of any harmful outcome and thus, the relief from personal responsibility for possessing such a power. Finally, self-dangerousness with more stress on causal agent seemed to distinguish OCD patients from other anxiety disorder patients (Yorulmaz, Karancı, Baştuğ, Kısa & Göka, 2007), supporting causal role (i.e., commission error) (Wroe & Salkovskis, 2000).

On the other hand, responsibility might function differently in different OCD symptom clusters. Despite being accepted as a unitary diagnostic category (DSM-IV; APA, 1994), OCD also includes diversity with different subgroup symptom clusters such as checking and cleaning (McKay, Abramowitz, Calamari, Kyrios, Radomsky, Sookman et al., 2004). This subgroup symptom differentiation also seems to be maintained by assigning changeable roles for such an important and influential cognitive mediator, inflated sense of responsibility. For instance, Rachman (2002) stated that even though personal responsibility plays an important role for both subgroups, the focus of responsibility is mainly directed at the protection of others from harm in checking, but in

cleaning, the self-focused responsibility is more pronounced. Empirical findings also seem to suggest that inflated responsibility has a more influential and prominent role in checking than cleaning (e.g., Foa et al., 2002; Lopatka & Rachman, 1995; Rachman, 1998; Rheaume, et al., 1995; Yorulmaz et al., 2006). Similarly, the dimensionality of responsibility also appears to operate differently in symptom subgroups such as checking and cleaning. In addition to the verification of the salient role of responsibility in checking, Mancini et al. (2001) found that responsibility focusing on the belief of possessing harmful power (i.e., self-granted power for harm) is more closely associated with checking symptoms, but prevention-based responsibility (i.e., prevention) is more pronounced for cleaning symptoms. Another study conducted in Turkey found that both preventive and self-dangerous responsibility was influential in checking symptoms. Whereas, responsibility was also important for other symptom clusters. Danger prevention was only significant responsibility factor for cleaning, while self-dangerous responsibility had a more salient role for obsessive thinking without overt compulsion (Yorulmaz et al., 2007). There are also some findings that emphasize the role of this cognitive mediator in other symptom groups than checking. Coughle, Lee and Salkovskis (2007) indicated the role of responsibility in cleaning. Smari, Glyfadottir and Halldorsdottir (2003) reported stronger association between responsibility attitudes and obsessional thoughts about harm than checking.

Inflated sense of responsibility is theoretically important and influential factor in OCD. However, there are other significant cognitive factors such as danger expectancies (Menzies, Harris, Cumming & Einstein, 2000), faulty belief domains like overemphasis of thought and their control, perfectionism (OCCWG, 1997; Rheaume et al, 1995).

Figure 1. *Salkovskis' model (1989) for OCD and inflated sense of responsibility as a core element*



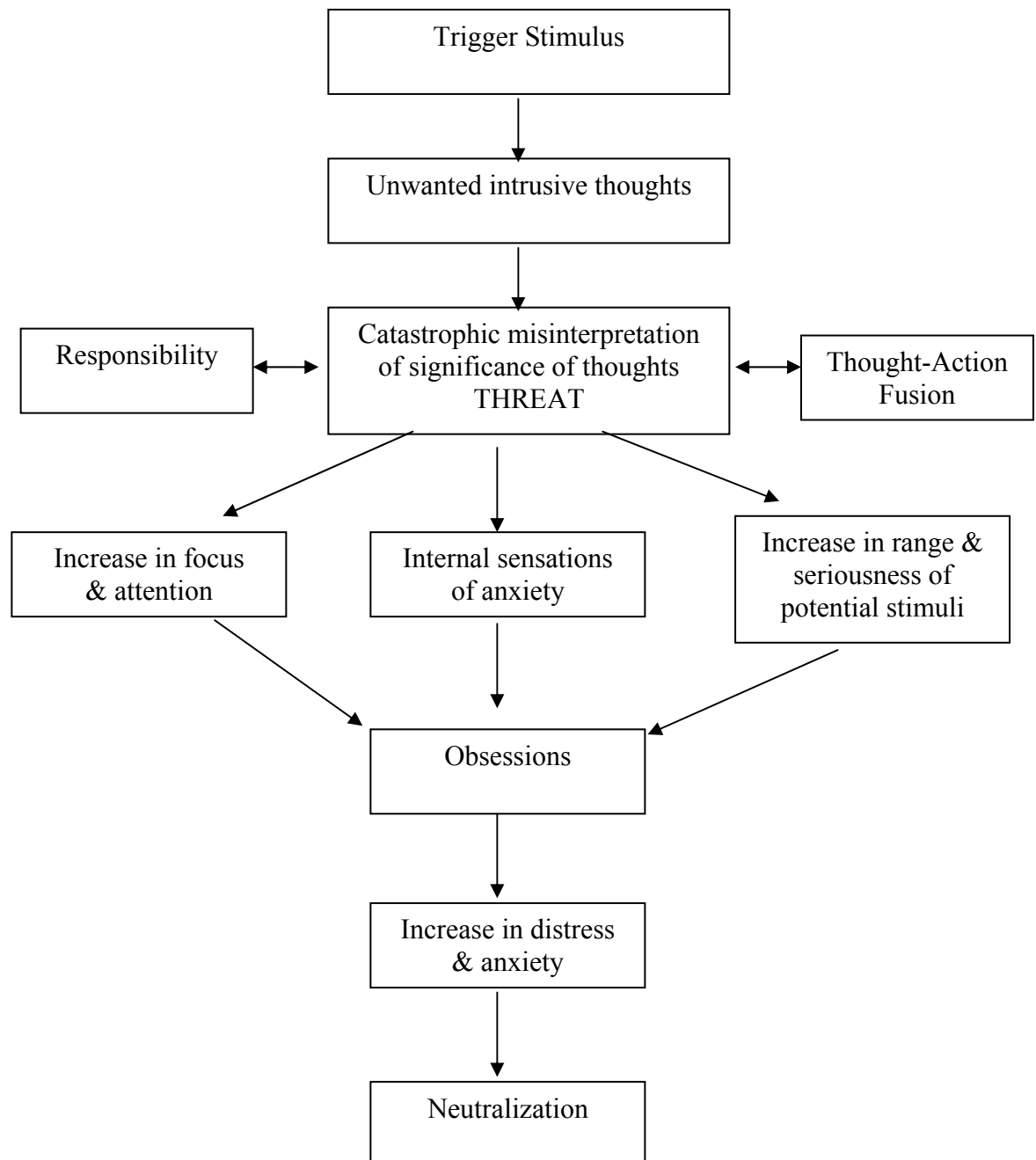
1.2.2. Misinterpretation of Intrusive Thoughts

Raw material of obsessions seen in OCD is actually unwanted, disturbing intrusive thoughts, image and impulses that are often experienced and universal. The content of floating stream of consciousness is only in part under our control in normal mental life (Spitzer & Sigmund, 1997). They are even adaptive and functional by playing roles in creativeness, inspiration, problem solving and relief from boredom; thus, they also have an influence in motivation for productive work and social interaction. Intrusive thought persists to the extent to which they have implications for intentional behaviors; so, there will be possibility of selection of important ideas from a welter of cognitive activity and persistence of the most relevant ideas to current concerns (Salkovskis, 1993). Furthermore, in terms of nature and content, majority of people have such intrusive thoughts (approximately 80-90 %) similar to the ones seen in OCD (Clark & Purdon, 1995; Forrester, Wilson & Salkovskis, 2002; Julien, O'Connor & Aardema, 2007; Salkovskis & Harrison, 1984). Furthermore, there is a similarity in various strategies (i.e. compulsions and rituals) to deal with intrusive thoughts between normal people and patients with OCD (Dulaney & Fiske, 1994; Muris, Merckelbach & Clavan, 1997; Rassin, Merckelbach, Muris & Spaan, 1999). On the other hand, frequency, intensity, discomfort and resistance differentiate obsessions from normal intrusive thoughts, and the strategies are more extreme for patients (Abramowitz, 2006; Muris et al., 1997; Rassin & Muris, in press; Rassin, Diepstraten, Merckelbach & Muris, 2001). In other words, people with OCD are different from others quantitatively in their

experiences. In line with that similarity, Rachman (1993, 1997, 1998, 2006) suggested a cognitive theory of obsessions. This theory is also affected by panic theory of Clark (1988) and has important connections with Salkovskis' model of OCD (1999) but has extensions more than responsibility. As can be seen from the Figure 2, the model focuses on the misinterpretation of the intrusions, which differentiate normal intrusions from obsessions. Person views his/her intrusive thoughts as immoral, sinful, insanity, disgusting, threatening, alarming and predictive, and s/he catastrophically misinterprets the intrusive thoughts as revealing personally significant and hidden parts. Person also views them as ego-alien, having potential/serious/dangerous consequences and a sign for harm and/or losing control. They are contrary to the specific and important schemata about the self, to the ones past behavior, to the expectations about one's thoughts and to the one's norms and values. The main subjects of obsessions (i.e., aggression, sex, blasphemy) are important for all moral systems and thus, tap on personal significance and may contradict with the self (Clark & Purdon, 1999; Rowa & Purdon, 2003; Rachman, 2006). On the other hand, focused attention leads to the increase in the range and seriousness of potential stimuli around and a wide range of neutral stimuli around turn into threat. Once they are indifferent, now they become salient. For instance, for a person who has obsessions about harming her children seriously, sharp objects will turn into dangerous materials that remind that possibility. This conversion enlarges the range of threats and hence, and this provokes the frequency of these intrusive thoughts. Moreover, not just stimuli around but also internal sensations of anxiety (i.e., ex-consequential reasoning; Arntz, Rauner & Van Den Hout, 1995) also contribute these changes. Pre-existing values system of the person (e.g., morality, religion),

dysfunctional beliefs like importance of control, and thought-action fusion (TAF; Shafran, Thodarson & Rachman, 1996) and sense of responsibility influence this process too. These intrusive thoughts are very repugnant and scary for person; hence, safety-seeking behaviors begin. Person attempts to resist and remove them to out of consciousness, as well as performing avoidance behaviors. The repeated avoidance of threats leaves the people's view of themselves and their interpretations as unchallenged and untouched. As a result, normal intrusive thoughts turn into the obsessions, and in order to control these thoughts and prevent any serious consequences, person exhibits neutralization. Neutralization is partly successful, since it provides temporary relief from discomfort. The obsession will carry on its existence as long as thoughts, impulses, images and doubts are misinterpreted as being of great personal significance. The associations between TAF (e.g., Shafran et al, 1996), exaggeration of importance of thoughts and control (e.g., OCCWG, 1997; Rowa, Purdon, Summerfeldt & Antony, 2005) overestimation of threat (e.g., OCCWG, 2001, 2003a, 2003b) and OCD have been empirically supported. These concepts will be examined in the section of "Cognitive factors in OCD" later.

Figure 2. *Cognitive theory of obsessions (Rachman, 1997) and misinterpretation of intrusions as a core element*

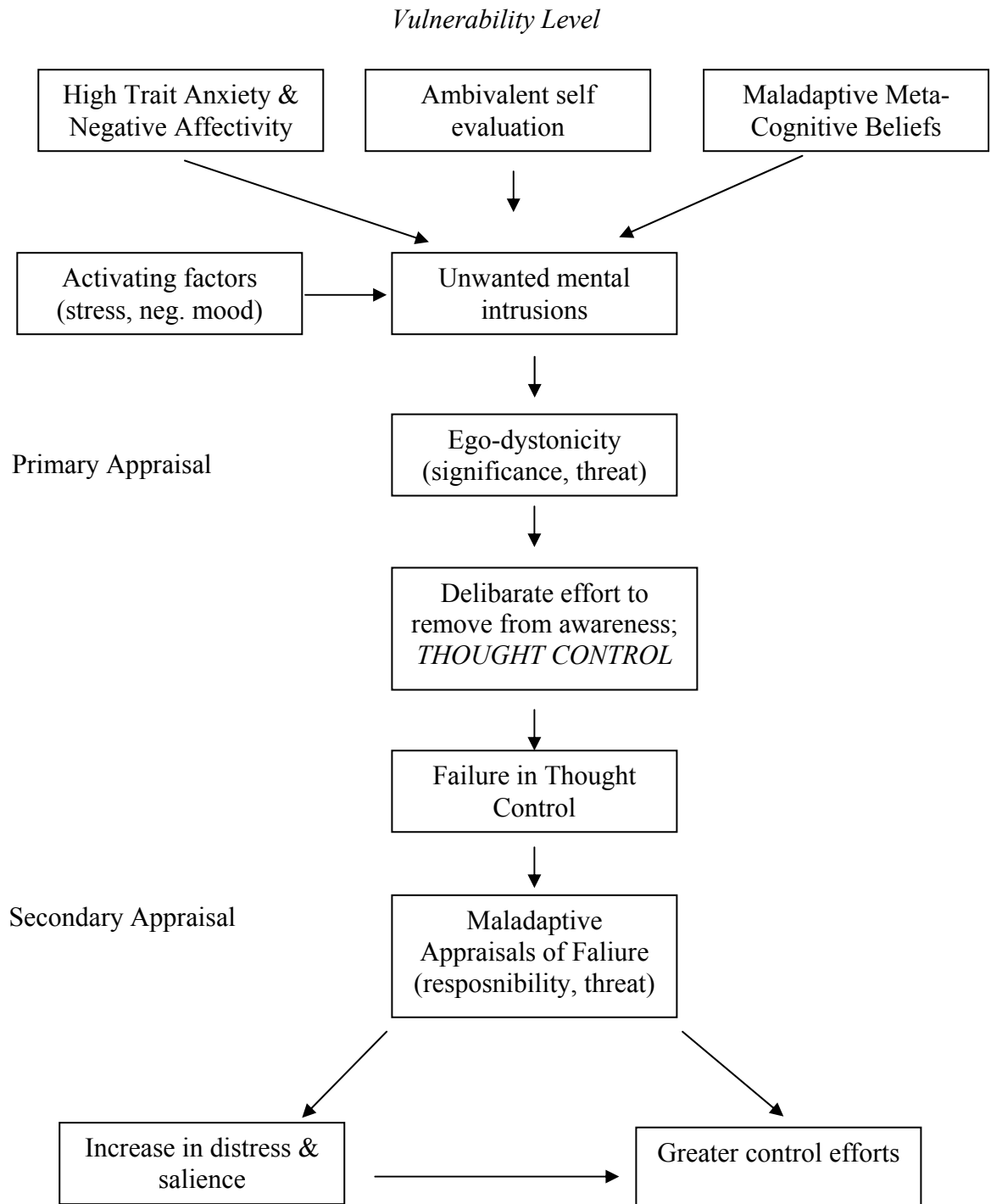


1.2.3. Failure of Thought Control

Another cognitive theory suggested by Clark (2004) focuses on cognitive control of thoughts. Main problematic situation in OCD was supposed to be efforts for the control of intrusive thoughts and/or obsessions, and as can be seen from Figure 3, recent cognitive factors were accumulated primary and secondary appraisal processes. Consistent with Rachman (1997, 1998), Clark (2004) put the determination of the meaning of obsessions and/or existence of threat for the person (e.g., ego-dystonicity) in the primary appraisal process. Patients with OCD generally interpret them as threatening and opposite of their personality and deliberately perform effort to remove intrusion from awareness; hence, they try to control them. However, during the review at the secondary appraisal, person appraises failure, because of the perceived insufficient control. Then, maladaptive appraisals based on on-going threat, danger, personal responsibility and possibility of serious negative consequences lead to increase in distress and salience of the obsessions and great thought control efforts; thus, compulsive acts are oriented to the prevention. Mental control emphasis, which seems to be as a core element in the recent model (Clark & Purdon, 1995; Clark & Purdon, 2004; Purdon & Clark, 1999), was one of the main faulty belief domains suggested by OCCWG (1997, 2001). In addition, patients with OCD reported less success than non-clinical samples in the attempts to control the intrusive thoughts (Ladoceur, et al., 2000; Tolin, Abramowitz, Hamlin, Foa & Synodi, 2002). Related to the thought control strategies, it was also found that OCD differentiated from non-patients with a more use

of worry and punishment but less use of other three strategies (Amir, Cashman & Foa, 1997). Abramowitz, Whiteside, Kalsy and Tolin (2003) also verified this finding and reported that successful treatment ended up with increased use of distraction and decreased use of punishment. On the other hand, one of the most frequently used strategies, thought suppression, was reported to have paradoxically rebound effect (i.e., increase the frequency of unwanted thoughts) (e.g., Purdon, 1999; Tolin, Abramowitz, Przeworski & Foa, 2000).

Figure 3. *Cognitive thought control model (Clark, 2004)*



1.3. Obsessive-Compulsive Cognitions/Belief Domains Underlying OCD

In the last several decades, the efforts of research and treatment oriented towards influential cognitions, processes and interrelationships has gained speed in order to understand etiology and maintenance of obsessions and compulsions better. Among cognitive models of OCD, there is another focus which is not actually a cognitive model, but it is an important effort of description of critical cognitive factors in OCD. The Obsessive-Compulsive Cognitions Working Group (OCCWG) is an international research group that is composed of over 40 researchers from all over the world. The group was established in 1995 in order to rectify the confusion existing in the OCD literature and to provide the consensus on the use of terms and assessment tools, since there were independent studies that designed many separate measures about cognitions in OCD (OCCWG, 1997, 2001, 2003, 2005). The OCCWG meets every year, right before the World and/or European Cognitive Behavioral Congress and after reviewing the current findings and literature, determines new aims. So far, this group defined important cognitions in OCD and designed two instruments about these cognitions in the form of immediate general appraisal factors.

By having reviewed the current literature, the OCCWG (1997) first determined 19 cognitive domains that are influential in assumptions, appraisals, cognitive distortions, beliefs in OCD: 1) overestimation of severity and probability of danger and threat, 2) inflated sense of responsibility, 3) omission/commission, 4) thought-action fusion, 5) superstitious/magical thinking, 6) overimportance of thoughts, 7)

consequences of having thoughts-emotional cost, 8) control over thoughts, 9) perfectionism, 10) high personal standards for one's performance, 11) concern over mistakes, 12) rigidity, 13) control over life circumstances, 14) intolerance of anxiety and discomfort, 15) intolerance for uncertainty, newness and change, 16) decision-making, doubting, 17) beliefs about coping, 18) lack of confidence in memory and other senses, 19) overgeneralization. Then, they analyzed these belief domains and on the basis of theory, available evidence and clinical experiences of group members; then, they omitted some of minor belief domains that were considered as insufficiently specific to OCD such as rigidity, beliefs about coping and overgeneralization. Finally, the group agreed on the belief domains that seem to be the most relevant and more central to OCD, including overimportance of thoughts, overestimation of threat, inflated sense of responsibility, excessive concern about the importance of controlling one's thoughts, intolerance of uncertainty and perfectionism. Additionally, the group also designed two instruments, including Obsessive Beliefs Questionnaire (2001) for the assessment of general dysfunctional beliefs, and Interpretations of Intrusions Inventory (2001) for the evaluation of immediate interpretations of unwanted, intrusive thoughts, images and impulses. In the following section, these faulty belief domains will be described and examined separately.

1.3.1. Inflated Sense of Responsibility

OCCWG (1997) cited the definition of inflated sense of responsibility given by Salkovskis et al. (2000). It refers to the belief of having pivotal power to cause or prevent subjectively crucial negative outcomes and these outcomes might be actual (i.e., having consequences in the real world) and/or at a moral level. Pivotal power is an important dimension in this factor (Ladouceur et al., 1997; Rheaume et al., 1995). Since this belief domain was already mentioned among the cognitive models of OCD, a brief explanation is given in this section.

Although the experience of intrusion seems to be universal phenomenon (Salkovskis & Harrison, 1984), the interpretation of the occurrence and the content of the intrusive thoughts are critical factors for OCD patients. In OCD, this interpretation focuses on the threat, harm and danger, and the meaning attached to these experiences trigger adverse mood and neutralizing behavior through the sense of personal responsibility. In other words, the appraisal as a result of intrusion that a person might be responsible for harm to self and others brings about selective attention, thought suppression efforts, safety-seeking behaviors and neutralization. The relationship of neutralization and intrusive experiences is also maintained by the reinforcement with a decrease in responsibility for harm and discomfort (Salkovskis, 1999; Salkovskis & Forrester, 2002). The origins of negative appraisals lie in learned assumptions, which might be adaptive and useful ways of coping in response to early problematic experiences in some point of time, and be activated by critical incident(s) and become

dysfunctional (Salkovskis et al., 1999). Accordingly, this construct is influential in both etiology and maintenance of OCD.

Normal people feel more responsibility, when they actively do something than they fail to do. That is, when omission is involved, responsibility for negative consequences diminishes. However, responsibility covers both omission and commission errors for OCD patients (OCCWG, 1997), since they have the notion that any influence over outcome is equal to responsibility for outcome. Another important factor with regard to responsibility is the perception of agency; that is, one can choose to bring about or prevent something. In addition, the belief that one can foresee all possible harmful outcomes is also critical in that sense. Thus, if a person can foresee and do not do anything for it, then it means that s/he deliberately decide not to act, which makes person a causal agent in relation to negative consequences (Forrester et al., 2002; Wroe, Salkovskis & Richards, 2000). There are many supportive studies of responsibility in both clinical and non-clinical sample in the OCD literature (e.g., Foa et al., 2001; Rachman et al., 1995; Salkovskis et al., 2000).

According to Salkovskis and Forrester (2002), in the cognitive models and among faulty belief domains, inflated sense of responsibility is crucial, since it is closely related to neutralizing behavior and it is also an etiological and maintenance factor. Moreover, importance and control of thoughts are closely related with inflated sense of responsibility through the sense of causing harm that person does. Intolerance of anxiety and overestimation of threat are seen as more general vulnerability factors which contribute to the misinterpretation of intrusions.

1.3.2. Overimportance of Thoughts

This cognitive domain comprises the beliefs and interpretations about excessive emphasis associated with negative intrusive thoughts. Overimportance of thoughts is defined as the belief that the mere presence of a thought shows that it is important and meaningful (OCCWG, 1997). According to Thodarson and Shafran (2002), it refers that:

- a) Negative intrusive thoughts shows something important about oneself (i.e., one is abnormal, weird, mad and bad etc.).
- b) Having negative thoughts increases the risk of occurrence of bad things (i.e., having thoughts means that they are likely to happen in the real life).
- c) Negative intrusive thoughts must be significant, since they occurred; otherwise, they would not be experienced.

Importance of thoughts is also emphasized in cognitive theories (Rachman, 1997; Salkovskis, 1999). As it was stated before, most of the people experience intrusive thoughts (Clark & Purdon, 1995; Julien et al., 2007; Salkovskis & Harrison, 1984) and actually it is adaptive, functional and efficient in problem solving and in creativity (Salkovskis & McGuire, 2003). On the other hand, the appraisal of intrusive thoughts determines the following process. When they are interpreted as a sign for harm and responsibility, the problematic chain is activated (Salkovskis, 1999). Furthermore, normal intrusions turn into abnormal intrusions/obsessions, when a person views and believes his/her own thoughts having pervasive implications in real life (Rachman,

1997). Accordingly, the perceived implications of the thoughts are important. As the importance of thoughts is exaggerated, subsequent actions will be taken.

The belief that certain behaviors and thoughts have causal influences on outcomes is called as magical thinking, and it is a concept that exemplifies overimportance of thoughts. Although this thinking style is not specific to OCD, it seems that magical thinking provides a link between OCD and schizophrenia via schizotypal experiences (Einstein & Menzies, 2004a, 2004b). Accordingly, this concept appears to remain in the periphery at the OCD literature and the psychological fusion of thoughts and action which is related, but relatively more exclusive construct to the OCD (Rachman, 1993), has been extensively discussed.

Thought-action fusion (TAF) is a cognitive bias which refers to the tendency to overvalue the significance and the consequences of thoughts, especially the intrusive ones (Rachman, et al., 1996). TAF has two components, namely moral and likelihood TAF. Moral TAF means that thoughts (even involuntary ones) are morally equal to actions, while Likelihood TAF is tendency to believe that thoughts can increase the probability of negative events occurring. Both components have connotations with misinterpretations of intrusive thoughts (Shafran et al, 1996). To illustrate, a thought is perceived as being overly important, when it possibly increases the risk of occurrence of real-life-events or when it is morally unacceptable. Therefore, person feels distress, responsibility and guilt for possible harm and s/he tries to prevent a possible negative consequence or to neutralize; thus, this bias contributes to OCD symptoms (Amir, Freshman, Ramsey, Neary, & Brigidi, 2001; Rachman, 1993, 1997; Shafran & Rachman, 2004; Thodarson & Shafran, 2002). The relationship between TAF and OCD

symptoms was verified by different studies (Amir et al., 2001; Rachman et al., 1995; Rassin, Muris, & Schmidt, 2000; Shafran et al., 1996). For instance, the intrusion that was experimentally induced (i.e., completing a sentence in which a person who is close to the participant is wished to experience a car accident) was found to result in distress, feelings of responsibility, guilt, and a strong urge to neutralize (Rachman et al., 1996). Moreover, in another study, Rassin, Merckelbach, Muris, and Spaan (1999) showed that experimentally induced TAF (i.e., having given information like thinking about an apple would cause delivery of shock to another person) raised intrusive thinking, discomfort, resistance, responsibility, and neutralization. Similarly, Zucker, Craske, Barrios, and Holguin (2002) suggested that after induction of TAF, subjects who had a strong urge to neutralize also felt more responsibility and guilt. With structural equation modeling, Rassin, Muris, Schmidt and Merckelbach (2000) found that TAF, especially likelihood component, also seems to bring about attempts to suppress thoughts and then leads to OCD symptoms. Moreover, it is also suggested that TAF is open to change and should be aimed in therapy (Freeston et al., 1996; Rassin et al., 2001; Zucker et al., 2002).

On the other hand, TAF was not specific to negative events, but also associated with positive ones, at least in terms of likelihood, which may point to the overvalued or magical ideation in OCD (Amir et al., 2001; Einstein & Menzies, 2004; Tolin, Abramowitz, Kozak, & Foa, 2001). In addition, TAF is not exclusive to OCD, but may be influential in other anxiety disorders such as panic disorder, social phobia, generalized anxiety (Berle & Starcevic, 2005; Hazlett-Zucker & Craske, 2002; Rachman & Shafran, 1999; Muris, Meesters, Rassin, Merckelbach, & Champbell, 2001; Rassin, Diepstraten, Merckelbach, & Muris, 2001), in depression (Abramowitz, Whiteside,

Lynam & Kalsy, 2003) and eating disorders in the form of thought-shape fusion (Shafran, Teachman, Kerry & Rachman, 1999). On the other hand, it was found to be a distinguishing factor of obsessive feature from worry (Coles, Mennin & Heimberg, 2001) and it is a prominent/salient factor in OCD (Starcevic & Berle, 2006). Abramowitz et al. (2003) examined specificity of TAF in OCD by comparing it with other anxiety disorders and reported that OCD was characterized by TAF-likelihood domain, which might mediated by negative affect. Actually the relation of TAF-Likelihood with OCD symptoms was stressed by many studies mainly from Western countries (e.g., Shafran et al., 1996; Rassin et al., 2001). Nevertheless, morality dimension was also reported to be associated with the symptoms in non-Western cultures like Turkey (Yorulmaz et al., 2004).

As a result, theoretical ground and empirical findings indicate that overemphasis of thoughts is an important factor in OCD and has a determinant role in the appraisal process, because of its function in catastrophic misinterpretation of negative intrusive thoughts. It is also closely associated with other dysfunctional beliefs. It may be seen as a precursor issue for the need of controlling thoughts and responsibility (Forrester et al., 2002; Thodarson & Shafran, 2002). Within OCD symptoms, it seems to be more closely associated with obsessive thoughts and impulses of harms (OCCWG, 2001), and to be related to the frequency and distress (OCCWG, 2003). On the other hand, pathological anxiety includes misinterpretation of benign stimuli as threatening (Beck & Clark, 1997) and thus, it might be considered that pathological anxiety also includes exaggeration of thoughts (Thodarson & Shafran, 2002). Accordingly, it is reasonable that this belief

domain is also influential in post traumatic stress disorder (Ehlers & Clark, 2000) and generalized anxiety disorder (Wells, 2000).

1.3.3. Control of Thoughts

Control of thoughts in OCD is described as excessive concern about the importance of controlling one's thoughts and this belief refers to the overemphasis on the importance of exerting complete control over intrusive experiences (i.e., thoughts, images & impulses) which is both possible and desirable (OCCWG, 1997).

Additionally, the group defined four subdomains:

- a) beliefs about the importance of tracking and over-vigilance for mental events,
- b) beliefs about the moral consequences of not controlling thoughts,
- c) beliefs about psychological and behavioral consequences of failure in thought control,
- d) beliefs about the efficiency of thought control (i.e., a person should strive to control thoughts in long-term with success).

Even though our ability to control attention and thoughts is not so perfect, it is possible to state that individuals have a certain level of control on this process and this situation is adaptive in terms of its survival value. Unwanted and intrusive thoughts which can not be easily dismissed from conscious awareness might be observed in several psychopathological conditions, namely generalized anxiety disorder, post traumatic disorder and even depression. However, perceived (loss) of control is a key

and important cognitive variable mainly in OCD (Purdon & Clark, 2002). Because of negative appraisal, which focuses on either harm/responsibility concern or misinterpretation of their significance (Rachman, 1997; Salkovskis, 1989), intrusive thoughts in OCD lead to distress, anxiety, active resistance and thus, efforts of thought control. These efforts are influential in the cognitive models due to four reasons. First, they terminate the exposure to thought and thereby, it goes on as a source of threat. Second, person is unable to learn new disconfirming information about intrusive thoughts. Third, these efforts are temporarily successful and also result in anxiety reduction. Fourth, failure in control will contribute to problematic appraisal further (Purdon & Clark, 2002). Salkovskis and Forrester (2002) suggested that in addition to harm/danger perception, subsequent processes including control and compulsions also determine the obsessional problem. Clark (2004) implemented the role of appraisal of these efforts in the cognitive model in the form of secondary appraisal. These efforts are perceived as failure at the end, because of the inability to reach perfect control (i.e., ideal level of control). Failure in thought control contributes to increase in the frequency and salience of these thoughts and to more attempts to regain control (Purdon & Clark, 2002). Moreover, the concern on the need to control might result from perception of thought as ego-dystonic or as being consistent or contrary to the valued aspects of the self (Purdon & Clark, 1999). In this process, beliefs about thoughts and thought processes in general or “meta-cognitive beliefs” also has an important role, since they are rigid, unrealistic and overvalued (Purdon & Clark, 1999). For instance, Janeck, Calamari, Riemann and Heffelfinger (2003) showed that “too much thinking about thinking” is important in OCD and it distinguished OCD from generalized anxiety

disorder (GAD). In addition, cognitive self-consciousness is another relevant cognitive factor that has also a role in OCD (Cohen & Calamari, 2004). On the other hand, Moulding and Kyrios (2006) described the control issue in OCD as the discrepancy between desired and perceived level of control and the perceived difference was assumed to result in urge for rituals.

In order to relieve from discomfort and anxiety, people use different strategies such as self-assurance and seeking reassurance, analyzing the thought, physical action (i.e., distraction), thought replacement, thought-stopping and do-nothing. The choice of strategy is not random and is associated with various factors such as the intensity of the thought, the appraisal, the context and the mood state (Freeston & Ladouceur, 1997; Ladouceur, Freeston, Rheaume, Dugas, Gagnon, Thibodeau, & Fournier, 2000; Purdon & Clark, 1994; Wells & Davies, 1994). By comparison of patients with OCD and other anxiety disorders, and controls, Ladouceur et al (2000) found that both clinical groups had broader strategy repertoire and used more strategies as compared to normal people, and in OCD, the strategies were specifically associated with the thought content.

Wells and Davies (1994) designed Thought Control Questionnaire (TCQ) and identified five types of strategies used for unwanted thoughts: a) distraction (i.e., thinking other pleasant thoughts), b) social control (e.g., reassurance, confirming normality of thoughts), c) worry (focusing on other worries), d) punishment (e.g., getting angry at self, slapping or pinching self), e) re-appraisal (i.e., attempts to reanalyze thought or to re-interpret thought). Moreover, they suggested that selection of the strategy depends on the situational variables and appraisal. Amir, Cashman and Foa (1997) examined control strategies in OCD patients and found that worry, punishment

and reappraisal were mostly used by OCD patients as compared to non-anxious controls. In addition, these patients reported more frequent use of worry and punishment and less frequent use of distraction. These findings were also confirmed in partners with postpartum intrusive thoughts (Larsen, Schwartz, Whiteside, Khandker, Moore & Abramowitz, 2006). Abramowitz, Whiteside, Kalsy and Tolin (2003) evidenced increased use of distraction and decreased use of punishment for the OCD patients after psychotherapy. Moreover, OCD-relevant beliefs (responsibility/threat estimation, importance/control of thoughts & perfectionism/ certainty) were found to mediate the relationship between thought-control strategies, especially self-punishment, and OCD symptoms (Moore & Abramowitz, in press).

There is also an assertion that deliberate attempts of thought control might give rise to paradoxical effect on intrusive thoughts (Salkovskis & Campbell, 1994; Wenzlaff & Wegner, 2000). This situation was known with classical study by Wegner et al. (1987), since the authors examined the frequency of thought occurrence, after deliberately suppressing or not suppressing the image of “white bear”. Until then, the effect of thought suppression has been studied exclusively and despite mixed findings, general impression was that it has negative influence on appraisal (Purdon & Clark, 2002). To illustrate, Geraerts, Merckelbach, Jelicic and Smeets (2006) demonstrated that thought suppression might be adaptive in short term, but might be counterproductive in long term. People who were low in OCD symptoms were also found to be more successful in thought suppression. Similar to the thought control, thought suppression seems to have insidious effects, owing to the paradoxical increase in thought frequency, making over-vigilance to thoughts and relevant processes, termination of exposure and

enhancement of negative appraisal of intrusions. Additionally, increased frequency and negative appraisal provoke more negative mood, and in turn, this makes thoughts and appraisals more accessible and induces thought control motivation (Smari, 2001; Purdon, 2004). Actually, thought appraisal and mood state, rather than frequency, might be problematic (Purdon & Clark, 2002). Accordingly, the appraisal process as a consequence of thought control/suppression efforts also seems to be significant in actions further. In other words, failure interpretation appears to be indispensable, owing to the inability to arrive at possible, perfect and ideal level of control. In addition, like in thought suppression, the result of these efforts might be rebound of the thought and/or recurrences, and negative appraisals of these recurrences will lead to more negative mood such as more discomfort and anxiety (Purdon, Rowa & Antony, 2005). Tolin et al. (2002) found that OCD patients made more internal and negative attributions for thought suppression failure. Furthermore, Luciano, Algarabel, Tomas and Martinez (in press) reported negative relationship between thought control ability and OCD symptoms.

Wegner and Zanakos (1994) developed White Bear Suppression Inventory (WBSI) to assess dispositional tendency to suppress unwanted thoughts. Muris, Merckelbach and Horselenberg (1996) indicated that participants with high WBSI scores reported a greater rebound effect, following a thought suppression task than low scorers. Though WBSI had originally unidimensional factor structure, Muris et al. (1996) identified five items that actually seems to measure intrusive thinking, rather than thought suppression. Recently, Blumberg (2000) identified three highly inter-correlated factors in WBSI; namely, unwanted intrusive thoughts, thought suppression and self-distraction. However, Höping and Jong-Meyer (2003) discussed this finding and

asserted that separation of self-distraction from thought suppression is useless and problematic, in terms of theoretical points of view, because distraction is a key strategy that is inherent in suppression. For this reason, they suggested a two-factor structure, including unwanted intrusive thoughts and thought suppression, and they stressed the effect of the first factor in the relationship between WBSI and OCD symptoms, depression and anxiety. Rassin (2003) also confirmed this finding on two-factor structure underlying WBSI. The author also stressed the biased tendency toward failure of suppression in the literature, but mentioned the possibility of the successful attempts. On the other hand, McKay and Greisberg (2002) examined two measures of thought control, that is, TCQ and WBSI. They found that punishment and worry subscales of the TCQ were highly associated with worry and OCD symptoms (including all subgroup symptoms assessed by two different instruments); whereas, WBSI was related to worry and slowness of OCD symptoms. Furthermore, the factor analysis for the combination of the items of the TCQ and the WBSI revealed that punishment, distraction and worry subscales of the TCQ loaded on a separate factor called as dysfunctional control strategies, while WBSI, reappraisal and social control subscales of the TCQ formed functional strategies.

1.3.4. Overestimation of Threat

Cognitive theory of anxiety (Beck et al., 1985; Beck & Clark, 1997) assumes that the key point is the appraisal of event that leads to subsequent actions. Since threat

appraisal is a complex process, experience of pathological anxiety is also related to interpretation of threat and danger, but there are other influential factors in the processes, namely the seriousness of consequences, ability to cope with the situation, existence of external rescue factor as well as past experience, present context and mood state. Accordingly, possible mathematical equation would be

$$\text{Anxiety} = \frac{\text{Perceived likelihood of anticipated danger} \times \text{Perceived awfulness/} \\ \text{cost of anticipated danger}}{\text{Perceived ability to cope with danger} + \text{Perceived external factors that would assist}}$$

This equation shows that a very low probability of danger might provoke anxiety, if the relevant cost is high. In other words, perceived danger is not sufficient alone, but there is a multiplicative process. Therefore, cognitive-behavioral treatment for anxiety usually tries to help the person identify and change a) the negative appraisals associated with anxiety, b) biased attention towards the source of threat, c) the possibility of preventing feared outcomes, d) safety-seeking behaviors aimed at reducing threat, d) general beliefs (attitudes & assumptions) that lead to problematic appraisals, and e) current situations that confirm these interpretations.

OCD is an anxiety disorder (APA, 2000) and in all anxiety disorders, person interprets situations as more dangerous than they really are (Beck et al., 1985). The OCCWG (1997) defines overestimation of threat in OCD as the belief of exaggeration of the probability and/or severity of feared consequences and harm. Like any other anxiety

disorder, individual with OCD a) becomes anxious in response to stimuli interpreted as being more dangerous to the self and/or others, b) performs maladaptive strategies to reduce anxiety and threat, c) these strategies worsen and increase anxiety, due to the prevention of disconfirmation of the present situation, d) this person perceives more anxiety, owing to the symptoms of anxiety (Sookman & Pinard, 2002).

Despite its common existence among other anxiety disorders, overestimation of threat leads to a different chain of reactions in OCD and thus, it is elaborated in the current cognitive models of the OCD and even in early cognitive models. For example, Carr (1974) and McFall and Wollersheim (1979) mentioned unrealistic threat appraisals in OCD as well as problematic coping strategies (cited in Van Oppen & Arnzt, 1994). Faulty appraisals of intrusions are good examples of this belief domain, because they are interpreted as dangerous and signs for harm in OCD, despite being experienced by normal people (Salkovskis, 1985, 1989). Rachman (1997, 1998) also involved and stressed the importance of threat appraisal in his cognitive model in the development and persistent of symptoms. With the catastrophic appraisals, neutral stimuli turn into threats by expanding range of stimuli around. These stimuli might be external or internal like in ex-consequential reasoning (Van Oppen & Arnzt, 1994). Similarly, OCD patients tend to perceive situations as dangerous, until proven safe (Sookman & Pinard, 2002), and they have a tendency to overestimate the likelihood and severity of aversive events and to overvalue the risk of negative consequences (Rasmussen & Eisen, 1989; Van Oppen & Arnzt, 1994); but this dysfunction appears to be in relation to particular symptom concerns, rather than all negative events (Clark, 2004). Studies about attentional (for processing of OCD-relevant stimuli) and memory biases (e.g. low confidence on

memory or enhanced recall of OCD-relevant stimuli) seem to present support the existence of this dysfunctional belief (Sookman & Pinard, 2002).

There are some characteristic schemas that facilitate vulnerability to OCD. These schemas might lead OCD patients to focus selectively on threatening stimuli and to underestimate their coping ability. Sookman, Pinard and Beck (2001) designed the Vulnerability Schemata Scale (VSS) and described four dysfunctional beliefs in this scale, including perceived vulnerability (i.e., excessive sense of susceptibility to danger), view of/response to unpredictability, newness and change, view of strong affect and need for control. They also found that these beliefs, especially perceived vulnerability, distinguished OCD patients from other anxiety disorder patients and controls. Selected items from the VSS were also included in the threat estimation subscale of the Obsessive Beliefs Questionnaire (OBQ). In terms of coping, it was reported that OCD patients had more negative beliefs (Steketee, Frost & Cohen, 1998) and increase in the OCD symptoms corresponded to increase in severity estimation, while decrease in coping ability (Woods, Frost & Steketee, 2002). In addition, Gilboa-Schechtman, Franklin and Foa (2000) examined the probability and emotional impact estimates of intense positive and negative social events and found that OCD patients had a higher estimated probability of negative events and a lower estimated probability of positive events. They also anticipated the impact of negative events higher. Danger expectancies are also assumed to mediate the anxiety and avoidance experienced by OCD sufferers, and it was specifically found that this expectancy mediated washing compulsion in OCD (Jones & Menzies, 1997).

1.3.5. Perfectionism

Perfectionism, as a multidimensional construct referring the tendency to maintain high standards of performance and extremely self-critical assessments (Frost, Marten & Lahart & Rosenblate, 1990), is influential in various psychological problems (Shafran, Cooper & Fairburn, 2002) such as depression (Hewitt, Flett & Turnbull-Donovan, 1992), eating disorders and social phobia (Shafran & Mansell, 2001). In the conceptualization of OCD, some theorists (e.g., Mallinger, 1984) viewed perfectionism as a manifestation of attaining and maintaining control over the environment to feel safe against harm. Among cognitive theories with respect to OCD (e.g., Guidano & Liotti, 1983; McFall & Wollersheim, 1979; OCCWG, 1997), perfectionism was defined as the belief that there is a perfect solution to every problem; more importantly, perfect performance (i.e., free of error) is possible and necessary, and minor errors also will have serious outcomes (OCCWG, 1997). The common theme among these theories seems that perfectionism focuses on avoiding something unpleasant (i.e., criticism, disapproval, serious consequences, uncertainty or lack of control) (Hewitt & Flett, 2002).

Perfectionism has been suggested as a risk factor for OCD (Rasmussen & Eisen, 1989, 1991), as well as a personality characteristic of the OCD patients (Honjo et al., 1989), and their families (Frost et al., 1994). Moreover, it was reported that dysfunctional perfectionism was associated with OCD symptoms, and dysfunctional perfectionists viewed more negative consequences and displayed more OCD symptoms

(Rheaume, Freeston, Ladouceur, Bouchard, Gallant, Talbot et al., 2000; Rheaume, Ladouceur & Freeston, 2000). From the multidimensional perspective, the subscales of concern over mistakes and doubting about actions of Frost et al.'s (1990) Multidimensional Perfectionism Scale (Frost & Steketee, 1997; Pleva & Wade, in press; Rheaume et al., 1995), and self-oriented perfectionism and socially prescribed perfectionism of Hewitt and Flett's (1991) Multidimensional Perfectionism Scale were found to be associated with OCD symptoms (Antony, Purdon, Huta, & Swinson, 1998; Bhar & Kyrios, 1999; Hewitt & Flett, 1991; Yorulmaz et al., 2006). Because comparison studies did not reveal a consistent and discriminant perfectionism dimension, Antony et al. (1998) suggested that perfectionism in all of anxiety disorders might be associated with a general underlying need for control of events; and thus, it might be a necessary condition for the development of pathology, but does not determine the nature of the disorder. Several authors (Rheaume et al., 1995; Pleva & Wade, in press; Wade, Kyrios, & Jackson, 1998) also asserted that perfectionism may be considered as a predisposing necessary but insufficient trait and/or vulnerability factor for OCD. On the other hand, there are reports on the catalyzer role of perfectionism for checking symptoms (Bouchard, Rheaume, & Ladouceur, 1999), for patients without overt compulsions (Ladouceur et al., 1995), for a specific class of cleaning compulsions (Tallis, 1996) and on the contributor role for responsibility (Pleva & Wade, in press; Bouchard et al., 1999; Yorulmaz et al., 2006). Not just right experiences of OCD patients also present a different support for perfectionism and uncertainty (Coles, Frost, Heimberg & Rheaume, 2003).

1.3.6. Intolerance of Uncertainty

Intolerance of uncertainty refers to the beliefs about necessity for being sure, difficulty of sufficient functioning in ambiguous situations and low capacity of coping with unpredictable change (OCCWG, 1997). Freeston, Rheaume, Letarte, Dugas and Ladouceur (1994) described intolerance of uncertainty as behavioral attempts to control the future and to avoid uncertainty, emotional reactions such as frustration and stress, and belief of adverse and bad effects on person.

Sookman and Pinard (2002) suggested that OCD patients need excessive certainty to control and/or predict events. Individuals with OCD also reported less tolerance to uncertainty (Steketee et al., 1998), and they had more difficulty in and more doubts about making decisions (Frost & Shows, 1993; Sica, Coradeschi, Sanavio, Dorz, Manchisi & Novara, 2004). Furthermore, it was suggested that uncertainty might be closely related to overestimation of threat in that both may lead to increase in the range of threatening stimuli, to increment in the negative appraisals of intrusions and to reduce the perceived ability to cope (e.g., Dugas, Hedayati, Karavidas, Buhr, Francis & Phillips, 2005; Holaway, Heimberg & Coles, in press; Sookman & Pinard, 2002). The relationship between intolerance of uncertainty and OCD might be more prominent for some symptom clusters such as checking and repeating (Tolin Abramowitz, Brigidi & Foa, 2003). Although there were empirical supports recently that it plays a role in OCD (e.g., Tolin et al, 2003), it is not specific to OCD, but it also has a function in GAD (Holaway et al., in press; Ladouceur, Gosselin & Dugasi 2000).

1.3.7. Overview on Instruments Measuring Appraisals and Beliefs in OCD

Along with recent developments in the cognitive conceptualizations of OCD, there are different instruments in the literature that were designed to assess the intrusions, appraisals and beliefs. Taylor, Kyrios, Thodarson, Steketee and Frost (2002) review the relevant literature and stated that there are 16 different instruments focusing on cognitions. However, most of them usually evaluate single or few constructs that do not cover all cognitions in detail. To illustrate, Salkovskis et al. (2000) designed Responsibility Attitude Scale for the assessment of harm and responsibility concerns in OCD, while Shafran et al. (1996) developed Thought-Action Fusion Scale for the evaluation of TAF construct and there are two Multidimensional Perfectionism Scales (Hewitt & Flett, 1991; Frost et al., 1990). On the other hand, there is a need for instruments focusing on several cognitions associated with OCD, since these cognitive constructs are mostly interrelated, and isolation of one from another will possibly result in only one-sided view (Clark, 2002). Accordingly, the OCCWG (2001, 2003, 2005) developed two specific self-report instruments that cover many aspects of cognitions in OCD.

After description of appraisal and belief domains in OCD (OCCWG, 1997), among 19 beliefs, the OCCWG selected the most prevalent, influential and relatively more specific domains which might have etiological and vulnerability significance. These cognitive belief domains have been already defined in above section. Then, the group (1997) determined three levels of measurement: the first level is the experience of

cognitive intrusions, while the second level is the appraisal or the process in which intrusions are evaluated, and the third level is about concerns with regard to more enduring and global assumptions and beliefs that cover more than specific events. Among measurement strategies, self-report version was chosen. According to some criteria (e.g., domain representation, not being a symptom of OCD, an emotional reaction and in the form of double negative), Interpretation of Intrusions Inventory (III) was first developed to assess immediate appraisals of intrusive thoughts. Three domains of OCD beliefs (i.e., responsibility, importance of thoughts and control of thoughts) were focused in this instrument tool, since other three domains were considered to be valid across many contexts and not to be used typically for the assessment of a particular thought. In the Part-I of the III, first there is a brief description of intrusive experiences with some examples, and then, respondents are required to present two recent examples of intrusions that are asked to evaluate their frequency, distress and recency. In the Part-II, there are 31 appraisal items with 10-point Likert type scale. Second, Obsessive-Beliefs Questionnaire was designed to evaluate more enduring assumptions and beliefs (i.e., third level) with 87 items, having 7-point Likert type scale. In consequence, the studies on the psychometric properties of the OBQ and III (OCCWG, 2001, 2003, 2005) demonstrated that these scales were psychometrically reliable and valid instruments. It was also shown that despite being prepared in 6 and 3 subscales respectively, the OBQ seemed to consist of 3 subscales with 44 items (i.e., responsibility/threat estimation, perfectionism/uncertainty & importance and control of thoughts), while the III had a unidimensional structure. However, there are some concerns about distinction between appraisals and beliefs, because two scales and subscales of the OBQ were found to be

highly correlated with each other (Faull, Joseph, Meaden & Lawrence, 2004; OCCWG, 2003, 2005).

OCD is a heterogeneous condition (McKay et al., 2004). Contamination and washing, harming and checking, hoarding, obsessional (few or no overt compulsions) and symmetry came forward as important symptom dimensions (Calamari et al., 2004; McKay et al., 2004). A line of research in that area is on the impact of the OBQ and III in the symptom subtypes of OCD, and this line is at its infancy stage. Even though both of these instruments were found to be associated with OCD symptoms, there are some reports that mentioned the possibility of non-specific relationships (Faull et al., 2004; Tolin, Woods & Abramowitz, 2003). On the other hand, Julien, O'Connor, Aardema and Todorov (2006) examined the symptom clusters of the OCD patients and found that rumination symptoms were more related to the subscale of Importance/Control of Thoughts of the OBQ. However, their regression analyses demonstrated that role of responsibility /threat estimation in rumination scores, perfectionism/uncertainty in checking and importance/ control of thoughts in impulse phobia. Moreover, symmetry was found to be related to perfectionism/certainty domain, while obsessional symptoms were associated with importance/control of Tthoughts. Taylor, Abramowitz and McKay (2005) supported the impact of perfectionism/uncertainty in checking symptoms of the OCD patients, but they also added the evidences for the role of responsibility/threat estimation in contamination and impulse control. Furthermore, these authors revealed separate main effects of these belief domains in OCD symptoms with no interaction, in spite of being related at theoretical level. On the other hand, Ferguson, Jarry and Jackson (2006) tried to validate the factors structure of the III. Because their confirmatory

analysis revealed that neither unidimensional structure nor a three-factor structure adequately fit the data, they made an explanatory examination on the inventory and revealed two factors as responsibility and importance/control of thoughts, with 19 items. This new factor structure predicted OCD symptom severity well. Additionally, both were associated with obsessional thoughts to harm to self/other, and responsibility was significant in predicting checking and cleaning symptom clusters; whereas, importance/control of thoughts was influential in impulses to harm to self/others. Another finding revealing inconsistent factor structure of the OBQ came from Woods, Tolin and Abramowitz (2004). After poor fit of either 3 or 6 factor-structure as a result of confirmatory factor analysis, the authors found 4 factors in a large-scale sample. OBQ-general consisted of mixed items was not unique to OCD, while the factors of distorted beliefs about thoughts (i.e., importance of and need to control of thoughts), perfectionism and responsibility supported the original structure (OCCWG, 2005). Nevertheless, there is also support for three-factor structure of the OBQ. Taylor, McKay and Abramowitz (2005) administered hierarchical factor analysis to the data from a large number of OCD patients and found out that even though there was a higher order factor which accounted for more importance than others, lower order of factors, namely responsibility and over threat estimation, perfectionism and intolerance of uncertainty, importance and control of thoughts was consistent with recent conceptualization of OCD-relevant beliefs (OCCWG, 2001, 2003).

Sica, Coradeschi, Sanavio, Dorz, Manchisi and Novara (2004) examined the Italian version of the OBQ and III, and they confirmed the psychometric properties of these instruments. More importantly, they reported that intolerance of uncertainty,

concern over control of thoughts and perfectionism were specific to the OCD; whereas, overestimation of threat seemed to be a common feature for all anxiety disorders. Overimportance of thoughts and inflated responsibility hardly discriminated clinically anxious patients from normals. On the other hand, Taylor, Abramowitz, McKay, Calamari, Sookman, Kyrios et al. (2006) made cluster analysis of OCD patients in accordance with groups of belief domains (high vs. low). Even though high belief group had higher scores in many OCD-relevant measures, the OBQ scores of low belief subgroup did not differ from a non-OCD comparison group's scores (even equal). Therefore, Taylor et al. (2006) concluded that these dysfunctional belief domains might not play role in all of OCD patients, but only some of them. Calamari, Cohen, Rector, Szacun-Shimizu, Reimann and Norberg (in press) replicated this study and compared the scores of high-low belief groups with other anxiety disorder's and control group's scores. They confirmed Taylor et al.'s (2006) findings that low belief OCD group was not differentiated from other non-OCD groups. Both groups of authors suggested that there is a group of patients with OCD in which these dysfunctional beliefs do not play role in the etiology or maintenance of the disorder. Alternatively, they suggested that there might be other belief domains and cognitive processing differences that were not included by the OCCWG. Among examples, there are not just right experiences (Coles et al., 2003), meta-cognition (Wells & Purdon, 1999) and cognitive self-consciousness (Cohen & Calamari, 2004). After these findings, the OCCWG also began to consider different alternatives and recently, they designed an interview called The International Intrusive Thoughts Interview Schedule, in which appraisals, beliefs and control factors

are examined in interview format in detail. Preliminary examination and cross-cultural evaluation goes on right now (OCCWG, 2006).

1.4. Vulnerability Factors in OCD

Cognitive model in general emphasize vulnerability-stress paradigm to explain the etiology of the psychological disorders. There is an interaction between predisposing (constitutional or learned) and precipitating (environmental) factors. The answer for why certain individuals have an emotional or psychological disorder lies in the idea that precipitating events are likely to facilitate the onset of these disorders for some individuals who have a pre-existing vulnerability to these disorders. For this reason, this paradigm provide some clues for the questions of who, when and which (Riskind & Alloy, 2006). Cognitive theory of Beck (1976) also acknowledges this paradigm and put maladaptive knowledge structures or schemata developed during the course of childhood into the center. These structures also influence attitudes, beliefs and assumptions in different perspectives, and have an immediate effect on the appraisal of the experiences. However, these maladaptive schemas remain silent, until they become activated by stressful life events; then, a chain reaction starts.

Despite being at the beginning stage, there is a growing body of research about vulnerability-stress model in OCD. As for stress part, some evidences showed that there are certain life events which trigger and/or increase the OCD symptoms. Some of the OCD patients report several events before the onset of the disorders, in different ratios (Rasmussen & Eisen, 1991). Among these stressful life events, there are childbirth or

pregnancy (Abramowitz et al., 2001; Fairbrother & Abramowitz, in press; Maina et al., 1999), significant losses, promotion to a new job/position (Albert et al., 2000), sexual problems, and severe physical illness (Jenike, 2001). The content of obsessions seems to be parallel with these stressful events. Furthermore, it was known that stressful life events even worsened the OCD symptoms (Maina et al., 1999). In their prospective study, Coles and Horng (2006) examined the role of stressful and negative life events and their interaction with vulnerability factors (dysfunctional beliefs) in the symptom changes (i.e., vulnerability-stress interaction). They found that these events and those beliefs separately and significantly predicted the changes in OCD symptoms. Nevertheless, they could not yield any finding for the interaction paradigm. On the other hand, the amount of the studies exploring vulnerability section seems to be more in number than stress section at this moment, since examination of life events in OCD requires longitudinal designs and it is also more time-consuming and difficult. On the other hand, it is possible to make different categorizations for the vulnerability factors. One reasonable way to categorize them is to taken the properties of these factors into consideration (Riskind & Alloy, 2006). Therefore, the vulnerability factors of the OCD in the present study were grouped as non-cognitive or distal and cognitive or proximal vulnerability factors.

1.4.1. Non-Cognitive Vulnerability Factors

Non-cognitive or distal vulnerability factors are usually and relatively non-specific constructs that might be influential in several different psychological disorders. Nevertheless, there are some findings indicating the possibilities of unique relationships with specific pathologies. Furthermore, they might also have close connections with and have an influence on their cognitive counterparts, despite being outside of cognitive categorization (Riskind & Alloy, 2006). They might also play a role in core elements of the cognitive models such as misinterpretation of intrusions (Rachman, 1997), harm appraisals and responsibility (Salkovskis, 1985) and thought control (Clark, 2004). Non-cognitive vulnerability factors that are presented in this section include some personality traits, parenting and attachment, self-esteem and religion.

In spite of the inconclusive and specificity of the findings, there are some reports showing the relationship between parental rearing practices and OCD. Parental overprotection, psychological control, less parental caring, less emotional warmth and more rejection are some of the characteristics of parenting that were mentioned in the OCD literature (Abramowitz, 2006; Ayçiçeği, Harris & Dinn, 2002; Doron & Kyrios, 2005; Mancini, D'Olimpio, Prunetti, Didonna & Del Genio, 2000). In addition, insecure attachment pattern (avoidant and anxious attachment) was also reported to be possibly related to OCD (Doron & Kyrios, 2005; Myhr, Sookman & Pinard, 2004). On the other hand, Salkovskis et al. (1999) suggested the possible origins for responsibility that might also exist under parenting style, as well as stressful life event and/or religion: namely,

the role model of significant others' on threat prevention, rigid and extreme codes of conduct and duty, sensitivity to responsibility ideas as a result of being shielded from, a specific event or series of misfortune events that affects oneself but more importantly others, and an incident which thoughts or actions were viewed to have contributed to a serious misfortune. In addition, early parental messages about responsibility, perfectionism and threat were assumed to be able to put the child at risk in interpreting intrusive experiences (Jakobi, Calamari & Woodward, 2006).

Fennel (1997) described three ways of lowering self-worth. Apart from the effects of having a psychological problem in self-worth (e.g., major depressive symptoms/the result or comorbid depressive symptoms or influence), having a low-self-esteem might actually function as vulnerability factor for some psychological disorders. In other words, pre-morbid self-worth increases the likelihood of development of disorder. In that sense, low self-esteem was one of the conditions reported to exist before the onset of OCD (Fava, Savran, Rafanelli & Grandi, 1996). In addition, perception of the self is also important factor in OCD, since individuals respond to intrusions in relation to the self-perception. Rachman (2006) assumes that individuals with pre-existing negative self-view are particularly vulnerable to catastrophic misinterpretations of their intrusions. In line with the cognitive models (Rachman, 1998; Salkovkis, 1985), the most distressing and reactive intrusive experiences are those whose the domain content contradicts with valued aspects of the self the most (Lee & Kwon, 2003; Rowa & Purdon, 2003; Teachman, Woody & Magee, 2006). Despite being not specific to OCD, self ambivalence (i.e., uncertainty in and dichotomy and preoccupation with self-worth) was found to be associated with OCD symptoms (Bhar, 2004; Bhar & Kyrios, in

press). Moreover, OCD patients had lower self-esteem scores (Ehnholt, Salkovskis & Rimes, 1999) and self-worth related with moral standing, social skills and acceptance, opinion of others and relationship with others, criticism, and physical attraction concerns with high obsessionals (Bhar, 2004; Bhar & Kyrios, 1999, 2005; Ehnholt et al., 1999; Doron, Kyrios & Moulding, in press). It is also argued that individuals who believe in themselves to increase the sense of control in the world through behaviors will be more threatened by “preventable” intrusions and they will behave actively and exhibit neutralizations to regain control (Doron & Kyrios, 2005).

Negative affectivity is another non-cognitive vulnerability factor and individuals with negative affectivity are described as having tendency to be worrier, anxious, tense, distressed and to make negative interpretations about self, others and world and to have low self-esteem (Clark, 2004). Actually being high in the negative affectivity corresponds to the neuroticism dimension of Eysenck’s personality characteristics (Eysenck & Eysenck, 1985). Indeed, several studies showed that neuroticism was associated with OCD symptoms in both clinical and non-clinical subjects (Fullana, Mataix-Cols, Trujiillo, Caseras, Serrano, Alonso et al., 2004; Bienvenu, Samuels, Riddle, Hoehn-Saric, Liang, Cullen et al., 2000; Mataix-Cols, Vallejo & Sanchez-Turet, 2000; Samuels, Nestadt, Bienvenu, Costa, Riddle, Liang et al., 2000). Pscyhoticism is another personality dimension that relates positively with OCD; whereas, OCD patients seem to have lower extraversion scores than subclinical sample; thus, some personality characteristics might function as vulnerability factors (Fullana et al., 2004; Mataix-Coles et al., 2000). These traits might also influence other cognitive factors. For example, Scarrabelotti, Duck and Dickerson (1995) found that increases in neuroticism

corresponded to increases in the OCD symptoms, while neuroticism was the best predictor of discomfort resulting from obsessions and compulsions. In addition, these authors viewed responsibility as a trait of psychoticism and reported that it was another significant factor of discomfort from symptoms.

Another base of transition is religion and religious beliefs. Strict religious fundamentalism, rigid and strict religious background and moral codes might contribute to the overvaluation of thoughts; thus, they serve as potential risk factor for OCD (Rasmussen & Tsuang, 1986; Salkovskis et al., 1999; Steketee, Quay & White, 1991; Sica et al., 2002). For instance, intrusive experiences on blasphemous thoughts, images and impulses will draw attention quickly and thereby, will cause more distress for a devout person (Rachman, 2006). Similarly, religion is represented among the common obsession themes (i.e., blasphemy) and it was identified as the fifth common theme of obsessions (Foa, Kozak, Goodman, Hollander, Jenike & Rasmussen, 1995). Religious OCD symptoms are often called as scrupulosity, which refers to excessively and extremely focus on trivial aspects of religion, while excluding important areas (Nelson, Abramowitz, Whiteside & Deacon, in press). Religious obsessions include fears of committing sins, intrusive inappropriate images of a blasphemous nature, fears of punishment by God and going to the Hell. Common religious compulsions are excessive praying, paying excessively attention to minor details in rituals and seeking reassurance from clergy or significant others. These compulsions are performed in a rigid, stereotypic and ritualistic until anxiety decreases (Abramowitz, Huppert, Cohen, Tolin & Cahill, 2002).

The relationship between religion and OCD has been a subject matter of interest since Freud. However, before psychiatric status, OCD was believed to have religious base. The original meaning of obsession was “actuation by the devil or an evil spirit from without” (Greenberg & Witztum, 1991; pg. 173). Repetitive and ritualistic performance, necessity of precision (anxiety-reduction in OCD), status of sin if omitted (anxiogenic in OCD) and a concern on cleanliness and repeated washing (Greenberg & Shefler, 2002), guilt (Shafran, Watkins & Charman, 1996) as well as rigidity (Schultz & Searleman, 2002) are among superficial similarities. Along with these similarities, previous research showed that the religious denomination and strength of religiosity can influence OCD symptoms and beliefs. For instance, it was reported that patients with religious obsessions were more likely to demonstrate increased perceptual aberration, magical ideation and decreased insight (Tolin et al., 2001), and religiosity and high moral standards was associated with OCD symptom severity (Shafran, Watkins & Charman, 1996; Steketee et al., 1991). Scrupulosity also concerned with OCD symptoms, distress and anxiety (e.g., Hutchinson, Patock-Penkham, Cheong & Nagoshi, 1998; Nelson et al., in press; Steketee, Quay & White, 1991). Fears of God and committing sin were found to be related to OCD symptoms (Abramowitz, Huppert, Cohen, Tolin & Cahill, 2002). More importantly, greater religiosity was associated with responsibility, perfectionism, importance and control of thoughts in Christian subjects including both Catholics and Protestants (Abramowitz, Deaconi Woods & Tolin, 2004; Nelson, Abramowitz, Whiteside & Deacon, in press; Sica, Novara & Sanavio, 2002). Sica et al. (2002) also reported that overemphasis of thoughts and need to control thoughts discriminate the level of the religiousness in the groups. There was also a

relation between religiosity and TAF-Morality but not with TAF-Likelihood dimension (Nelson et al., in press; Rassin & Koster, 2003).

1.4.2. Cognitive Vulnerability Factors

Cognitive models of OCD (Rachman, 1997, Salkovskis, 1985) suggest that catastrophic misinterpretations of intrusive thoughts, images and impulses in terms of significance, harm and responsibility cause and maintain OCD. In line with the assumptions of general cognitive model (Beck, 1976), transition between abnormal and normal experiences is provided by these catastrophic appraisals. To illustrate, individuals that interpret their intrusions in a problematic way are viewed as being more vulnerable to obsessions (Rachman, 1997). Accordingly, there are some cognitive factors that are important in the etiology of OCD. These factors are also relatively more specific and proximal to and more influential in OCD. On the other hand, number of studies in that aspect has been increasing recently.

As mentioned before, there are some dysfunctional and maladaptive belief domains in OCD (OCCWG, 1997) and elevations in these domains are assumed to function as vulnerability in the development of the disorder (Clark, Purdon & Wang, 2003; OCCWG, 1997; Rachman, 1997; Salkovskis, 1999). In their prospective studies, Coles and Horng (2006) found that after controlling for Time 1 symptoms, OCD-related beliefs significantly predicted OC symptoms in Time 2. Additionally, they presented some evidence about symptom specificity related to OCD-related beliefs. Responsibility

and threat estimation beliefs were associated with many subgroups. Whereas, perfectionism and certainty concerned with ordering and neutralizing symptoms, while importance and control of thoughts were related to obsessing. Abramowitz and his colleagues (Abramowitz, 2006; Abramowitz, Nelson, Rygwall & Khandker, 2007; Abramowitz, Khandker, Nelson, Deacon & Rygwall, in press) examined pathogenesis of OCD symptoms by examining longitudinally in pre and postpartum periods. They revealed that OCD-related beliefs (i.e., negative appraisals of unwanted postpartum intrusive thoughts) predicted postpartum OCD symptom development. Jakobi et al. (2006) showed that two OCD-relevant beliefs, responsibility and threat estimation, were robust and common predictors of OCD symptoms in both adolescents and their parents. More importantly, attitude of parents seems to have an influence on their children's beliefs, since these authors also found out that responsibility, threat estimation, importance and control of thoughts of the parents were associated with that of children's, and parents' OCD symptoms affected adolescents' symptoms through adolescents' belief on responsibility and threat estimation. On the other hand, thought-monitoring proneness or cognitive self-consciousness might also serve as predisposing factor for interpretations of intrusive experiences, because individuals who are sensitive on this issue will be more prone to be aware of these thoughts and make more catastrophic interpretations easily (Clark, 2004; Cohen & Calamari, 2004).

Rachman (2006) also described four cognitive vulnerability factors. Elevated moral standards refers that "people who are taught or learned that all of their value-laden thoughts are of significance....Striving to be moral, all of one's actions and thoughts must strive for virtue" (pg. 30). Actually another cognitive factor mentioned before (i.e.,

TAF) comes to the scene in that respect. It is a cognitive bias that leads to responsibility and serves as a vulnerability factor. Like Rassin et al. (1999) who assigned etiological role experimentally, Abramowitz et al. (2007) actually supported the idea that TAF (especially likelihood dimension) was also another predictor of postpartum OCD symptoms. Rachman (2006) also mentioned depression and anxiety proneness as other two vulnerability factors. In spite of the fact that which one comes before is known exactly, it was shown that depressive symptoms were more strongly associated with OCD symptoms (i.e., even more to obsessions than compulsions) (Ricciardi & McNally, 1995). Anxiety is also influential in OCD, since anxiety-provoking materials such as films and stressors are known to increase the frequency of intrusions (Rachman, 2006).

1.5. Culture and Psychopathology

Culture can be described as collective patterns of thinking, feeling and acting in broad sense that have significant influence in the functioning of individuals in groups, of groups and societies, and function as mental software for individuals (Hofstede, 2001). Culture or behavior patterns and value systems shared by a group of people (Sica, Novara, Sanavio, Dorz & Coradeschi, 2002) is viewed as a major source in determining human beings' behaviors (Rozin, 2003). The interest on culture seems to begin in the area of psychotherapy first and then, the question of how one's culture affects his/her mind, and hence, psychopathology has been initiated recently (Draguns & Matsumi, 2003). Culture might have an effect on psychopathology in different ways: a) via

culturally determined expectations and standards, producing stress on individual (i.e., shaping phenomenology), b) creating specific problems such as with changing social roles and/or social support systems, c) contributing to the vulnerability (i.e., by means of culturally prescribed parenting experiences) and/or to the development of a unique psychopathology (e.g., depression due to societal structure with low cohesion, d) influencing how the problem is presented or expressed by the patient. In addition, culture might be influential in labeling. (Cheung, 1998; Sica et al., 2002)

There are two main competing orientations in cross-cultural psychopathology and both have opposite reflections. With the effect of biological approach, universalist or etic orientation assumes cultural invariance of mental disorder and mostly is with studies in which cross-cultural comparisons are made for the rates of some psychiatric disorders defined according to classification systems developed in the West. Epidemiological or phenomenological research of a psychiatric disorder is a good example of this orientation. On the other hand, relativist or emic approach focuses on the culture specific phenomena and examine the meaning of illness in that cultural context, like in the cases of culturally bound syndromes such as koro syndrome (an anxiety syndrome over imaginary penis shrinkage seen in Southern China), taijin kyofusho and ataques de nervios. In consequence, both of these orientations have pros and cons (Cheung, 1998; Friedman, 1998).

In order to examine the impact of culture in psychopathology, a framework or definition that can be applied across different cultures is needed. Hofstede (2001) defined four national dimensions: a) Individualism-Collectivism refers to the degree that the society reinforces individual or collective achievement, b) Masculinity-Femininity is

about traditional gender roles, control and power that society emphasizes, c) Power Distance focuses on the degree of equality between people in the country, d) Uncertainty Avoidance refers to the level of tolerance for uncertainty and ambiguity within society. Hofstede also collected relevant data from employee in IBM in more than 40 countries all over the world, including Turkey. For example, Turkey seems to be a more collectivist (e.g., interpersonal relationships), relatively masculine (e.g., high degree of gender differentiation), uncertainty avoidant (low tolerance for ambiguity) with inequalities of power (i.e., emphasis on power and wealth). Canada, on the other hand, is more individualistic (e.g., personal achievement) country that is also tolerable for uncertainty with low power distance (equality between societal levels). Despite some methodological critiques about his work (McSweeney, 2002), there are also some researches supporting this view and focusing on these cultural dimensions and psychopathological constructs (e.g., Schimmack, Oishi & Diener, 2005). Shupper et al. (2004) examined Canadian and Japanese subjects and confirmed Hofstede's table of national dimensions that Canadian participants were higher in uncertainty oriented, in resolving uncertainty, and uncertainty avoidant countries were more likely to have collectivist tendencies. In other words, uncertainty oriented people (i.e., Canadians) are more self-focused and they prefer uncertain situations and discovery; whereas, certainty oriented people (i.e., Japanese) try to maintain clarity and dislike ambiguity (Shupper et al., 2004). It is also asserted that high uncertainty avoidant people experience more anxiety, distress and aggression (Hofstede, 2001).

Arrindell and his colleagues made several researches using these national dimensions in psychopathological constructs. Arrindell, Hatzichristou, Wensink,

Rosenberg, Twillert, Stedema et al. (1997) examined the predictive validity of cultural dimensions as well as other societal variables such as national wealth in subjective well-being. They revealed that masculinity was positively associated with well-being in the poorer countries but feminine-rich countries had the highest well-being levels. It was also found that masculine and highly uncertainty avoidant cultures experienced more pathological fears (Arrindell, Eiseman, Richter, Oei, Caballo & Sanavio, 2003; Arrindell, Eiseman, Oei, Caballo & Sanavio, 2004). Comparison of Canadians, East Asian Canadians and Japanese showed that people from collectivist and high power-distance countries (as well as Buddhism-influenced) tend to utilize more internally targeted control strategies (i.e., attempts to control the self) in response to stress and coping contexts, while self-enhancing interpretive control (i.e., perceived growth) is more common among Western countries (Tweed, White & Lehman, 2004). Moreover, national culture dimensions also seem to be related to response styles. Johson, Kulesa, Cho and Shavitt (2005) explored the relationship between culture and response bias in 19 countries and found that person in high masculine and power distance would tend to have extreme response options (e.g., selection of end-points), while acquiescence bias (i.e., agreement bias or social desirability) was more observable for people living in countries that were high in collectivism, power distance and low in masculinity.

Table 1. *Examples of the countries assessed depending on the cultural dimensions of Hofstede (2001)*

Country	Power Distance	Individualism	Masculinity	Uncertainty Avoidance
Australia	36	90	61	51
Austria	11	55	79	70
Belgium	65	75	54	94
Brazil	69	38	49	76
England	35	89	66	35
Canada	39	80	52	48
Chili	63	23	28	86
Colombia	67	13	64	80
Denmark	18	74	16	23
Germany	35	67	66	65
Finland	33	63	26	59
France	68	71	43	86
Greece	60	35	57	112
India	77	48	56	40
Ireland	28	70	68	35
Israel	13	54	47	81
Italy	50	76	70	75
Japan	54	46	95	92
Malaysia	104	26	50	36
México	81	30	69	82
Netherlands	38	80	14	53
New Zealand	22	79	58	49
Norway	31	69	8	50
Panama	95	11	44	86
Filipinos	94	32	64	44
Portuguese	-	27	31	104
Singapore	74	20	48	8
South Africa	49	65	63	49
South Korea	60	18	39	85
Spain	57	51	42	86
Sweden	31	71	5	29
Switzerland	34	68	70	58
Thailand	64	20	34	64
Turkey	66	37	45	85
U.S.A	40	91	62	46
Yugoslavia	76	27	21	88

Note: High scores point to increase in the relevant variable (Hofstede, 2001; cited in & translated from Arrindell et al., 2003).

Other than 4 national dimensions (Hofstede, 2001), there is independent-interdependent distinction on a continuum ranging from egocentric (i.e., Western countries) to sociocentric views (i.e., traditional countries) (Markus & Kitayama, 1991), depending on the view of self. Furthermore, individualism-collectivism dimension is also described in horizontal vs. vertical dimension (Triandis & Gelfand, 1998). The definition of self, priority of personal goals, the emphasis on exchange and the importance of attitudes and norms define this four-dimensional structure. The emphasis in the horizontal axis is on the equality, while it is on the hierarchy for vertical axis (in both, the range is again individualism-collectivism); thereby, there are different kinds of individualism and collectivism and relevant societal characteristics also change. Çukur, Guzman and Carlo (2004) examined values and these dimensions in USA, Philippines and Turkey and found that collectivism corresponded to traditional values, conservatism and conformity in all three groups. Collectivists were also higher in subjective religiosity which was reported to be positively related to conservative values, maintenance of social order and negatively to individualistic tendencies in three groups. More importantly, the authors mentioned that even though monotheistic religions such as Judaism, Christianity and Islam emphasize collective tendencies in general, denominations of Christianity might differ in that sense. Catholicism seems to prompt collectivism; whereas, Protestantism supports individualism. Collective values are also stressed in Islam but at

the same time, personal achievement and work as parts of salvation might be linked to individualism. On the other hand, there might be alternative descriptions in terms of individualism and collectivism values. Contrary to Canada which show individualistic tendencies (Oyserman, Coon & Kemmelmeier, 2002), it was also suggested that Turkey, which seems to be collectivist (Göreğenli, 1997; İmamoğlu et al., 1993), is not actually pure collectivist and has both elements (e.g., relational interdependence; Kağıtçıbaşı, 1996; Uskul, Hynie & Lalonde, 2004) respectively.

In brief, culture and relevant factors might contribute to the psychopathology in different ways. In order to investigate its role, it is needed that culture should be defined operationally. There are different ways in the operational definitions of culture. Hofstede (2001) defined it in four national dimensions, while others use different dimensions such as horizontal-vertical individualism-collectivism (Triandis & Gelfand, 1998). With unique characteristics in these dimensions mentioned above, culture might also have an influence on OCD. Uncertainty avoidance is one of Hofstede's dimensions but at the same time, it is also one of faulty belief domains functioning in OCD (OCCWG, 1997). In addition, gender roles accepted and imposed to the individuals by culture are also important. Arrindell, Kolk, Martin, Kwee and Booms (2003) assumed that rigid masculine schemata for appraisal and coping with life events may cause psychological problems in men, and investigated the masculine gender role stress in OCD symptoms in anxiety disorder patients. The authors found out that masculine gender role stress was more closely associated with OCD-checking than OCD-cleaning, and they speculated that this difference might be accounted by appraisal of complying masculine gender role (i.e., failure in meeting masculine standards in different evaluative contexts) and more

importantly of excessive responsibility felt at home/work. In other words, it is possible to suggest that the cognitive and non-cognitive factors in vulnerability, appraisal and control dimensions in OCD symptoms might function differently and/or more efficiently in cultures with specific characteristics.

1.5.1. Culture and OCD

Anxiety seems to be a universal term in the modern world. However, it is affected by multiple variables such as antecedent events, appraisal, physiological reactivity, responses from oneself and others to the event and labeling. Even though cross-cultural epidemiological studies found very similar prevalence rates for different anxiety disorders across cultures (Horwath & Weissmann, 2000; Weissmann et al., 1994), there might be variations in how anxiety symptoms described and experienced (Friedman, 1998). Namely, recent development in emotion theory indicated the impact of culture in emotions as an element providing context (Mesquita, 2001; Mesquita & Walker, 2003) and in the appraisal process (Mauro, Sato & Tucker, 1992). Especially expression of anxiety as a part of “idiom of distress” seems to differ across cultures (Friedman, 1998). In addition, meaning of anxiety (and symptoms) with its content might vary across different cultures. Anxiety might even be adaptive in some cultures by drawing attention from family and community around the individual to help or to relieve distress (Al-Issa & Qudji, 1998). Accordingly, there are many variables that might be affected by culture such as sense of origin, view of self, use of language, experience and

expression of symptoms during examination of culture and anxiety relationship. When culture-bound syndromes like koro syndrome and taijin kyofusho (Friedman, 1998; Cheung, 1998) are taken into account, the role of culture in anxiety becomes more salient. In consequence, it is possible to suggest for anxiety disorders that these disorders exist in every culture, but they differ in phenomenology, modes of expression, communication and structure of cognitions (Good & Kleinman, 1985; cited in Draguns & Matsumi, 2003).

As for OCD, it is possible to state that there are both similarities and differences around the world. First, there are similar epidemiological (i.e., prevalence rate-2.5 %) and phenomenological (e.g., symptom manifestation differences in gender) characteristics in both community and clinical samples from countries all over the world, including Turkey (Çilli et al., 2004; Horwath & Weissmann, 2000; Tükel et al., 2004; Weissmann, et al., 1994). On the other hand, the impact of culture is still under investigation (Fontenelle, Mendlowicz, Marques & Versiani, 2004). In this section, cross-cultural differences will be examined in two subtitles in which differences can be observed easily.

1.5.2. Cross-cultural Differences in the Content of Obsessions

As mentioned above, despite obvious similarities in the phenomenology across cultures (Weissmann et al., 1994), the content of OCD symptoms is one of the areas where cultural differences are observed. There are different themes in OCD symptoms in

various frequencies, but there seems over-representation of aggression themes in obsessions in Brazil (Fontenelle et al., 2004) and UK (Okasha et al., 1994), and of sexual themes in Mexico (Nicolini, 2002); whereas religious issues appears more salient in the content of obsessions in Egypt and India (Okasha et al., 1994), Israel (Greenberg, 1984; Zohar, Goldman, Calamary & Mashiah, 2005), Saudi Arabia (Mahgoup & Abdel-Hafciz, 1991), Bahrain (Shhoka, Al-Haddad & Raees, 1998; cited in Greenberg & Shefler, 2002) and Turkey (especially eastern part; Millet & Tezcan, 1997). For instance, Okasha et al. (1994) found that the most common OCD symptoms were related to religious themes, and contamination obsessions (60%) and repeating compulsions (68%) but this was not the case for India and UK. A study performed in Saudi Arabia (Mahgoup & Abdel-Hafciz, 1991) reported body-washing and fear of contamination linked to religion were frequent. Another study in Qatar mentioned that patients often assumed obsessional thoughts to harm self/others as the impulses induced by devil (Al Issa & Quidj, 1998). Accordingly, it seems that in countries where conservative religious practice and knowledge (e.g., in Jewish & Islamic) are emphasized, religious themes are common. Religious obsessions might be more in the cultures where morality that is based on the religion is salient or where religious nature of upbringing, education and life style are salient (Clark, 2004; Okasha, 2002). In four study performed to examine phenomenology of the OCD in Turkey, it can be observed that there is a tendency to increase in the frequency of the religious obsessions toward eastern part, where more conservative values are kept (Eğrilmez et al., 1997; Karadağ et al., 2006; Tezcan & Millet, 1997; Tek & Uluğ, 2001).

1.5.3. Cross-Cultural Differences in the Cognitions

Culture provides cognitive frameworks or knowledge structures which interact with particular value systems and goals, and it plays a significant role in structuring problematic cognitions (Good & Kleinman, 1985; cited in Draguns & Matsumi, 2003). For instance, responsibility beliefs are probably different in Japan (e.g., in the past, people could kill themselves if they failed to fulfill their premises). In countries such as Italy and *Turkey* (italics is added by the present writer), thought-action fusion, which is actually closely linked with religion, and superstition might be seen as normal and thus, prevalent (Sica et al., 2002; Yorulmaz et al., 2004). However, the findings are inconclusive, since the interest on the cross-cultural differences on OCD-relevant cognitions has begun recently.

Sica, Novara and Sanavio (2002) found that high superstitious people scored higher on measures of some OCD beliefs (i.e., over-estimation of threat & mental control) and OCD symptoms (i.e., contamination). Overemphasis of threat and perfectionism discriminated high and low superstitious subjects. The authors concluded that superstition may develop predisposition for OCD, and superstitious behaviors and beliefs are culturally accepted and prevalent but not viewed as pathological. In another study, Australian and Italian non-clinical groups were compared on different dimensions of responsibility, perfectionism and OCD symptoms (Kyrios, Sanavio, Bhar & Liguori, 2001). They reported that despite the similarity in direction of the relationships, patterns of association was stronger for Australian sample between responsibility (blame and personal), perfectionism (self-oriented) and OCD symptoms, and there were major

differences between two groups in the correlations for urges/worries subscale of Padua Inventory. Thus, Kyrios et al. (2001) asserted that Anglo-Celtic culture might focus more on personal control issue than Italian culture. Sica, Frost and Sanavio (2001) explored the relationship between OCD-relevant beliefs and appraisal (i.e., OBQ & III) and OCD symptoms, and they revealed that the strength of the relationships was the highest for US students; then, Italians came and at the end, there were Greek students with the weakest pattern. Sica et al. (2002) speculated that physical closeness of Greece to Eastern cultures might be accounted for this difference but they also draw attention to the need for further studies. On the other hand, Yorulmaz et al. (2004) yielded that TAF-morality and OCD relation was more prominent in Turkey, on the contrary to the Western findings (e.g., Shafran et al., 1996). They suggested that TAF-Morality is closely associated with social approval and religious values and thus, it may be critical in especially cultures like Turkey, where collectivist values are still granted.

Apart from being a vulnerability factor (e.g., Rasmussen & Tsuang, 1986; Salkovskis et al., 1999; Steketee et al., 1991; Sica et al., 2002), religion is another area that contributes to the possible cross-cultural differences. It was already known that there is a relationship between religiosity and OCD (e.g., Steketee et al., 1991). On the other hand, there might be differences in both religious presentations and the impact of religion on cognitions between cultures, possibly because of different religious teachings and doctrines.

In both Judaism and Islam, religious presentations of OCD symptoms seem to derive from normal religious habits. The focus is on cleanliness and purity in Jews and Muslims, as compared to Christianity in which liturgy is prominent. For instance,

dietary, menstrual and preprayer ablutions and checking were salient for the first couple. For Jews, meat can come from only certain animals (called Kosher), which should be prepared in a particular way. Milk and meat foods should be kept separate. All bread in home should be removed before the festival of Passover, and for weeks before this festival, housewives clean the houses meticulously again and again. Menstrual purity is another potential focus for Jews and impurity is forbidden. Men are also expected to be clean before prayer. Unlike Christianity, confession is carried out with a minor prayer in Judaism, (Greenberg & Witztum, 1991). In addition, the focus is community and guilt is seen collectively; thus, public confession is the proper way (Favier, O'Brien & Ingersoll, 2000). A similar pattern also exists for Muslims. Like Islam which is a relatively ritualistic religion that requires prayer five times a day and should be preceded by physical ablution, Judaism tends to emphasize action and behaviors (Siev & Cohen, in press). In Islam, mental and bodily preparation to prayer is performed through a ritualistic cleaning process of certain body parts in a specific order and specific number of times. Sexual intercourse, ejaculation and menstruation also require physical and spiritual cleaning. Muslims believe that they should avoid almost everything after such events and should get a ritualistic bath for cleaning. If not, bad luck and committing a sin are inevitable (Karadağ et al., 2006). Furthermore, another condition which seems unique to Islam comes from a psycho semantic word, “waswas”, which might mask the OCD symptoms and postpone psychiatric/psychological help. Originally it is in the Farsi language (*waswaseh* in Arabic root) and also mentioned in Koran (Ghassemzadeh et al., 2002; Okasha, 2002). It also exists in Turkish (i.e., “vesvese”). In Islamic practice, it refers to excessive doubts about proper and orderly completion of any religious practice.

During and/or before prayer, various doubts might pop up into mind and person can not easily get rid of; thus, this condition causes distress, doubts about correctness of prayers, repeating etc. It is simply viewed as a temptation of the devil that distracts faithful person from carrying out daily religious duties (Al Issa & Qudji, 1998). In daily life, it also has positive connotations (being careful, meticulous etc.) but mostly reminds negative situations. Like Judaism, there is no confession in Islam but person can confess and also repent with prayers and/or specific votive offerings. On the other hand, Christianity emphasizes individual in that sin is viewed from the view of personal awareness, since human being has a tendency to commit sin (i.e., inherited from Adam-the original sin) (Favier et al., 2000). Christianity, especially Protestantism, stresses on thoughts and intentions (e.g., Jesus' exhortation on lust), mental purity and derive for excellence (Sica, Novara & Sanavio, 2002). There are relatively few behavioral rituals, since salvation is associated with belief of Jesus as savior (Siev & Cohen, in press). Liturgy is another area of religious life and the focus of OCD symptoms in Christianity is prominent in this area. Confession is a regular and ritualistic sacrament that should be often repeated by especially Roman Catholics (Greenberg & Witztum, 1991).

Issues and values believed to have prominent relationships with morality are transmitted from parents to child and these values are internalized (i.e., moralization). Since there is a close association between morality and religion, religion will also contribute to the immediate appraisals. In addition, the process of moralization and issues to become moralized will differ significantly across religious groups and denominations (Rozin, 1999). To illustrate, religious symptoms in OCD appear to replicate the beliefs of sufferers: Muslim OCD patients with ritualized washings and

prayers, Jews with worry about Kosher (certain animals meat obtained) and Catholics with repeated confession (Greenberg & Witztum, 2001; Okasha et al., 1994).

Furthermore, Jews tend to have higher priority on religious practice, while priority belongs to religious beliefs for Protestants, who hold stronger beliefs that mental states are controllable and closely related to individual mental states (Cohen & Rozin, 2001; Cohen, Siegel & Rozin, 2000).

Similarly, Siev and Cohen (in press) found that Christians had higher in TAF-Morality than Jews and religiosity was related to TAF only for Christians. Rassin and Koster (2003) verified this finding by showing that relationship between religiosity and TAF-Morality was stronger for Protestants. Protestants were also found to have greater fears of God and sinful thoughts than Catholics and Jews (Abramowitz et al., 2002; Nelson et al., in press). Accordingly, religion with its components also seems to influence the content and presentation of OCD symptoms and to demonstrate variability across cultures and denominations. On the other hand, religiosity was found to be related to responsibility, perfectionism, importance and control of thoughts and intolerance for uncertainty in both Protestants and Catholics (Abramowitz, Deaconi Woods & Tolin, 2004; Nelson, Abramowitz, Whiteside & Deacon, in press; Sica, Novara & Sanavio, 2002). Unfortunately, there are almost no studies that compare Muslims and other religions in the cognitive factors. Few studies only examined and supported the role of key factors separately in Muslims (e.g., Ghassemzadeh et al., 2005; Yorulmaz et al., 2006) and stressed the impact of TAF-Morality in OCD (Yorulmaz et al., 2004). Nevertheless, the research in that area is inconclusive yet. To summarize, it can be inferred that on the contrary to the general impression (e.g., Yossifova & Loewenthal,

1999), several studies presented evidences that religious and cultural norms, morality and values might provide content for OCD symptoms and religiousness might provide a setting for the expression of OCD, instead of a cause of the disorder (Greenberg & Witztum, 1991; Greenberg & Shefler, 2002; Greenberg, 1984; Lewis, 1995; Miguel & Hounie, 2002; Okasha, 2002).

1.6. Aims of the Present Study

Taking into consideration of the relevant literature findings, all of the three recent cognitive models and their core factors (Clark, 2004; Rachman, 1997; Slakovskis, 1989) were separately examined and empirically supported; however, there has been no study focusing on all models of OCD in one study. This standpoint is similar for all vulnerability factors. In other words, the majority of the research assessed the associations of these factors with OCD separately, and the relationship among themselves and relevant cognitive constructs has not been examined in detail yet. On the other hand, there are also some contradictory findings which reveal some questions about the validity of these constructs. For instance, some studies examined the validity of the inflated sense of responsibility and yielded no or weak associations between responsibility and OCD (e.g., Emmelkamp & Aardema, 1999; Frost et al., 1994; Freeston et al., 1992; Wilson & Chambles, 1999). Furthermore, the appearance of new cognitive models in the course of time illustrates that no one cognitive model is actually decisive. There is also a need for the integration of these current cognitive models which

emphasize the processes with different keystones at different levels. Another deficiency in the relevant literature is that the samples of the majority of the studies were mostly drawn from Western and Christian and/or Jewish cultures. In addition, there is also a lack of research exploring the impact of different cognitions in OCD. Given that there might be a possible impact of culture in the nonspecific, appraisal and control factors in OCD, more research is needed with regard to the findings from non-Western and Islamic cultures in the relevant literature. In consequence, this point reveals a gap with regard to the impact of culture on the etiology and maintenance of OCD in Islamic culture. In other words, these cognitive variables are needed to be supported in non-Western cultures, and their interactions explored in comparison, with other cultures.

In order to make up for these deficiencies in the relevant literature, the present study proposes a new comprehensive cognitive model for OCD symptoms, which includes several cognitive and other vulnerability factors mentioned in the models of Salkovskis (1989), Rachman (1998) and Clark (2004). Figure 4 presents the general guidelines of the proposed model. The current comprehensive model assesses many variables in 2 higher order factors; namely, distal and proximal vulnerability variables. Consistent with the relevant literature, the first group is vulnerability factors that are distal and relatively non-specific and non-cognitive. This group includes religion, morality, personality, cognitive self-consciousness, self-esteem and some demographical information. However, in the present study, owing to practical constraints, religion, personality, self-esteem and demographic information constitute vulnerability variables. The second group is proximal factors that can be examined in 2 separate categories. The interpretations of intrusions (as immediate appraisals), obsessive-compulsive beliefs and

thought action fusion tendency (as general beliefs) make up the first proximal category which directly influences the interpretation process and thus, are called appraisal factors in general. They function proximally in OCD and they are relatively unique for the OCD symptoms. This group corresponds to the critical points emphasized by Salkovskis (1989), Rachman (1997, 1998), and Clark (2004). Then, thought control factors (i.e., thought control strategies and thought suppression) come into the scene. In other words, being vulnerable in different aspects, it is assumed that a person appraises the experience of intrusions as a sign of threat, importance, responsibility and control. It is also expected that the interpretation of intrusions in this specific way trigger deeper belief domains and assumptions. The activation of these belief domains reveals discomfort and anxiety, and a need to take control; thus, the person will exhibit effort to control these thoughts with various control strategies and even thought suppression. This point is included in the present comprehensive model with a second category of the proximal variables named as control factors. Despite leading temporary relief, thought control will result in failure (similar to the one in thought suppression or is the pursuit of the perfect state) and interpretation of this failure (i.e., secondary appraisal like in Clark's model, 2004) will continue the existence of threat, danger, responsibility and possible serious consequences as well as frequency and salience of intrusions or obsessions, and thus discomfort and anxiety. Therefore, compulsive behaviors are exhibited to prevent these consequences, and this will provide temporary relief from anxiety until the next intrusion occurs.

The findings that unwanted and intrusive thoughts are experienced by everyone (Clark & Purdon, 1995; Salkovskis, 1993) and the difference between normal and

abnormal lies in the appraisal process, frequency and distress (Rassin et al., 2001) has already been mentioned before. Accordingly, the relevant studies in the literature also included non-clinical samples (i.e., in more concrete terms subclinical samples that didn't have a psychiatric diagnosis but were high on OCD symptoms) (Burns, Formea, Keortge & Sternberger, 1995; Gibbs, 1996; Mataix-Cols et al., 2000). It was even suggested that nonclinical obsessive-compulsive phenomena, which can be accepted as a milder variant of OCD, exists on a midpoint between controls and clinical groups (Gibbs, 1996). Therefore, the examination of a subclinical group for OCD may facilitate the understanding both of natural and developmental processes underlying the disorder.

Accordingly, the goals of the present study are (a) to adapt and examine initial psychometric properties of the Obsessive-Compulsive Beliefs Questionnaire (OCCWG, 2001), Interpretations of Intrusions Inventory (OCCWG, 2001) and Thought Control Strategies Questionnaire (Wells & Davies, 1994) into Turkish, (b) to assess all of the three current cognitive models of OCD symptoms within a comprehensive framework and, (c) to explore the impact of culture in OCD symptoms. The current study aims to examine the contribution of both nonspecific and cognitive vulnerability factors to OCD symptoms and to explore inter-relationships in nonclinical subjects from Turkey, a country lying between Europe and Asia, and is a developing secular-Islamic country. Furthermore, in order to evaluate cross-cultural differences, this study also aims to test the model in the nonclinical subjects from Canada, a relatively more individualistic, less masculine, less uncertainty avoidant and relatively Christian country. Generally speaking, it is expected that even though there will be a similarities in the relationships among the nonspecific, appraisal and control factors and OCD symptoms in two cultures

(i.e., in line with conceptual model given above), the strength of the relative role and impact of these variables (e.g., religiousness, beliefs, thought control strategies) might differ.

In consequence, in line with the goals of the study, the research questions of the present study can be grouped under two categories. Those focusing on the adaptation of the instruments are as follows:

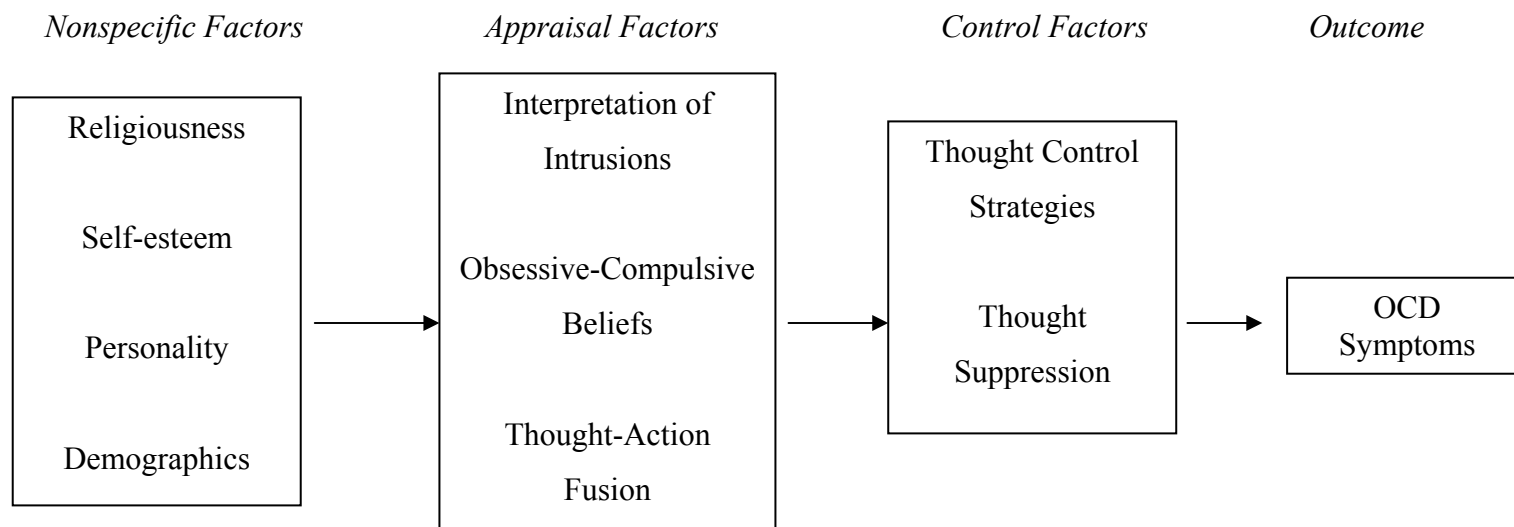
1. Are the Turkish versions of the III, OBQ and TCSQ psychometrically reliable and valid instruments for Turkish university students?
2. Are these instruments associated with problematic appraisals, OCD-relevant beliefs and thought control strategies in the OCD symptomatology?

Under the second category, the following questions are about the aims of the main study that focus on the interrelationships among cognitive factors and OCD symptoms:

3. Are there any cross-cultural differences between Turkish and Canadian samples in the nonspecific, appraisal and control factors?
4. Does religiousness make a difference in the nonspecific, appraisal and control factors of OCD within and between Turkish and Canadian samples?
5. Does religiousness make a contribution to the nonspecific, appraisal and control factors of the OCD in Turkish and Canadian subjects? In other words, does religiousness trigger any nonspecific, appraisal and control factors for OCD symptoms?
6. Are there any cross-cultural differences in the relationships among these cognitive factors?

7. Do these nonspecific and other cognitive factors predict OCD symptoms similarly in both cultures?
8. Is the comprehensive model, suggested by the present study (Figure 4), valid for both Turkish and Canadian data?

Figure 4. *A comprehensive model for OCD symptoms*



CHAPTER II

METHOD

2.1. Overview

The main study began, after the completion of the adaptation procedure for the Interpretation of Intrusions Inventory, Obsessive Beliefs Questionnaire and Thought Control Questionnaire and translation procedure that was described in the present procedure section. The aim of the present study was to examine the relative roles of OCD-relevant nonspecific, appraisal and control factors in line with a comprehensive cognitive model of OCD symptoms, and to explore the impact of culture in these factors by investigating different samples from Turkey and Canada. In this section, sample characteristics, descriptions and psychometric properties of the current instruments and procedure of the study is presented.

2.2. Sample

The sample of the present study was composed of two different groups, namely nonclinical university student samples from Canada and Turkey. Canadian sample consisted of 360 university students drawn from various departments of The University of British Columbia, Vancouver-Canada on the basis of voluntary participation, and they were compensated with credit points by the Department of Psychology Research Participation System. However, only those who have been living in North America more than half of their lives were included in the current study ($N = 281$) in order to attain a composite population as much as possible, since Vancouver is one of the most cosmopolite cities in the world, and the immigration rate is fairly high (especially from East Asia). There were 69 male (25 %) and 212 female (75%) students with the mean age of 19.99 (1.99 Sd – range: 17-34) in the Canadian group. Moreover, the ethnic origins reported the most in this group were Caucasian (42 %) and Asian (44 %). Religious affiliation that were reported by this group were as follows: Christianity (37 %), Eastern religions (e.g., Buddhism & Sikhism - 7.5%), Islam (2.1%), Jewish (1.1%) and uncategorized such as agnostism, spirituality (1.8%). Finally, twenty one percent reported that they did not have any, while thirty percent did not answer the question at all.

In line with the aims of the present study, the second group of nonclinical participants was made up of 309 university students from various departments of the Middle East Technical University, Ankara-Turkey. They were also compensated with

bonus points for the participation to the present study. Only those whose native language was Turkish were included in this group. There were 151 male (49%) and 157 female (51%), with the mean age of 21.26 (1.88 Sd - range: 18-27). Fifty seven percent of the Turkish sample reported big cities as the place where they spent most of their life up to now, while 38 % of the subjects lived in cities. Seventy percent of the Turkish subjects stated their religious affiliation as Islam; whereas, 10 % of this group stated that they had a religion but did not specified, while 17 percent of the Turkish sample reported that they did not have religion and 3.2 percent did not answer this question at all.

2.3. Instruments

The instrument set of the current study was composed of the Demographic Information Form and nine self-report instruments aimed at the evaluation of the factors provided in the Figure 4; namely Eysenck Personality Questionnaire-Revised & Abbreviated (EPQR-A), Religiousness Screening Questionnaire (RSQ), Rosenberg Self Esteem Scale (RSES), Interpretation of Intrusions Inventory (III), Obsessive-Compulsive Beliefs Questionnaire (OBQ), Thought-Action Fusion Scale (TAFS), Thought Control Strategies Questionnaire (TSQ), White Bear Suppression Inventory (WBSI), Responsibility Attitude Scale (RAS), Padua Inventory-Washington State University Revision (PI-WSUR).

2. 3. 1. Demographical Information Form (DIF)

DIF was designed for the current research and included demographical variables such as gender, place of birth, check of psychiatric status for subjects etc. (See Appendix A for the DIF).

2. 3. 2. Eysenck Personality Questionnaire-Revised & Abbreviated (EPQR-A)

Originally Eysenck Personality Questionnaire (EPQ) was designed to assess personality in the dimensions of neuroticism, psychoticism, extraversion and lie with 100-item Yes/No questions, in line with Eysenck personality theory (Eysenck et al., 1985). In the theory, three relatively independent dimensions were described. Contrary to the introversion, being extraversion refers to the tendency to sociability, assertiveness, being open to communication and impulsivity. Neuroticism points to the emotional stability or excessive reactions. Whereas, psychoticism refers to extraordinary personality characteristics such as insensitivity to others, aggressiveness and being insecure etc (Eysenck & Eysenck, 1975). Because the original version was quite time-consuming and caused some difficulties in administration, two versions with similar response options to the original were developed: shortened version with 48 items (Eysenck & Eysenck, 1991) and its abbreviated version (EPQR-A) with 24 items

(Francis, Brown, & Philipchalk, 1992). EPQR-A, 24-item version, was utilized in the present study. There are three main personality dimensions with six items each. Furthermore, lie dimension (with 6 items) was also added to the original questionnaire in order to assess validity of responses to the scale and social desirability (Eysenck et al., 1985). Francis et al. (1992) administered EPQR-A to the samples from England, Australia, Canada and USA, and revealed satisfactory reliability and validity values for three dimensions. The only exception was psychoticism with low internal reliability values. Psychometric properties were supported by different studies (e.g., Forrest et al., 2000, Shevlin et al., 2002). EPQR-A was also found to be associated with some parenting styles and self-esteem (Arrindel et al., 2005).

EPQR-A was adapted into Turkish by Karancı, Dirik and Yorulmaz (in press), and administered a group of sample from four different universities across Turkey. With complete congruent factor structure with the original study (Francis et al., 1992), reliability analysis in Turkish version showed that extraversion, neuroticism and lie dimensions were found to have satisfactory internal consistency values ($\alpha = 0.78$, $\alpha = 0.65$ & $\alpha = 0.64$ respectively). Like the original study (Francis et al., 1992), psychoticism had lower reliability ($\alpha = 0.42$). Moreover, validity analysis of the Turkish version showed promising findings and these analyses revealed consistent findings with Arrindel et al.'s study (1995). To illustrate, neuroticism was found to positively related to overprotection and rejection attitudes of parents; whereas, it was negatively associated with parental warmth, self-esteem (See Appendix A for the EPQR-A).

2. 3. 3. Religious Screening Questionnaire (RSQ)

Along with the aims of the current study, a new self-report measure was designed for the present study, called as the Religiousness Screening Questionnaire (RSQ), in order to screen religiousness of the subjects and to assess its impact on OCD symptoms. RSQ starts with an open-ended question of religious affiliation (if any). Then, it includes 7 questions about appraisal of personal religiousness and commitment to the religion. First, there are 4 questions about religiousness (i.e., degree of involvement in religion, impact of religious principles in behaviors and life style, degree of perceived personal religiousness and of religious beliefs) with 5-point Likert type response options (ranging from 1 = Not at all to 5 = Very much). Additionally, last three questions are about participation in the religious activities and performance of religious behaviors on a 5-point timing scale (1 = Never, 2 = Occasionally, 3 = Monthly, 4 = Weekly, 5 = Daily). The internal consistency of the RSQ for Turkish and Canadian subjects were rather promising ($\alpha = 0.94$ in both samples). The RSE was included in this research in order to assess one of vulnerability factors in OCD symptoms (See Appendix A for the RSQ).

2. 3. 4. Rosenberg Self Esteem Scale (RSES)

As one of the most popular instrument, Rosenberg Self Esteem Scale (RSES) is a 10-item, unidimensional measure of the global self-esteem (Rosenberg, 1965).

Participants are asked to state their agreement to each statements by choosing one option among 4-degree of points (ranging from 1 = Strongly agree to 4= Strongly disagree). Items of 3, 5, 8, 9, 10 are reverse coded, while coding for the rest of items are straight-forward. Higher scores indicate high level of self-esteem. There are many studies showing satisfactory psychometric properties of the RSES (e.g., Fleming & Courtney, 1984, Lorr & Wunderlich, 1986). Adaptation of the scale into Turkish was done by Çuhardoğlu (1985) and its reliability and validity was supported by different studies (Toker 2003; Tuğrul 1994). As a factor contributing for vulnerability, the Turkish version of this scale was utilized in the present research (See Appendix A for the RSES).

2. 3. 5. Interpretation of Intrusions Inventory (III)

Interpretation of Intrusions Inventory (III) was a self-report instrument designed by the OCCWG (1997) in order to assess immediate appraisals of unwanted distressing intrusive thoughts, image and impulses. The group defined three levels of measurement after description of faulty belief domains relatively specific in OCD. The first level is the experience of intrusions and the second level is the appraisal of the intrusive experiences. In III, participants are asked to state two intrusive thoughts, image and impulses that they experience recently (i.e., within past 2 weeks) in line with given definition and examples of unwanted intrusions. Then, they fulfill the single-item ratings of the recency and frequency of, and distress from these intrusions. Lastly, considering on the intrusions they give before, they rate their strength of belief with 31 items on a

response option ranging from 0 (I didn't believe this idea at all) to 100 (I was completely convinced this idea was true). For data analysis, the 100-point is transformed to the 10-point scale.

During preparation of the instrument, responsibility, importance of thoughts and control of thoughts were three domains the group focused, because these domains were considered as more specific and exclusive during the assessment of the intrusive experience. Due to the nature of the group, initial data were drawn from many points of several countries such as USA, Canada, Italy and Greece. Comparisons were conducted between OCD patients, other anxiety disorder patients and community and student controls. In addition to having quite promising reliability, the III had a three-factor structure originally, and the III in total and subscales distinguished OCD group from others (OCCWG, 2001). There were only two concerns about the inventory. The first was that despite having good psychometric properties, there seemed an overlap between III and OBQ, since the correlations between corresponding scales were higher than expected. Moreover, there could be problems during administration that some people had difficulty in understanding and administrating of instructions (i.e., determination of two thoughts and rating the rest of statements in accordance with them). Nevertheless, it was concluded that reliability and validity of the III was promising (e.g., OCCWG, 1997, 2001). By expanding the cross-cultural nature of relevant data from patients and controls, OCCWG (2003) yielded satisfactory internal consistency and test-retest reliability for the III, as well as convergent and discriminant validity. However, the shortcoming of high correlations between corresponding scales of two instruments was still going on. Later study of the group (OCCWG, 2005), with a similar method but with

more numbers of OCD patients, led to decide that because of consistent high loadings of the items in the scale on the one factor, the usage of unidimensional structure would be better for the III. This structure also revealed satisfactory reliability and validity findings. There are also cross-cultural supports other than the group's studies (e.g., Sica, Coradeschi, Sanavio, Dorz, Manchisi & Novara, 2004). For example, a two-factor structure (i.e., responsibility, importance/control of thoughts) with 19 items was also reported to be satisfactorily valid and reliable (Ferguson, Jarry & Jackson, 2006).

Since there was no Turkish version of the III at the beginning of the present research, adaptation of this instrument was planned during this study and necessary permissions were taken. However, at the course of time, it was realized that an independent study also took that aim into its agenda (Çağ, 2006). Nevertheless, the Turkish version of the III still requires further examination and there are some methodological concerns in that study. Therefore, in line with previous aims of the present study, the adaptation and psychometric evaluation were also performed for this instrument, and relevant detailed information is given in the Result section of the present study. For now, it can be reported that the Turkish version of the III revealed promising psychometric findings. The Turkish version of the instrument was used in the current research in order to investigate the effect of immediate appraisals and took part as an instrument under the category of appraisal factors (See Appendix A for the III).

2. 3. 6. Obsessive-Compulsive Beliefs Questionnaire (OBQ)

Originally Obsessive-Belief Questionnaire (OBQ) is another self-report questionnaire with 87-item Likert type in a seven-point response options, ranging from *totally disagree* (1) to *very much agree* (7). It was developed to evaluate the dysfunctional belief domains having important roles in the development and maintenance of obsessions and compulsions (OCCWG, 1997). These domains were represented under six subscales: overestimation for threats, tolerance of uncertainty, importance of thoughts, control of thoughts, responsibility and perfectionism. There were a parallel series of studies that examines the OBQ and III together by OCCWG (2001, 2003, 2005); thus, methodology is not repeated in detail, but information is summarized here. In a cross-cultural sample with patient and control groups, it was found that the OBQ had satisfactory internal consistency and test-retest reliability values. A low discriminatory power was present between corresponding scales of the OBQ and III. On the other hand, a recent factor analysis (OCCWG, 2005) revealed that there was a three-factor structure for the OBQ; namely, responsibility/threat estimation, importance/control of thoughts and perfectionism/uncertainty. There are 16 items for responsibility/threat estimation (items 1, 5, 6, 8, 15, 16, 17, 19, 22, 23, 29, 33, 34, 36, 39 and 41), 16 items for perfectionism and uncertainty (items 2, 3, 4, 9, 10, 11, 12, 14, 18, 20, 25, 26, 31, 37, 40, 43), and 12 items for importance and control of thoughts (items 7, 13, 21, 24, 27, 28, 30, 32, 35, 38, 42 and 44). This recent study also showed that in addition to validity support in both clinical and non-clinical samples, with this structure,

the relevant subscales had less overlap; thus, it had higher discriminatory power. On the other hand, there are some reports showing different structure. Woods, Tolin and Abramowitz (2004) could not confirm either a 3 or 6-factor structure, and they alternatively suggested that 4 factors (i.e., OCD-general, importance/control of thoughts, perfectionism and responsibility). On the other hand, there were also some studies about the relationship between OCD symptom clusters and belief domains (e.g., Calamari et al., in press; Julien et al., 2006; Taylor et al., 2006; Woods et al., 2004), and about the possibility of some OCD cases in which other beliefs domains might be also influential (e.g., Calamari et al., in press; Taylor et al., 2006). However, it is not mentioned here in detail, since there is a section about the OBQ and III in the Introduction section of the present study.

Although the OBQ was also adapted into Turkish independently (Çağ, 2006), a new adaptation as well as examination of psychometric properties of the OBQ was performed in the present study, because of some methodological concerns (e.g., the change in the factor structure of the scale and inability to make cross-cultural comparisons efficiently). Relevant information is given in the Result section of the present research. The Turkish version of the OBQ was included to assess OCD-relevant beliefs under the appraisal factors (See Appendix A for the OBQ).

2. 3. 7. Thought-Action Fusion Scale (TAFS)

TAFS is developed by Shafran, Thodarson and Rachman (1996) in order for the assessment of the psychological fusion of thoughts and actions with 19 self-report items on a five-point scale (0-Strongly disagree, 4-Strongly agree). The total TAF scores can range from 0 to 76, with higher scores indicating stronger TAF. TAFS had originally 3 subscales, namely TAF-Likelihood-self, TAF-Likelihood-others and TAF-Morality. Their study including obsessional, student and adult samples indicated that the TAF-Scale has adequate psychometric qualities. However, unlike the student and adult sample, with obsessional sample TAF-Likelihood subscales as self and others were combined in the factor analysis which revealed two sub-scales as TAF-Morality and TAF-Likelihood. There were 12 items for the morality dimension (items 1, 3, 4, 6, 8, 10, 11, 13, 15, 17 & 19) and 7 items for the likelihood dimension (items 2, 5, 7, 9, 12, 14 & 16). However, many studies found a two-factor structure (Rassin, Diepstraten, Mercelbach & Muris, 2001; Rassin, Merckelbach, Muris & Schmidt, 2001). Furthermore, these three samples did not differ in their TAF-Morality subscale scores. For the TAF-Likelihood-others subscale, obsessional sample obtained higher scores than adult and student samples (Shafran et al., 1996). Rassin et al. (2001) also verified internal consistency and test-retest reliability and validity of the scale in clinical and non-clinical samples. In addition, especially the factor of TAF-Likelihood was found to be more closely associated with OCD (Shafran et al., 1996; Rassin, Diepstraten et al., 2001; Rassin, Mercelbach et al., 2001). The Turkish version of TAFS had also good

psychometric properties with two factors as morality and likelihood. It was found that TAF-Morality was more related to OCD in Turkish culture (Yorulmaz et al., 2004). Since it is a measure of general beliefs that contributes to the pathological appraisal, the Turkish version of the scale was included in the present study under the category of appraisal factors (See Appendix A for the TAFS).

2. 3. 8. Thought Control Strategies Questionnaire (TCSQ)

TCSQ is a self-report instrument that evaluates the frequency of various ways to cope with unwanted thoughts (Wells & Davies, 1994). With a 4-point response option (1 = Never, 4 = Almost always), participants rate the frequency of 30 different thought control strategies that load onto five subscales (i.e., distraction, punishment, worry, social control & re-appraisal). Distraction consists of items 1, 9, 16, 19 and 21, while items 5, 8, 12, 17 and 25 constitute social distraction subscale. Worry consists of items 4, 7, 18, 22, 24 and 26, and punishment is composed of items 2, 6, 11, 13, 15 and 28. Finally, reappraisal is made up of items 3, 10, 14, 20, 23 and 27. Items 5, 8 and 12 in the social control are reversed and the total and subscale scores are derived by summing all or relevant items. Wells and Davies (1994) especially reported the worry and punishment strategies as maladaptive. Similarly, it was found that OCD differentiated from non-patients with a more use of worry and punishment but less use of other three strategies (Amir, Cashman & Foa, 1997). Abramowitz, Whiteside, Kalsy and Tolin

(2003) verified this finding and reported that successful treatment ended up with increased use of distraction and decrease use of punishment.

The TCSQ also has not been adapted into Turkish yet and thus, it is adapted into Turkish in the current study. During the present study, another rating dimension is also added to this instrument in order to examine failure of thought control concept (Clark, 2004). Respondents were additionally asked to rate the efficiency of the thought control efforts as well as frequency, with 4 response options (ranging from 1 = Not at all to 4 = Very much). Lastly, a new score is obtained by multiplying the frequency and efficiency values, after efficiency scores were reversed. The psychometric properties of the Turkish version of TCSQ are also examined in the current study and presented in the Result section of the current study. The Turkish version of the instrument was utilized as an instrument tool of control factors in this study to evaluate the effect of different thought control strategies (See Appendix A for the TCSQ).

2. 3. 9. White Bear Suppression Inventory (WBSI)

WBSI is a 15-item self-report measure designed the assessment of suppression of unwanted thoughts on a five-point response scale (Wegner & Zanakos, 1994). The total WBSI scores range from 15 to 75 and higher scores reflect stronger tendency towards thought suppression. The aim was to assess the tendency to suppress unwanted thoughts that actually result in paradoxical increase in unwanted thoughts (Muris et al., 1996) and hence, this tendency is very influential in cognitive models (e.g., Clark, 2004). The name

of the inventory comes from famous “white bear” concept (Smari, 1999; Wenzlaff & Wegner, 2000). Psychometric properties of the WBSI were supported in both clinical and non-clinical samples (Spinhoven & van der Does, 1999; Wegner & Zanakos, 1994). Even though it was designed originally in unidimensional structure, it was criticized that it included some questions about intrusive thinking as well (Muris et al., 1996). Rassin (2003) emphasized this two-factor structure and reported 5 items related to intrusive thinking. A three factor structure (i.e., unwanted intrusive thoughts, thought suppression and self-distraction) was also reported (Blumberg, 2000). Like other cross-cultural studies (e.g., in Iceland; Rafnsson & Smari, 2001), the Turkish version of WBSI was reported to have satisfactory reliability and validity in both clinical (Yorulmaz et al., 2007) and non-clinical samples (Altın & Gençöz, 2006). The Turkish version of the inventory was involved in the instrument set under the title of control factors in the current study in order for the assessment of problematic thought control strategy (See Appendix A for the WBSI).

2. 3. 10. Responsibility Attitude Scale (RAS)

RAS is a 26 item, 7-point Likert type scale developed by Salkovskis et al. (2000) to evaluate general attitudes, responsibility concerns in OCD in line with inflated sense of responsibility, as the core element in cognitive model of Salkovskis (1985, 1989). Respondents are asked to report whether they agree with statements by choosing options ranging from totally agree to totally disagree. The total score on the RAS is the mean or

sum of all 26 items. The original study (Salkovskis et al., 2000) reported significant differences between anxiety disorder patients and control groups, with the highest scores of OCD patients and there were significant positive correlations with other OCD-related measures as well as satisfactory reliability values. Although the RAS originally had a unifactor-structure, Mancini, D'Olimpio and D'Ercole (2001) found 4 factors, namely prevention, to feel dangerous, self-granted power and thought-action fusion. However, the Turkish version of the RAS yielded two factors, namely responsibility based on prevention and on self-dangerousness (Yorulmaz, Altın & Karancı, 2007) as well as satisfactory reliability and validity findings (Yorulmaz, Karancı & Tekok-Kılıç, 2002). For the ease of comprehensiveness, the response options were presented as reversed (totally disagree (1) to totally agree (7)), with high scores showing high responsibility in the Turkish version (Yorulmaz et al., 2002). RAS was included in the present study as an instrument having a unidimensional structure in order for the assessment of and check for the validity of Turkish versions of OBQ, III and TCSQ (See Appendix A for the RAS).

2. 3. 11. Padua Inventory-Washington State University Revision (PI-WSUR)

Padua Inventory (PI) is originally a self-report instrument that measures distress from obsessions and compulsions; 60 items are rated on a 5-point scale (0=not at all, to 4= very much). Scores were evaluated by summing up all of items (Sanavio, 1988). Psychometric validation of this instrument was confirmed in Netherlands (Van Oppen,

1992), USA (Sternberger & Burns, 1990) and Iran (Goodarzi & Firoozabadi 2005) in the clinical and non-clinical samples, but some studies revealed different factor structures from the original (e.g., Kyrios et al., 1996; Van Oppen, Hoekstra & Emmelkamp, 1995). However, the original PI was criticized (Freeston et al., 1994), due to inclusion of items assessing worry rather than obsessions (see also Langlois, Freeston & Ladoceur, 2000 for detailed differentiation). Therefore, this inventory was reviewed (e.g., Van Oppen et al., 1995), and Burns et al. (1996) excluded those problematic items, and formed 39-item Padua Inventory-Washington State University Revision (PI-WSUR). PI-WSUR has five subscales: obsessional thoughts about harm to self/others (items 24-30), obsessional impulses to harm self/others (items 31-39), contamination obsessions and washing compulsions (items 1-10), checking compulsions (items 14-23) and dressing/grooming compulsions (items 11-13). Burns et al. (1996) examined 5010 non-clinical individuals and some OCD patients, and found that the revised form of the PI had good reliability and validity. This last revision was reported to discriminate OCD symptoms from worry. It also seems to be more psychometrically valid; accordingly, it is used more widely (Antony, 2001) and is more sensitive to the treatment effects (Clark, 2004).

Similarly, the Turkish version of the inventory (Yorulmaz, Dirik & Karancı, 2006; Yorulmaz et al., 2007) was found to have satisfactory psychometric properties in both non-clinical and clinical samples. Internal consistency and test-retest reliability values were quite acceptable. Moreover, there was a good factor-congruency between the one obtained in the original study (Burns et al., 1996) and another attained in the study of the Turkish version. Nevertheless, there were small differences in item distribution under subscales: checking (items 14-22), contamination and washing (items

1-10 and 30), grooming/dressing (items 11-13), obsessional harms (items 23-25, 27-29) and obsessional impulses (items 26, 31-39). OCD patients were also significantly different from both other anxiety disorder patients and control groups. The Turkish version of the PI-WSUR was included in the present study in order to assess the outcome variable (i.e., OCD symptoms) (See Appendix A for the PI-WSUR). However, after checking internal consistencies of the total and its subscales, the original factor structure was kept in the present study in order to make healthier cross-cultural comparisons.

2.4. Procedure

During the adaptation of the Turkish versions of the OBQ, III and TCSQ, translation and back-translation method (Brislin, Lonner & Thorndike, 1973) was followed. In other words, the original versions of the scales were initially translated into Turkish by two independent judges.

The translated and original items were examined and compared by the present researcher and his advisor, and then, other two independent judges translated these forms back to English. Finally, again the present researcher and his advisor compared the originals and back-translated forms and finalized the Turkish version of the scales. Then, comprehensibility of the new Turkish versions of these three instruments was also examined by administering them to 10 Turkish students.

The instrument set, composed of DIF, RSQ, RSE, EPQR-A, OBQ, III, TAFS, RAS, TCSQ, WBSI, and PI-WSUR, is administered to the university students on the basis of voluntary participation with method of take home, and they are compensated with bonus points by their course instructors, after getting necessary permissions from the ethic board at the UBC and the chair of the department at the METU.

2.5. Statistical Analysis

Prior to the analyses, two sets of data were examined in terms of data accuracy, missing values, univariate and multivariate outliers. In order to attain relatively representative sample, data from Canadian university students were examined and those who have been lived in Canada more than half of their life were chosen. For this reason, 79 cases were excluded for this non-clinical group, leaving 281 subjects in this sample group.

Statistical analyses were conducted with Statistics Package for Social Sciences (SPSS) Program (Green, Salkind & Akey, 1997), and LISREL (Jöreskog & Sörbom, 1996) was performed for model testing. In order to make accurate comparisons between data from Turkey and Canada on the relevant measures, the original factor structures and item distributions were applied to the Turkish versions of the scales after the internal consistency evaluation of the total and subscales, rather than administering separate factor analyses. Internal consistency was assessed with Cronbach alpha values. For these

alpha values, in line with Nunnally (1978) criteria, values over than .70 were viewed as acceptable and values more than .80 were accepted as good.

Factor congruency was evaluated with Target Rotation Analysis (van de Vijver & Leung, 1997) on the factor loadings of the items under the subscales of relevant instruments, after the explanatory factor analyses with Principal Component Analysis and Varimax rotation were conducted for each. As a criterion for the Target Rotation, the cut off point for the Proportional Agreement Coefficient (i.e., Tucker phi) was taken as .85 and over to indicate good factor congruency (van de Vijver & Leung, 1997). This value was also utilized as a sign for criterion validity of the Turkish version of the relevant instruments. For the criterion validity, extreme groups on lower and higher 25 percentages of the PI-WSUR scores were formed and group comparisons between high and low OCD symptoms scorers were contrasted in Turkish versions of three instrument tools. Moreover, Pearson Product correlations were performed between relevant measures for the concurrent and criterion validity. The criteria for the high correlation were coefficients over than .50. The coefficients between .30 and .49 were accepted as moderate, while values between .10 and .29 were viewed as low (Cohen, 1988). To make group comparisons of Turkish and Canadian samples on the measures of the present study, one way ANOVA's and one way MANOVA's were performed respectively for the total and subscale scores of the scales. Finally, separate hierarchical regression analyses were conducted for the prediction of OCD-relevant cognitive factors and symptoms and in two data sets. Then, comprehensive cognitive model suggested by the present study was tested via Structural Equation Modeling via LISREL.

CHAPTER III

RESULTS

3.1. Overview

In this section, the results of the analyses that were performed to examine the research questions of the present study are presented. There are three main sections. First, internal consistency of all instruments was examined, and it was followed by the investigation of the psychometric properties of the new adapted three instruments (i.e., OBQ, III & TCSQ) in Turkish sample. Then, the impact of culture and religion in OCD symptoms, and cross-cultural differences in OCD-relevant measures were examined via group comparisons between Canadian and Turkish samples and regression analyses. Finally, different models which included different relationships between main measures of the study and OCD symptoms were tested via Structural Equation Modeling.

3.2. Internal Consistency of the Instruments for Turkish and Canadian Data

As can be seen in Table 2, internal consistency and item-total correlation ranges of the measures in total and their subscales in accordance with the original and adapted factor structures (where appropriate) were evaluated with Cronbach alphas and it was observed that all of the reliability coefficients were satisfactory and in acceptable range (Nunnally, 1978). The only exception was the psychoticism subscale of EPQR-A that reliability coefficients of this personality dimension was really low for both Canadian and Turkish groups, and this situation was actually consistent with the findings in the relevant literature that this subscale did not have promising reliability (e.g., Francis et al., 1992). Therefore, it was excluded from further analyses in the current study. Furthermore, since the III has a unidimensional structure, its Cronbach alpha value was also presented in this table. In addition, although factor structure of the Padua Inventory-WSUR was found to be slightly different in Turkish university sample (Yorulmaz, et al., 2006) as compared to the original study (Burns et al., 1996), considering the high internal-consistency coefficients, the original structure was kept for the current study in order to attain comparability between two samples.

Table 2. *Internal consistency coefficients of the instruments for Turkish and Canadian subjects*

Measures	Cronbach Alpha (Item Total Correlation Range)	
	Canadian Data	Turkish Data
RSQ (Religiousness)	0.95 (0.72-0.91)	0.94 (0.70-0.89)
RSE (Self-esteem)	0.92 (0.59-0.73)	0.86 (0.38-0.70)
EPQR-A-Neuroticism	0.72 (0.39-0.54)	0.63 (0.31-0.43)
EPQR-A-Psychoticism	0.35 (0.03-0.33)	0.37 (0.07-0.25)
EPQR-A-Extraversion	0.83 (0.52-0.61)	0.84 (0.44-0.70)
EPQR-A-Lie	0.61 (0.21-0.44)	0.54 (0.10-0.41)
III (Interpretations of Intrusions)	0.95 (0.30-0.79)	0.94 (0.38-0.69)
TAF-Total (Thought-Action Fusion)	0.93 (0.49-0.77)	0.88 (0.30-0.66)
TAF-Likelihood	0.93 (0.67-0.87)	0.92 (0.55-0.85)
TAF-Morality	0.92 (0.56-0.78)	0.89 (0.52-0.73)
WBSI (Thought Suppression)	0.87 (0.31-0.65)	0.87 (0.25-0.71)
PI-WSUR-Total (Padua Inventory)	0.94 (0.26-0.71)	0.93 (0.23-0.64)
PI-WSUR-Clean	0.88 (0.50-0.69)	0.89 (0.52-0.68)
PI-WSUR-Check	0.90 (0.58-0.74)	0.90 (0.49-0.76)
PI-WSUR-Grooming	0.78 (0.57-0.68)	0.82 (0.59-0.71)
PI-WSUR-Obs.Thoughts	0.83 (0.55-0.67)	0.80 (0.46-0.60)
PI-WSUR-Obs.Impulses	0.83 (0.38-0.64)	0.85 (0.50-0.68)

Table 2. *Continued*

Measures	Cronbach Alpha (Item Total Correlation Range)	
	Canadian Data	Turkish Data
RAS (Responsibility)	-	0.93 (0.27-0.71)

Note-RSQ: Religiousness Screening Questionnaire, RSE: Rosenberg Self-Esteem Scale, EPQR-A: Eysenck Personality Questionnaire Revised-Abbreviated, III: Interpretations of Intrusions Inventory, TAF: Thought-Action Fusion Scale, WBSI: White Bear Suppression Inventory, PI-WSUR: Padua Inventory-Washington State University Revision, RAS: Responsibility Attitude Scale.

3.3. Psychometric Properties of the Turkish Versions of the III, OBQ and TCSQ

In line with the aims of the present study, Interpretations of Intrusions of Inventory (III; OCCWG, 1997), Obsessive-Beliefs Questionnaire (OBQ; OCCWG, 1997) and Thought-Control Strategies Questionnaire (TCSQ; Wells & Davies, 1994) were adapted into Turkish. The procedure for adaptation was already explained in the Method section. In addition, a new measure, Religiousness Screening Questionnaire (RSQ), was designed to assess the religiousness in two groups of the sample in the current study. In this section, initial psychometric properties of the Turkish versions of

these instruments are examined and information on construct, criterion and concurrent validity, and reliability is given.

3.3.1. Construct Validity and Internal Consistency of the Turkish Version of the OBQ

Originally OBQ has a three-factor structure, namely responsibility/threat estimation, importance/control of thoughts and perfectionism/certainty (OCCWG, 2005). Since the present research is not purely psychometric study and the primary goal is to examine the relationships in comparison, factor structure of the Turkish version of the OBQ was not examined here. Instead, cross-cultural similarity of the OBQ was explored on the basis of factor congruency by comparing the factor structures obtained from Turkish and Canadian samples via Target Rotation Technique (Vijver & Leung, 1997). Proportionality agreement coefficient or Tucker phi was calculated with the criterion of 0.85 (Lorenzo-Seva & Ten Berge 2006). The results of target rotation, which can be seen in Table 3, showed that there was a high degree of similarity between the factors of importance and control of thoughts (Tucker phi = 0.88), responsibility and threat estimation (Tucker phi = 0.92), and perfectionism and certainty (Tucker phi = 0.93). Moreover, the values of Cronbach alphas and item-total correlation range seemed satisfactory for both Turkish and Canadian samples.

Table 3. *Factor congruency, internal consistency and item total range of the OBQ.*

OBQ					
		ICT	PC	RT	Total
Turkish Data	Tucker phi	0.88	0.93	0.92	-
	Cronbach Alpha	0.80	0.86	0.85	0.92
	Item-Total Corr.	0.14-0.55	0.14-0.73	0.33-.0.56	0.15-0.60
	Range				
OBQ					
		ICT	PC	RT	Total
Canadian	Cronbach Alpha	0.89	0.90	0.88	0.95
Data	Item-Total Corr.	0.35-0.71	0.37-0.69	0.29-0.72	0.21-0.73
	Range				

Note-OBQ: Obsessive-Beliefs Questionnaire, ICT: Importance/Need for Control of Thoughts, PC: Perfectionism/Uncertainty, RT: Responsibility/Threat Estimation.

3.3.2. Construct Validity and Internal Consistency of the Turkish Version of the TCSQ

Originally TCSQ was designed to evaluate the frequency of five groups of control strategies, and hence, consisted of 5 subscales, namely distraction, social control, worry, punishment and reappraisal (Wells & Davies, 1994). Because of the same reasons mentioned above (see 3.3.1), only cross-cultural similarity was investigated via Target

Rotation Analysis (Vijver & Leung, 1997). As can be viewed from Table 4, proportionality agreement coefficients showed that there was a high degree of resemblance in the factors of social control (Tucker phi = 0.89), worry (Tucker phi = 0.92), distraction (Tucker phi = 0.96) and reappraisal (Tucker phi = 0.93) between Canadian and Turkish samples. On the other hand, it seems that there might be a low level of discrepancy in the item distribution under punishment (Tucker phi = 0.75). Nevertheless, internal consistency value of the punishment for Turkish and Canadian samples revealed similar and satisfactory outcomes, suggesting that this subscale might also be used for further analyses as it is. Furthermore, during the adaptation phase of the current study, efficiency of the control strategies was also added by implementing a 4-point Likert type scale. Failure dimension of thought strategies was also measured by means of multiplication of frequency and efficiency scores. Internal consistency and item-total correlation ranges of both efficiency and failure dimensions were relatively low for both Turkish and Canadian samples.

Table 4. Factor congruency, internal consistency and item total correlation ranges of the OBQ.

	TCSQ-F					
	SC	W	D	RA	P	Total
Tucker phi	0.89	0.92	0.96	0.93	0.75	-
Cronbach Alpha	0.77	0.77	0.79	0.72	0.66	0.78
Item Total Range	0.44-0.65	0.47-0.56	0.46-0.60	0.18-0.62	0.28-0.52	0.07-0.51
Turkish Data	TCSQ-E					
	SC	W	D	RA	P	Total
Cronbach Alpha	0.69	0.83	0.78	0.82	0.76	0.91
Item Total Range	0.38-0.52	0.50-0.66	0.46-0.59	0.40-0.71	0.34-0.60	0.24-0.66
	TCSQ-EF					
	SC	W	D	RA	P	Total
Cronbach Alpha	0.52	0.77	0.72	0.66	0.69	0.74
Item Total Range	0.29-0.46	0.46-.054	0.37-0.54	0.25-.046	0.32-0.52	0.12-0.43

Table 4. *Continued.*

Canadian Data	TCSQ-F						
	SC	W	D	RA	P	Total	
	Cronbach Alpha	0.89	0.81	0.74	0.73	0.70	0.78
	Item Total Range	0.63-0.76	0.45-0.66	0.35-0.53	0.05-0.62	0.28-0.61	0.10-0.47
	TCSQ-E						
	SC	W	D	RA	P	Total	
	Cronbach Alpha	0.71	0.86	0.77	0.76	0.80	0.90
	Item Total Range	0.39-0.53	0.42-0.74	0.41-0.61	0.21-0.59	0.26-0.69	0.29-0.66
	TCSQ-EF						
	SC	W	D	RA	P	Total	
Cronbach Alpha	0.77	0.82	0.59	0.66	0.70	0.84	
Item Total Range	0.38-0.71	0.49-0.66	0.24-0.36	0.29-0.48	0.27-0.53	0.17-0.50	

Note: TCSQ: Thought Control Strategies Questionnaire (F: Frequency, E: Efficiency, EF: Failure), SC: Social Control, W: Worry, D: Distraction, RA: Reappraisal, P: Punishment.

3.3.3. Criterion Validity of the Turkish Versions of the III, OBQ and TCSQ

For the examination of the criterion validity of the Turkish versions of the III, OBQ, TCSQ, extreme group comparisons were performed for their total and subscales in Turkish data. Accordingly, two extreme groups on PDI (within highest [over 53 points; N = 82] and lowest [below 23 points; N = 82] 25 percentage) were contrasted on these measures. One way ANOVAs for the total scale scores and one way MANOVAs for the subscales were conducted. Moreover, one way MANCOVA was performed by including lie scores of the participants as covariate variable during comparisons of personality dimensions. Lowest scorers were called low OCD Symptom group and highest scorers are named as high OCD symptom group. In addition, extreme group contrasts were also conducted for other nonspecific, appraisal and control variables. The results of comparisons that also include means and standard deviations of the groups are presented in Table 5.

The high OCD symptoms group differed from the low OCD symptoms group with higher scores in religiousness, III, total OBQ and its subscales. In other words, high OCD group seems to be more religious, be high on the OCD belief domains and to have more problematic appraisals. In addition, they experienced more intrusions and felt more distress. High PDI scorers also reported more frequent use of general thought control strategies, and they seemed to utilize more worry and punishment strategies. They also appeared to experience more failure only in these strategies as well as in general control strategies. However, there was no significant difference between groups in the efficiency

of total thought control strategies and its subscales. On the other hand, there are also some group differences in other variables. To illustrate, in line with expectations, low PDI scorers seemed to have high self-esteem than high scorers. On the other hand, high OCD group had more neurotic tendencies. This group also expressed more inflated sense of responsibility, fusion of thoughts and action in total and its subscales, and suppression of their thoughts. In consequence, these results about group differences provided evidences for criterion validity of the Turkish versions of the III, OBQ and TCSQ. Additionally, these results also lent initial support for the validity of the RSQ.

Table 5. Means and standard deviations of the extreme groups in Turkish data.

	Low OCD		High OCD		Significance Tests
Variables	<i>M</i>	<i>Sd</i>	<i>M</i>	<i>Sd</i>	
Religiousness	2.59	1.12	2.97	.98	$F(1, 161) = 5.09^*$
Self-Esteem	23.25	5.35	21.02	5.27	$F(1, 162) = 7.12^*$
Neuroticism	2.75	0.18	4.04	0.18	$F(1, 162) = 25.95^{**}$
Extraversion	3.43	0.23	3.11	0.23	NS
III	2.36	1.41	3.92	1.61	$F(1, 159) = 42.34^{**}$
Recency	4.04	0.17	4.46	0.17	NS
Frequency	2.58	0.17	3.30	0.17	$F(1, 160) = 9.20^*$
Distress	2.84	0.13	3.21	0.12	$F(1, 160) = 4.19^*$
OBQ	3.07	0.64	4.09	0.67	$F(1, 163) = 100.22^{**}$

Table 5. *Continued.*

Variables	Low OCD		High OCD		Significance Tests
	<i>M</i>	<i>Sd</i>	<i>M</i>	<i>Sd</i>	
ICT	2.47	0.09	3.35	0.09	$F(1, 164) = 51.06^{**}$
RT	3.03	0.09	4.08	0.09	$F(1, 164) = 81.11^{**}$
PC	3.56	0.12	4.70	0.12	$F(1, 164) = 68.70^{**}$
TAF	0.77	0.59	1.34	0.62	$F(1, 162) = 35.32^{**}$
Morality	1.00	0.09	1.62	0.09	$F(1, 162) = 22.23^{**}$
Likelihood	0.38	0.09	0.85	0.08	$F(1, 162) = 14.05^{**}$
WBSI	2.93	0.74	3.62	0.58	$F(1, 161) = 43.37^{**}$
RAS	3.11	0.95	3.95	0.89	$F(1, 162) = 33.51^{**}$
TCSQ-F	2.05	0.27	2.31	0.31	$F(1, 160) = 33.70^{**}$
Distraction	2.73	0.06	2.81	0.06	NS
Soc.control	2.07	0.07	2.10	0.07	NS
Worry	1.36	0.06	1.93	0.06	$F(1, 160) = 48.50^{**}$
Punishment	1.50	0.05	1.97	0.05	$F(1, 160) = 42.42^{**}$
Reappraisal	2.42	0.07	2.50	0.07	NS
TCSQ-E	2.40	0.54	2.41	0.49	NS
Distraction	2.87	0.07	2.84	0.06	NS
Soc.control	2.29	0.07	2.35	0.06	NS
Worry	1.96	0.09	2.15	0.08	NS
Punishment	1.98	0.09	2.17	0.09	NS

Table 5. *Continued.*

	Low OCD		High OCD		Significance Tests
Variables	<i>M</i>	<i>Sd</i>	<i>M</i>	<i>Sd</i>	
Reappraisal	2.56	0.07	2.51	0.07	NS
TCSQ-EF	5.19	0.47	5.37	0.50	$F(1, 160) = 4.95^*$
Distraction	5.43	0.07	5.44	0.06	NS
Soc.control	5.68	0.15	5.65	0.14	NS
Worry	4.85	0.08	5.28	0.07	$F(1, 153) = 16.34^{**}$
Punishment	4.71	0.07	5.08	0.07	$F(1, 153) = 14.13^{**}$
Reappraisal	5.31	0.07	5.40	0.06	NS

$^{**} p < .001$, $^* p < .05$.

Note- OCD: OCD Symptomatology, III: Interpretation of Intrusions Inventory, OBQ: Obsessive-Beliefs Questionnaire, ICT: Importance/Control of Thoughts, RT: Responsibility/Threat Estimation, PC: Perfectionism/Certainty, TCSQ: Thought-Control Strategies Questionnaire (F: Frequency, E: Efficiency, EF: Failure), TAF: Thought-Action Fusion Scale, RAS: Responsibility Attitude Scale, WBSI: White Bear Suppression Inventory.

When Table 6 and 7 that present some examples of the scores of the III, OBQ and TCSQ taken from some Western studies were examined, it can be stated that the scores of Turkish participants in the III, OBQ and TCSQ seem to be similar in range with nonclinical samples, and lower than clinical samples of other Western studies.

Table 6. *Some examples (means) from the literature on the III and OBQ.*

	Present study			Some examples from Western studies			
	Turkish	Canadian	OCCWG-2*	Moore & Abramowitz	Bhar & Kyrios	Calamari et al (in press)***	Julien et al. (2006)****
	(N = 309)	(N = 281)	(N = 284)	(in press)** (N = 93)	(in press)*** (N = 225)	(N = 367)	(N = 126)
III	989.54	816.92	720.6	-	-	1168	-
OBQ-T	154.77	151.32	131.3	-	-	-	187.7
OBQ-RT	56.14	57.42	48.4	42.28	44.66	44.7	66.6
OBQ-PC	64.30	62.93	55.5	48.10	50.93	56.4	75.7
OBQICT	34.33	30.96	27.1	25.32	24.99	27.8	41.5

* University students from Australia, Canada, France, Greece, the Netherlands, Italy, and the United States); ** University students (from USA); *** University students (from Australia); **** Low belief subgroup OCD patients (from USA & Canada); ***** French speaking OCD patients (from Quebec/Canada).

Table 7. *Some examples (means) from the literature on the TCSQ**

	Present Study			
	Turkish (N = 309)	Canadian (N = 281)	Fehm & Hoyer (2004)** (N = 108)	Moore & Abramowitz (in press)*** (N = 93)
Distraction	16.42	15.04	16.46	15.50
S.Control	12.26	10.71	14.00	13.61
Worry	9.66	9.94	11.29	8.85
Punishment	10.23	9.85	9.50	8.24
Reappraisal	14.43	13.86	14.10	13.24

* The scores were adapted from the relevant Western studies respectively.

** University students from Germany.

*** University students from USA.

3.3.4. Correlation Coefficients among Measures

Correlational analyses were conducted to examine concurrent validity as well as to get additional evidences for criterion validity of the three adapted instruments and one new designed questionnaire. Pearson correlation coefficients among new instruments and criterion measurement tools are presented in Tables 8 and 9 respectively.

As can be seen in Table 8, there were moderately positive relationships between the III, OBQ, TSCQ-frequency and their subscales. Consistent with the studies of OCCWG (2001, 2005), immediate appraisals were positively related with general belief domains. Similarly, in line with the expectations, the frequency of worry and punishment strategies seemed to be more closely associated to OCD-relevant beliefs. However, the dimensions of thought control in efficiency or failure did not reveal significant associations with other relevant measures. On the other hand, there were again moderately and/or highly positive relationships among the III, total scores of the OBQ, TCSQ-frequency and their subscales, and OCD symptoms (see Table 9). Moreover, the same pattern is true for psychological fusion of thoughts and actions in total, morality and likelihood. Yet, in addition to the total score, only the frequency of worry and punishment among thought control strategies were significantly related with PDI and other OCD-relevant measures. Especially the association between the measures assessing relatively similar constructs (i. e., between OBQ-RT & RAS, OBQ-ICT & TAF-Morality, and TCSQ & WBSI) supported the concurrent validity of the three

instruments. Additionally, RSQ also was found to be positively associated with both OCD symptoms and OCD-relevant instruments.

In consequence, the findings about internal consistency, extreme group comparisons and correlations demonstrated that the Turkish versions of the III, OBQ, TCSQ-frequency and new designed RSQ were all psychometrically reliable and valid for Turkish university students. However, it is not the case for TCSQ-efficiency and failure dimensions. Moreover, the reliability values of these dimensions were relatively lower in both Turkish and Canadian data; extreme group comparisons did not reveal a consistent pattern, and correlational relationships with OCD symptoms and relevant measures were not satisfactory at all. Moreover, during further analyses performed later in the Result section, these dimensions did not yield any significant and salient findings. Therefore, it was decided that the dimensions of efficiency and failure in the TCSQ did not function well enough and thus, they were excluded from the report of the further analyses in the present study. Instead, as thought control measures, in addition to the TCSQ-frequency dimension, WBSI is included in the relevant analyses.

Table 8. *Correlation coefficients among adapted instruments*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.III															
2. Recency	.34**														
3. Frequency	.36**	.68**													
4. Distress	.30**	.20**	.17**												
5.OBQT	.47**	.11	.20**	.08											
6.OB-RT	.43**	.14*	.22**	.08	.90**										
7.OB-PC	.32**	.08	.16**	.04	.87**	.65**									
8.OBQICT	.48**	.07	.11	.09	.79**	.62**	.51**								
9.TCONTROLF	.39**	.10	.19**	.14*	.33**	.32**	.25**	.30**							
10.TCONTROLE	.03	.01	-.02	-.01	.00	.03	.00	-.03	.25						
11. DISTRACTF	.10	-.04	-.03	.08	.14*	.13*	.10	.14*	.54**	.35**					
12. DSTRCTE	-.03	-.06	-.09	.06	.03	.03	.01	.05	.21**	.59**	.68**				
13. SCONTRLF	.02	-.05	-.03	.05	-.05	-.02	-.07	-.03	.09	.16	.03	.06			
14. SCONTE	.08	-.02	-.01	-.02	.02	.06	.01	-.02	.19**	.80**	.18**	.34**	.24**		
15. WORRYF	.33**	.04	.13*	.10	.31**	.30**	.19**	.32**	.65**	.04	.08	-.10	.12*	.03	
16. WORRYE	.12*	.06	.06	-.02	.06	.05	.05	.05	.24**	.80**	.17**	.29**	.08	.56**	.27**
17. PUNISHF	.38**	.08	.22**	.19**	.35**	.31**	.24**	.37**	.68**	.03	.20**	.00	.01	.01	.46**
18. PUNISHE	.07	.03	.02	.02	.00	.02	.00	-.02	.20**	.83**	.20**	.32**	.06	.65**	.07
19. REAPPRSLEF	.17*	.12*	.12*	-.01	.07	.07	.08	.01	.54**	.19**	.10	-.02	.19**	.13*	.16*
20. REAPPSLE	-.02	.04	.03	-.02	-.08	-.05	-.05	-.11	.23**	.68**	.12*	.32**	.18**	.47**	-.04
21. TCONTROLEF	.06	-.08	.07	.06	.15**	.14*	.09	.18**	.12*	-.09	-.11	-.20**	.47**	-.12*	.34**
22. DSTRCTEF	-.03	-.03	-.07	.01	.10	.10	.06	.11	-.09	-.30**	-.29**	-.44**	-.04	-.27**	.13*
23. SCONTEF	-.04	-.08	-.10	.01	-.02	-.05	-.01	.00	-.05	-.22**	-.09	-.12*	.70**	-.21**	.09
24. WORRYEF	.14*	-.01	.06	.02	.23**	.21**	.16**	.22	.29**	.27**	.05	.04	.11	.18*	.51**
25. REAPPRSLEF	.01	-.06	-.06	.09	.08	.08	.01	.15*	.06	-.08	-.06	-.07	.07	-.09	.17*
26. PUNISHEF	.17*	-.04	.04	.10	.22**	.21**	.12*	.25**	.30**	.20**	.06	.03	.20**	.19**	.26**
27. RSQ	.10	.02	.11	.02	.24**	.18**	.16**	.31**	.16*	.11	.15*	.18*	-.11	.12*	.12*

Table 8. *Continued*

	16	17	18	19	20	21	22	23	24	25	26
17. PUNISHF	.07										
18. PUNISHE	.72**	.17**									
19. REAPPRSLF	.07	.14*	.07								
20. REAPPSLE	.39**	-.07	.42**	.56**							
21. TCONTROLEF	.04	.16**	-.02	.06	-.06						
22. DSTRCTEF	-.14*	-.07	-.19**	.03	-.14*	.59**					
23. SCONTEF	-.19**	.02	-.18**	.09	-.03	.67**	.14*				
24. WORRYEF	.42**	.20**	.23**	.00	.06	.60**	.29**	.01			
25. REAPPRSLEF	.01	.02	-.06	-.02	-.05	.66**	.45**	.17*	.43**		
26. PUNISHEF	.23**	.42**	.28**	.05	.03	.60**	.20**	.13*	.54**	.37**	
27. RSQ	.09	.21**	.10	-.04	-.05	.00	-.04	-.18*	.15*	.07	.21**

** $p < .001$, * $p < .05$.

Note- III: Interpretations of Intrusions Inventory, OBQ: Obsessive-Beliefs Questionnaire, RT: Responsibility/Threat Estimation, PC: Perfectionism/Uncertainty, ICT: Importance/Control of Thoughts, TCONTROL: Thought Control Strategies-Total, DSTRCT: Distraction, SCONT: Social Control, WOORY: Worry, REAPPRSL: Reappraisal, PUNISH: Punishment (E: Efficiency, F: Frequency, EF: Failure), RSQ: Religiousness Screening Questionnaire

Table 9. *Correlation coefficients among adapted and criterion measures*

	TAFT	TFMORAL	TFLIKE	RAS	WBSI	PDIT
RSQ	.37**	.42**	.06	.22**	.12*	.16**
III	.32**	.25**	.27**	.39**	.40**	.37**
OBQT	.46**	.50**	.12*	.33**	.34**	.55**
OB-RT	.40**	.41**	.13*	.71**	.30**	.50**
OB-PC	.27**	.32**	.02	.53**	.26**	.49**
OBQICT	.57**	.60**	.17**	.45**	.32**	.42**
TCONTROL-F	.29**	.26**	.17**	.33**	.32**	.35**
TCONTROL-E	.08	.03	.14*	-.03	-.06	.01
TCONTROL-EF	.15**	.18**	.01	.02	.08	.15**
DISTRACT-F	.16*	.17**	.06	.14*	.12*	.06
DSTRCTE-F	.08	.08	.04	.00	-.03	-.02
DISTRACT-EF	.02	.07	-.07	.06	.04	.01
SCONTRL-F	.01	.00	.01	-.06	-.03	.05
SCONTE-F	.09	.05	.12	.02	-.02	.01
SCONTRL-EF	-.05	-.01	-.09	-.08	-.05	.02
WORRY-F	.29**	.26**	.15*	.24**	.28**	.41**
WORRY-E	.09	.03	.14*	-.06	.00	.10
WORRY-EF	.22**	.21**	.09	.09	.08	.25**
PUNISH-F	.34**	.29**	.23**	.33**	.34**	.41**
PUNISH-E	.12*	.05	.17**	-.04	.01	.05
PUNISH-EF	.26**	.24**	.15**	.08	.19**	.21**
REAPPRSL-F	-.01	-.02	.00	.12*	.05	-.06
REAPPRSL-E	-.02	-.05	.06	-.04	-.18**	.34**
REAPPRSL-EF	.17**	.18**	.06	.01	.08	.06

** $p < .001$, * $p < .05$

Note- III: Interpretations of Intrusions Inventory, OBQ: Obsessive-Beliefs Questionnaire, RT: Responsibility/Threat Estimation, PC: Perfectionism/Uncertainty, ICT: Importance/Control of Thoughts, TCONTROL: Thought Control Strategies-Total, DSTRCT: Distraction, SCONT: Social Control, WOORY: Worry, REAPPRSL: Reappraisal, PUNISH: Punishment (E: Efficiency, F: Frequency, EF: Failure), RSQ: Religiousness Screening Questionnaire

3.4. Main Study

The efforts showing that the new instruments are psychometrically valid for Turkish university students were followed by the analyses for the main study. In this section, the tests of predictors of nonspecific, appraisal and control variables is preceded by group comparisons between Turkish and Canadian samples in all of the measures. As the final analyses, model testing was conducted in order to test the general hypotheses of the current study.

3.4.1. Group Comparisons between Turkish and Canadian Data

Before testing the predictors separately, Turkish and Canadian samples were compared to examine cross-cultural differences in nonspecific, appraisal and control

variables, and OCD symptoms. One way ANOVAs for the total scale scores and one way MANOVAs for the subscale scores of the instruments were performed. In addition, during comparisons of the personality dimensions, one way MANCOVA, in which lie scores were taken as covariates, was performed. Table 10 gives means, standard deviations and results of significance tests of Turkish and Canadian samples in relevant variables. Among non-specific factors, it seemed that Turkish subjects were more religious and higher in self-esteem than their Canadian counterparts. Whereas, Canadian subjects were more extraverted. On the other hand, there was no difference in neuroticism. Among appraisal factors, there was no difference between groups in total scores of the OCD-relevant beliefs, concerns on responsibility/threat estimation and perfectionism/ certainty, and thought-action fusion in total and likelihood. However, Turkish subjects seemed to have more problematic immediate appraisals and they were more likely to emphasize the importance and control of thoughts. Similarly, they seemed to make more fusion of thoughts and acts in morality dimension. Furthermore, Turkish people also reported to use more thought control strategies in general. Except for worry, they also appeared to utilize more distraction, social control, punishment and reappraisal when an unpleasant thought came to their minds. Whereas, Canadian people preferred suppression more as a control strategy for their thoughts. In terms of OCD symptoms, it can be stated that Turkish sample experienced more OCD symptoms in general and in all of the subscales than Canadian sample.

Table 10. *Group comparisons in all of the measures between Canadian and Turkish*

Data

	Canadian		Turkish		Significance Test
Non-Specific Factors	<i>M</i>	Sd	<i>M</i>	Sd	
Religiousness	2.15	1.10	2.79	1.07	$F(1, 588) = 52.49^{**}$
Self-esteem	20.91	5.11	21.88	5.11	$F(1, 588) = 5.28^*$
Neuroticism	3.03	0.11	3.27	0.11	NS
Extraversion	3.82	0.13	3.40	0.12	$F(1, 589) = 5.42^*$
Appraisal Factors	<i>M</i>	Sd	<i>M</i>	Sd	Significance Test
Interpretation of Intrusions	2.63	1.71	3.21	1.64	$F(1, 581) = 17.55^{**}$
Obsessive beliefs total	3.44	0.84	3.54	0.77	NS
Resp/Threat	3.59	0.06	3.53	0.05	NS
Imp/Control of thoughts	2.58	0.06	2.89	0.05	$F(1, 590) = 15.56^{**}$
Perf/Uncertainty	3.93	0.06	4.04	0.05	NS
Thought-Action Fusion	0.95	0.69	1.05	0.64	NS
TAF-Likelihood	0.63	0.05	0.59	0.05	NS
TAF-Morality	1.13	0.05	1.32	0.05	$F(1, 585) = 7.56^*$
Control Factors	<i>M</i>	Sd	<i>M</i>	Sd	Significance Test
Thought control frequency	2.08	0.29	2.17	0.30	$F(1, 585) = 12.96^{**}$
Worry	1.61	0.03	1.68	0.03	NS
Distraction	2.51	0.03	2.76	0.03	$F(1, 586) = 30.81^{**}$
Social control	1.79	0.04	2.06	0.04	$F(1, 586) = 26.58^{**}$

Table 10. *Continued.*

		Canadian		Turkish		
Control Factors		<i>M</i>	Sd	<i>M</i>	Sd	Significance Test
	Punishment	1.64	0.03	1.72	0.03	$F(1, 586) = 4.25^*$
	Reappraisal	2.31	0.03	2.43	0.03	$F(1, 586) = 6.99^*$
WBSI		3.53	0.64	3.30	0.70	$F(1, 587) = 16.55^{**}$
Outcome Factor		<i>M</i>	Sd	<i>M</i>	Sd	Significance Test
OCD Symptoms		26.73	20.30	39.42	21.76	$F(1, 587) = 53.23^{**}$
	Checking	8.87	0.47	12.72	0.45	$F(1, 587) = 35.53^{**}$
Outcome Factor		<i>M</i>	Sd	<i>M</i>	Sd	Significance Test
	Cleaning	9.22	0.46	13.04	0.44	$F(1, 587) = 36.52^{**}$
	Grooming	1.89	0.18	3.20	0.17	$F(1, 587) = 29.13^{**}$
	O. Thoughts	3.61	0.27	6.38	0.26	$F(1, 587) = 53.54^{**}$
	O. Impulses	3.13	0.29	4.15	0.27	$F(1, 587) = 6.66^*$

$^{**} p < .001$, $^* p < .05$.

Interpretation of Intrusions Inventory (III; OCCWG, 2001) is composed of two parts. In Part-I, there are definitions and some examples of intrusive thoughts.

Participants are also required to present two recent intrusion examples and then, to rate recency, distress and frequency of these intrusions. Latter three assessment questions seem to function as the control items for 2 examples. In Part-II, the statements are

assessed in line with these examples given first. These examples can also be examined with Coding Scheme for Part-I in III (Nedeljkovic, Kyrios, Doron & Ahern, 2006).

According to this coding scheme, there are 9 categories of intrusions; namely, contamination concerns and intrusions, concerns and intrusions about being ill, concerns about sexual, blasphemous, socially inappropriate and other moral intrusions, concerns and intrusions about harm, intrusions about need for symmetry and not quite right concerns, hoarding concerns and intrusions, concerns about nonsense intrusions, intrusive doubts about actions or decisions, other concerns on intrusions, and worries.

Table 11 provides the frequency of intrusion categories, and mean scores and standard deviations of the recency, frequency and distress in Turkish and Canadian sample in the present study. Chi square analyses with crosstabulation showed that there were significant differences in the percentages of two groups of intrusions between Turkish and Canadian samples ($\chi^2 [6] = 13.70, p < .05$ & $\chi^2 [6] = 16.67, p < .05$ respectively).

Nevertheless, in both groups of samples, frequencies of the intrusions categories are fairly similar, especially for the first five categories, when the table was examined. The most reported intrusions were about harm and then sexual, blasphemous, social and moral issues and finally doubting for both groups. The least reported intrusions were about contamination and symmetry. On the other hand, it is more apparent that Turkish subjects reported more worry-type intrusions than Canadians participants. Moreover, the degrees of recency, distress and general frequency of these intrusions were compared between groups via one-way MANOVA. It was found that there were no group differences in frequency and recency; however, as opposed to the Canadian subjects,

Turkish participants seemed to be more disturbed from the intrusions ($F(1, 582) = 77.64, p < .001$).

Table 11. *Categories of intrusions, and means scores and standard deviations (in parentheses) of recency, frequency and distress presented in Part I-III in Turkish and Canadian samples*

Frequency (%)				
Intrusions	Turkish (N = 277)	Canadian (N = 280)	Turkish (N = 239)	Canadian (N = 279)
Examples	1		2	
Contamination/illness	1.8	1.1	1.3	1.1
Sexual/blasphemous/social/moral	23.8	24.6	20.1	28.3
Harming	52.7	51.8	55.6	49.8
Symmetry	0.4	1.8	1.3	2.2
Doubting	9	13.6	10.5	14.7
Other concerns	4.3	4.6	2.9	1.4
Worry	7.9	2.5	8.4	2.5
	Turkish		Canadian	
	<i>M</i> (Sd)		<i>M</i> (Sd)	
Recency	4.25 (0.09)		4.21 (0.09)	
Frequency	2.87 (0.08)		2.77 (0.08)	

Table 11. *Continued.*

	Turkish	Canadian
	<i>M</i> (Sd)	<i>M</i> (Sd)
Distress*	3.05 (0.07)	2.23 (0.07)

* $p < .001$.

3.4.2. Correlations between Measures of the Present Study in Canadian and Turkish Data

Correlational analysis was performed for the examination of the relationships among nonspecific, appraisal and control variables, and OCD symptoms separately in Turkish and Canadian data. Tables 12 and 13 present interrelationships among variables that took part in the regression analyses. Generally speaking, in both sets of data, there were negative associations between self-esteem and OCD-relevant appraisal and control variables, while neuroticism was positively related to these factors. It was also observed that there were positive relationships between appraisal and control variables. In order for the easiness of comprehension, Table 14 presents the correlation coefficients between main measures and OCD symptoms in total. It appeared that strength and direction of the relationship between these variables were fairly similar for both Canadian and Turkish samples: namely, positive associations for neuroticism among nonspecific factors; immediate appraisals, recency, frequency and distress of intrusions, OCD-general faulty beliefs in total, responsibility/ threat estimation, importance/control

of thoughts, perfectionism/uncertainty, fusion of thoughts and actions in total, morality and likelihood among appraisal factors; thought control frequency in total, punishment, thought suppression among control factors; finally, negative associations for self-esteem. On the other hand, there were also exceptions and differentiations between groups. To illustrate, religiousness was the variable that was positively related to the OCD symptoms only in Turkish data. However, reappraisal was a thought control strategy that was positively significant only in Canadian sample. Moreover, correlational differences between two groups were investigated via Fisher exact test. It seems that only worry was more closely associated with symptoms for Turkish subjects ($z = -2.05$, $p < .05$).

Table 12. *Correlation coefficients among measures in Canadian sample*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.Age														
2.Gender	.04													
3. Relgss	-.12*	.06												
4. Rself	.07	.15*	-.04											
5. Neuro	-.03	-.28**	-.06	-.48**										
6.Lie	.03	-.15*	-.06	.10	-.10									
7.Extrav.	-.04	-.02	.02	.43**	-.28**	-.12*								
8.III	-.10	.16*	.14*	-.30**	.28**	-.14*	-.22**							
9.Lastexp.	.07	-.02	.04	-.05	.15*	-.12*	-.08	.23**						
10.Freq.	.08	.06	.01	-.09	.21**	-.13*	-.11	.34**	.69**					
11.Dstress	-.07	-.14*	-.02	-.14*	.23**	-.04	-.09	.47	.16**	.17*				
12.OBQ	-.12*	.00	.12*	-.46**	.36**	-.09	-.27**	.60**	.09	.14*	.30**			
13.RT	-.13*	.09	.13*	-.33**	.26**	-.06	-.22**	.54**	.06	.12*	.26**	.87**		
14.PC	-.03	-.10	.01	-.40**	.34**	-.07	-.26**	.42**	.09	.09	.21**	.85**	.58**	
15.ICT	-.15*	.00	.18**	-.45**	.31**	-.09	-.20**	.57**	.09	.16*	.30**	.82**	.62**	.52**
16.TAFT	-.21**	-.07	.32*	-.33**	.24**	-.03	-.17	.52**	.07	.09	.21**	.59**	.52**	.36**
17.Moral	-.25**	-.09	.41**	-.26**	.17*	-.01	-.12*	.44**	.04	.03	.22**	.55**	.46**	.33**
18.Like	-.06	.00	.03	-.30**	.26**	-.04	-.17*	.45**	.11	.15*	.10	.43**	.41**	.26**
19.TCQF	-.09	.02	.05	-.08	.21**	.00	-.07	.36**	.19**	.14*	.25**	.38**	.38**	.28**
20. Distrf	-.06	-.07	.04	.12**	-.03	.10	.07	.02	.01	-.12*	.10	.05	.07	.08
21.Soccf	.07	-.11	.02	.11	-.07	-.07	.26**	-.15*	-.05	-.04	-.04	-.19*	-.15*	-.17*
22.Worryf	-.20**	-.00	.04	-.21**	.32**	-.08	-.19*	.28**	.11	.08	.17*	.35**	.33**	.25**
23.Punshf	-.12*	.04	.06	-.34**	.33**	-.09	-.11	.56**	.23**	.25**	.28**	.56**	.49**	.37**
24.Reappf	.08	.08	-.05	.20**	-.00	.06	.07	.08	.10	.09	.12	.01	.06	.02
25.Wbsi	-.17*	.03	.05	-.34**	.39**	-.28**	-.21**	.46**	.24**	.29**	.26**	.52**	.47**	.41**
26.Pdi	-.18*	.01	.04	-.16*	.27**	-.21**	-.07	.39**	.14*	.22**	.17*	.50**	.46**	.43**

Table 12. *Continued.*

	15	16	17	18	19	20	21	22	23	24	25
16.TAFT	.67**										
17.Moral	.65**	.92**									
18.Like	.44**	.73**	.40**								
19.TCQF	.31**	.37**	.33**	.28**							
20. Distrf	-.04	.07	.10	-.02	.63**						
21.Soccf	-.16*	-.08	-.06	-.08	-.04	.00					
22.Worryf	.30**	.38**	.32**	.32**	.65**	.23**	.09				
23.Punshf	.60**	.54**	.46**	.46**	.55**	.09	-.17**	.32**			
24.Reappf	-.07	.00	.00	.03	.58**	.20**	.14*	.17*	.09		
25.Wbsi	.44**	.33**	.28**	.28**	.42**	.12*	-.17*	.35**	.46**	.07	
26.Pdi	.36**	.40**	.35**	.34**	.34**	.07	-.06	.26**	.43**	.12*	.39**

** $p < .001$, * $p < 0.05$

Table 13. Correlation coefficients among measures in Turkish sample

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.Age														
2.Gender	.33**													
3.Relgsns	-.05	.08												
4.Rself	.04	.05	-.04											
5.Neuro	.00	-.09	-.05	-.36**										
6.Lie	.12*	-.11*	.11*	.13*	-.04									
7.Extrav	-.05	-.14*	-.03	.40**	-.23**	.00								
8.III	-.08	.06	.10	-.15*	.05	-.11*	-.08							
9.Lastexp.	.01	.04	.02	-.16*	.04	-.11*	.01	.32**						
10.Freq.	.04	.09	.11	-.17*	.11	-.04	-.09	.35**	.68**					
11.Dstress	-.03	-.23**	.02	-.04	.03	-.10	.01	.29**	.20**	.17**				
12.OBQT	-.18**	.04	.24**	-.21**	.24**	.03	-.11*	.47**	.11*	.20**	.08			
13.ORT	-.17*	.04	.18**	-.23*	.20**	.01	-.09	.43**	.14*	.22**	.08	.90**		
14.OPC	-.15*	.00	.16*	-.15*	.26**	.08	-.13*	.31**	.08	.16*	.04	.87**	.65**	
15.OICT	-.13*	.06	.31**	-.16*	.14*	-.03	-.05	.48**	.07	.11	.09	.79**	.62**	.50**
16.TAFT	-.13*	.02	.37**	-.12*	.06	.03	.03	.32**	-.04	.04	.13*	.46**	.40**	.27**
17.Moral	-.09	.04	.42**	-.11*	.06	.04	-.02	.25**	-.08	.02	.11	.50**	.41**	.33**
18.Like	-.14*	-.05	.06	-.06	.03	.00	.11*	.27**	.05	.05	.10	.12*	.13*	.02
19.TCQF	-.26**	-.16*	.16*	-.16*	.17*	.00	.01	.40**	.10	.19**	.14*	.34**	.32**	.25**
20.Distrf	-.17*	-.20**	.15*	.06	-.03	.05	.10	.09	-.03	-.03	.08	.14*	.13*	.10
21.Soccf	-.07	-.20**	-.11*	.01	-.04	.03	.19**	.03	-.05	-.03	.08	-.05	-.03	-.07
22.Worryf	-.24**	-.09	.12*	-.24**	.17*	-.10	-.09	.34**	.04	.13*	.11	.32**	.31**	.19**
23.Pnshf	-.19**	-.06	.21**	-.17*	.18**	-.06	-.06	.38**	.08	.24**	.11	.35**	.31**	.24**
24.Rappf	-.03	-.10	-.03	-.01	.11	.11	.16*	.17*	.12*	.12*	-.01	.07	.07	.08
25.WBSI	-.19**	-.09	.12*	-.28**	.29**	-.13*	-.17*	.39**	.17*	.22**	.19**	.33**	.30**	.25**
26.Pdi	-.29**	.01	.16*	-.19**	.28**	-.11*	-.07	.37**	.12*	.24**	.24**	.55**	.50**	.49**

Table 13. *Continued.*

	15	16	17	18	19	20	21	22	23	24	25
16.TAFT	.57**										
17.Moral	.60**	.90**									
18.Like	.17*	.59**	.17*								
19.TCQF	.31**	.29**	.26**	.17*							
20.Distrf	.14*	.16*	.17*	.06	.55**						
21.Soccf	-.03	.01	.01	.01	.09	.03					
22.Worryf	.33**	.29**	.27**	.15*	.65**	.08	.12*				
23.Pnshf	.37**	.34**	.30**	.23**	.69**	.20**	.02	.47**			
24.Rappf	.02	-.01	-.01	.00	.54**	.10	.19**	.16*	.15*		
25.WBSI	.32**	.20**	.23**	.03	.33**	.11	-.02	.29**	.34**	.07	
26.Pdi	.41**	.39**	.34**	.25**	.35**	.05	.05	.41**	.40**	.06	.34**

** $p < .001$, * $p < 0.05$

Table 14. *Comparative table of correlation coefficients between the main measures with OCD symptoms.*

Religiousness		Self-esteem		Neuroticism		Extraversion		III		Recency		Frequency		Distress	
C	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T
.04	.16*	-.16*	-	.27**	.28**	-.07	-.07	.39**	.37**	.14*	.12*	.22**	.24**	.17*	.24**
			.19**												
OBQ-T		RT		PC		ICT		TAF-T		Morality		Likelihood			
C	T	C	T	C	T	C	T	C	T	C	T	C	T		
.50**	.55**	.46**	.50**	.43**	.49**	.36**	.41**	.40**	.39**	.35**	.34**	.34**	.25**		
TCSQ-T		Worry		Distraction		Soc.control		Punishment		Reappraisal		T.Suppression			
C	T	C	T	C	T	C	T	C	T	C	T	C	T		
.34**	.35**	.26**	.	.07	.05	.06	.05	.43**	.40**	.12*	.06	.39**	.34**		
			.41**												

** $p < .001$, * $p < 0.05$

3.4.3. Religiousness: Differences within and between Canadian and Turkish Data

Since religion and religiousness are important areas where cross-cultural differences can be observed and there are some initial findings showing the impact of religion on OCD symptoms and OCD-relevant appraisals and beliefs, the present study also focused on the examination of influence of levels of religiousness on nonspecific, appraisal and control factors, and OCD symptoms in comparison of Turkish and Canadian samples. Accordingly, 2 (categorical religion) by 2 (levels of religiousness) ANOVAs and MANOVAs were performed for the total and subscales (with LSD post-hoc comparison, where appropriate). Among Turkish and Canadian samples, those who stated their religious affiliation (i.e., Muslims [N = 115] vs. Christians [N = 104]) were selected by giving particular concerns to match groups in age and sex as much as possible. One way ANOVA between religion categories showed that Canadians and Turkish samples did not differ in the religiousness. Then, level of religiousness was also determined as high (N = 75) and low groups (N = 76) by half standard deviation minus or plus the mean of religiousness.

Among nonspecific factors, univariate ANOVA on self-esteem did not reveal significant main and interaction effects. On the other hand, 2 x 2 MANCOVA on personality dimensions, in which lie scores were included as covariate, showed that main effect of religion (Wilks λ (2, 145) = 4.32, η^2 = .06, p < .05) was only significant. Following univariate ANOVAs also showed religion group differences only on extraversion (F (1, 151) = 6.67, η^2 = .05, p < .05) and neuroticism (F (1, 151) = 4.29, η^2 =

.03, $p < .05$). Canadian sample was more extraverted ($M=4.31$) than Turkish participants ($M = 3.47$). Whereas, Turkish subjects seemed to have more neurotic tendencies ($M = 3.56$) than Canadian sample ($M = 2.94$).

Among appraisal factors, 2 x 2 ANOVA on immediate problematic appraisals revealed only significant main effect of categorical religion ($F (1, 150) = 4.81, \eta^2 = .03, p < .05$). It was observed that regardless of religiousness level, Turkish subjects had higher scores on these kinds of appraisals ($M = 3.22$) than Canadian subjects ($M = 2.64$). Similarly, 2 x 2 MANOVA on recency, frequency and distress of intrusions yielded main effect of categorical religion (Wilks $\lambda (3, 144) = 12.14, \eta^2 = .20, p < .001$) and level of religiousness (Wilks $\lambda (3, 144) = 3.93, \eta^2 = .08, p < .05$) but no interaction effect. Following univariate ANOVAs showed that there was a group difference between categorical religion groups on distress experienced ($F (1, 150) = 34.65, \eta^2 = .19, p < .001$) and level of religiousness on frequency of intrusions ($F (1, 150) = 8.27, \eta^2 = .05, p < .05$). That is to say, Turkish participants reported more distress from intrusions ($M = 3.18$) than Canadian subjects ($M = 2.15$). Regardless of the religion category, high religious people also seemed to experience more frequent intrusions ($M = 2.93$) than those who had low level of religiousness ($M = 2.34$). However, the analysis on OCD-beliefs total scores revealed no significant effect. On the other hand, 2 x 2 MANOVA for different dimensions of the OCD beliefs yielded main effects of religion (Wilks $\lambda (1, 145) = 5.03, \eta^2 = .09, p < .05$) and of religiousness (Wilks $\lambda (1, 145) = 3.41, \eta^2 = .07, p < .05$) but no significant interaction effect. Univariate analysis indicated religion ($F (1, 151) = 5.06, \eta^2 = .04, p < .05$) and religiousness ($F (1, 151) = 9.11, \eta^2 = .06, p < .05$)

differences in importance/control of thoughts. According to the main effects, Turkish sample emphasized their thoughts and their control ($M = 3.10$) more than Canadian participants ($M = 2.73$), while high religious people ($M = 3.15$) had also higher scores in that dimension than those who had low level of religiousness ($M = 2.68$) Furthermore, the univariate analysis on the fusion of thoughts and actions (TAF) in total score yielded main effect of religiousness ($F(1, 149) = 15.39, \eta^2 = .10, p < .001$) and interaction effect ($F(1, 149) = 4.84, \eta^2 = .03, p < .05$). Univariate group comparison indicated that high religious people tended to make more TAF ($M = 1.33$) than their low counterpart ($M = 0.92$).

Table 15. *Interaction of categorical religion and levels of religiousness on TAF-total*

	Religiousness	
	High	Low
Canadian sample	1.43 _a	0.78 _b
Turkish sample	1.24 _a	1.06 _{ab}

Note: Different subscripts on the same row or on the same column represent significant difference between groups ($p < .05$).

As can be seen from Table 15 that includes post-hoc comparison with LSD, high and low levels of religiousness among Canadian subjects differed in TAF-total score. There were no significant differences in the level of the religiousness among Turkish

sample, between high religious Turkish and Canadian subjects, and between Turks and Canadians who had low level of the religiosity. On the other hand, Canadian subjects who had low level of religiousness also had lowest TAF-Total scores.

Similarly, the results of MANOVA in morality dimension revealed main effect of religiousness (Wilks λ (1, 144) = 17.06, η^2 = .19, p < .001) and interaction effect (Wilks λ (1, 144) = 2.85, η^2 = .03, p < .05). Yet, there were no such differences in likelihood dimension. Univariate ANOVAs indicated group differences in religiousness (F (1, 149) = 28.81, η^2 = .17, p < .001). Univariate analysis for morality showed that regardless of categorical religion, high religious people reported more fusion in morality (M = 1.77) than those who had low level of religiousness (M = 1.09). As for the interaction effect, according to the post-hoc comparisons, there were no differences for high and low level of religiousness among Turkish subjects, highly religious Canadian and Turkish participants, but highly religious Canadians reported more fusion in morality, as compared to the Canadians who had low level of religiousness. Table 16 presents means of the groups.

Table 16. *Interaction of categorical religion and levels of religiousness on TAF-Morality*

	Religiousness	
	High	Low
Canadian subjects	1.87 _a	0.89 _b
Turkish subjects	1.66 _a	1.29 _a

Note: Different subscripts on the same row or on the same column represent significant difference between groups ($p < .05$).

The results of univariate analysis in thought suppression did not reveal any significant finding at all. On the other hand, for general thought control, there were main effects of religion ($F(1, 151) = 13.52, \eta^2 = .08, p < .001$), but no interaction effect was observed. According to the results, Turkish sample utilized strategies of thought control in general ($M = 2.26$) more frequently than Canadian subjects ($M = 2.09$). MANOVA for the different types of control strategies yielded main effect of the categorical religion (Wilks $\lambda(1, 143) = 4.95, \eta^2 = .15, p < .001$). Following univariate analyses confirmed group differences in social control ($F(1, 151) = 4.42, \eta^2 = .03, p < .05$), worry ($F(1, 151) = 5.14, \eta^2 = .03, p < .05$) and reappraisal ($F(1, 151) = 9.56, \eta^2 = .06, p < .05$). In other words, Turks also had higher scores in social control ($M = 2.04$), worry ($M = 1.81$) and reappraisal (2.52) than Canadians ($M = 1.81, M = 1.62, M = 2.25$ respectively).

Finally, the groups were compared in OCD symptoms totals and different subtypes (e.g., in line with PI-WSUR). The results of univariate analysis demonstrated only main effect of religion ($F(1, 151) = 30.44, \eta^2 = .17, p < .001$). In other words, Turkish sample had higher scores in total OCD symptoms ($M = 42.12$) than Canadian subjects ($M = 24.42$). Similarly, MANOVA in the subtypes of OCD symptoms revealed main effect of religion (Wilks $\lambda(1, 142) = 8.53, \eta^2 = .23, p < .001$) as well as main effect of religiousness (Wilks $\lambda(1, 142) = 2.44, \eta^2 = .08, p < .05$). Univariate ANOVAs indicated that religion groups differed on checking ($F(1, 150) = 15.33, \eta^2 = .10, p <$

.001), cleaning ($F(1, 150) = 19.34, \eta^2 = .12, p < .001$), grooming ($F(1, 150) = 19.94, \eta^2 = .12, p < .001$), obsessional thoughts ($F(1, 150) = 38.42, \eta^2 = .21, p < .001$), obsessional impulses ($F(1, 150) = 6.12, \eta^2 = .04, p < .05$). That is, Turkish sample scored higher in checking ($M = 12.59$), cleaning ($M = 14.77$), grooming ($M = 3.88$), thoughts ($M = 7.33$), and impulses ($M = 3.92$) than Canadian sample ($M = 8.10, M = 9.15, M = 1.68, M = 3.15, \& M = 2.34$ respectively). In addition, univariate analysis pointed to the main effect of religiousness in checking ($F(1, 150) = 4.80, \eta^2 = .03, p < .05$) and obsessional thoughts ($F(1, 150) = 4.84, \eta^2 = .03, p < .05$). To put it another way, highly religious people reported more OCD symptoms in checking ($M = 11.60$) and obsessional thoughts ($M = 5.98$).

3.4.4. Relationship between Religiousness and OCD Symptoms

Because religion and religiousness are critical constructs in OCD and since there have been significant religious group differences in OCD-relevant factors (e.g., see findings in the previous section), the relationship between religiousness and OCD symptoms through OCD-relevant appraisals or whether religiousness triggers appraisal and control variables for OCD symptoms are important matters. Accordingly, mediational roles of appraisal and control factors were tested for appraisal factors by means of the application of the criteria suggested by Baron and Kenny (1986). According to the criteria, a) independent variables are related to dependent variables, b) independent variables are related to potential mediator, c) mediators are related to

dependent variable, d) the relationship between independent and dependent variables is reduced or eliminated with the control for mediator variable.

First of all, the first criteria refers that religiousness (i.e., independent variable) should be significantly associated with OCD symptoms (i.e., dependent variable). However, neither correlational nor regression analyses confirmed this item for Canadians. Since religiousness was found to be related with OCD symptoms only in Turkish subjects, mediational models were only examined for Turkish data. The criteria of “a”, “c” and “d” (Baron & Kenny, 1986) were tested with different analyses. For the first hierarchical regression analyses, religiousness was entered in the first step and relevant mediator in the second step. For the second analyses, religiousness was entered in one step as an independent variable in predicting mediators in regression analyses. Finally, Sobel test was used for confirmation of mediational model.

There were no evidences of mediator role for personality dimensions, self-esteem, immediate problematic appraisals, recency, frequency and distress of intrusions, TAF-Likelihood (i.e., reduction or elimination of the effect of religiousness in OCD symptoms when controlled for mediators-fourth criteria of the mediation). On the other hand, the regression analyses and Sobel tests confirmed that all kinds OCD-beliefs (i.e., responsibility/threat estimation, importance/control of thoughts & perfectionism/certainty), fusion of thoughts and actions in morality, inflated sense of responsibility, control strategies of worry and punishment were full mediators of religiousness in OCD symptoms, while thought suppression functioned as only partial mediator. In other words, it seems that religiousness triggers concerns on responsibility/threat estimation, perfectionism/certainty, importance/control of thoughts,

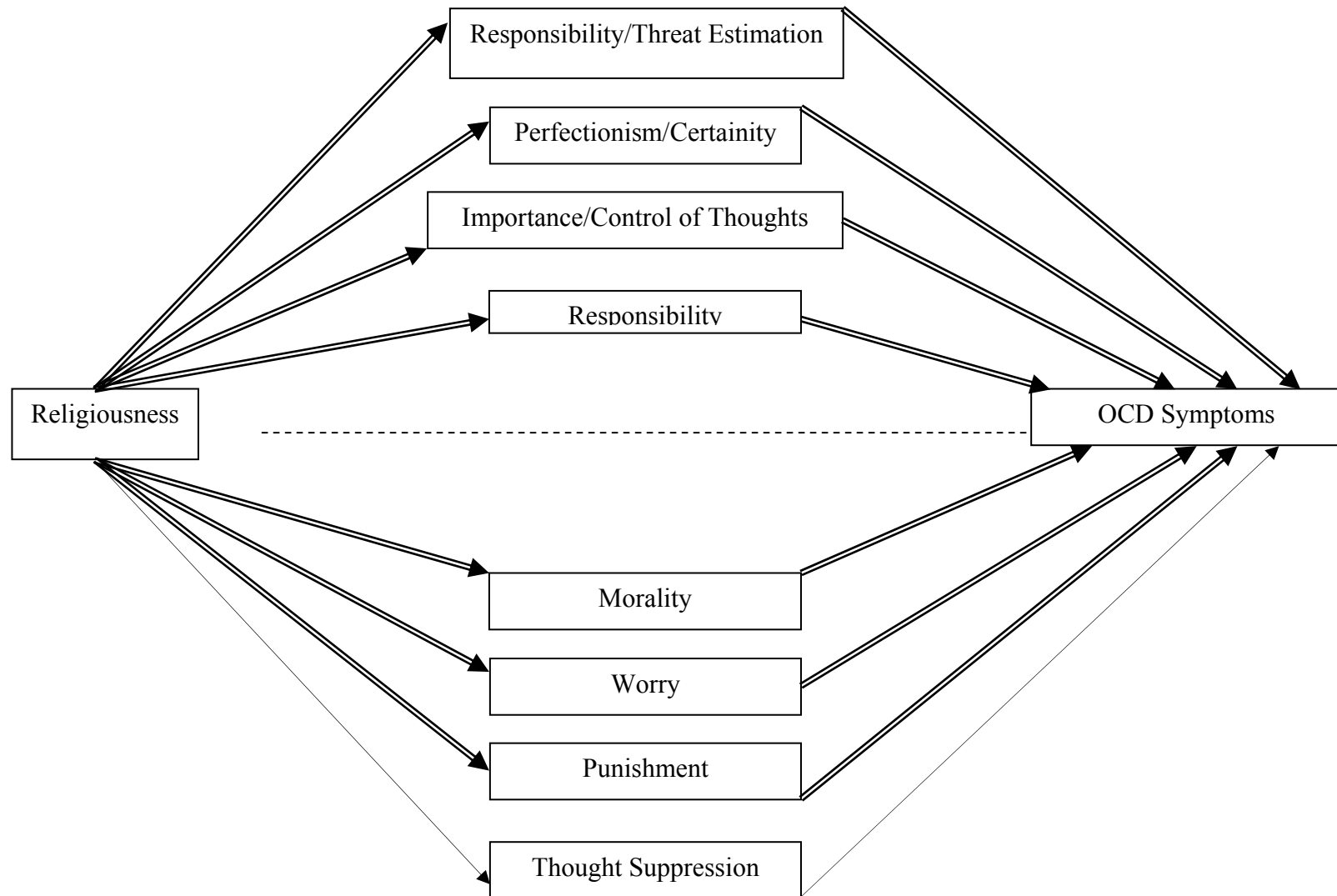
fusion in morality, responsibility as appraisal factors, and lead to control thoughts with worry and punishment thorough OCD symptoms, while it also brings about thought suppression partially. Figure 5 represents the mediational relationships, as Table 17 presents standardized beta coefficients, explained variances and Sobel test results, when testing mediational criteria.

Table 17. *The results of regression analyses performed for mediational models.*

Predicting OCD Symptoms alone ($\beta = .16$, $t = 2.75^*$, $R^2 = .02^*$)								
Religiousness	Predicting OCD Symptoms when controlled for							
	RT	PC	ICT	Morality	Responsibility	Worry	Punishment	T. Supp.
	β	β	β	β	β	β	β	β
	.06	.07	.03	.02	.07	.10	.07	.11*
	Total R^2	Total R^2	Total R^2	Total R^2	Total R^2	Total R^2	Total R^2	Total R^2
	.25**	.25**	.18**	.12**	.14**	.19**	.17**	.13**
Predicting mediators								
Religiousness	RT	PC	ICT	Morality	Responsibility	Worry	Punishment	T. Supp.
	β	β	β	β	β	B	β	β
	.18**	.16**	.31**	.42**	.22**	.12*	.21**	.12*
	Total R^2	Total R^2	Total R^2	Total R^2	Total R^2	Total R^2	Total R^2	Total R^2
	.03**	.03**	.10**	.17**	.05**	.02*	.04**	.02*
Sobel tests	3.12**	2.72*	4.51**	4.82**	3.34**	1.98*	3.27**	1.93*

** $p < .001$, * $p < .05$.

Figure 5. Path model and standardized regression coefficients showing that appraisal factors mediate the effects of religiousness on the OCD symptoms in Turkish data*.



3.4.5. Predictors of Control and Appraisal Factors in OCD Symptoms

In order for the investigation of the interrelationships among nonspecific, appraisal and control factors of OCD in different cultures, separate hierarchical regression analyses with stepwise equation were conducted for Turkish and Canadian data. The guidelines mentioned in the comprehensive model of OCD symptoms (see Figure 4 in the Introduction section) were followed during these regression analyses. In the comprehensive model, it was assumed that nonspecific factors contribute to the problematic appraisals and in turn, these appraisals bring about control efforts. However, OCD symptoms are experienced, since these efforts result in temporary relief at first, but in failure at the same time. In other words, in line with this model, nonspecific factors were regressed on the appraisal variables first. Then, the predictor roles of the nonspecific and appraisal factors for control variables were examined. During the analyses, the order of entrance of the variables into the analyses were as follows: age, gender and lie dimension of EPQR-A as control variables; religiousness, self-esteem and other personality dimensions as individual differences or nonspecific factors; immediate problematic appraisals due to specificity in one point in time; responsibility/threat estimation, perfectionism/certainty, importance/control of thoughts, fusion in morality and likelihood as general appraisal factors. Furthermore, as a result of previous analyses that favored worry and punishment in OCD symptoms, regression analyses were also performed only for these two strategies as well as thought suppression. When one of the subscales from one instrument was taken into the analyses as the dependent measure

(e.g., subscales of the OBQ & TAF), others were excluded from the analyses to prevent the confusion, redundancy and statistical accuracy (e.g., multicollinearity etc.). Table 18-26 provides the results of these regression analyses.

The results of regression analyses for OBQ-responsibility/threat estimation showed that for both Turkish and Canadians subjects, age and self-esteem were negatively associated, while religiousness, neuroticism, immediate appraisals and morality were positively related with this belief domain. On the other hand, for Canadian participants, fusion in likelihood was also found to be associated with responsibility/threat estimation.

Table 18. *Predictors of OBQ-Responsibility/threat estimation*

Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Turkish Data						
1	Age	-.19	-3.18**	-.19	.03	(1, 286) 10.11*
2	Self-esteem	-.22	-3.85**	-.22	.05	(1, 285) 14.85**
3	Religiousness	.20	3.52**	.19	.04	(1, 284) 11.16**
4	Neuroticism	.14	2.28*	.13	.02	(1, 283) 5.02*
5	III	.38	7.31**	.40	.14	(1, 282) 53.40**
6	Morality	.29	5.29**	.30	.07	(1, 281) 27.96**
Total R^2					.35	

Table 18. *Continued.*

Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Canadian Data						
1	Age	-.13	-2.28*	-.13	.02	(1, 279) 4.92*
2	Self-esteem	-.32	-5.71**	-.32	.10	(1, 278) 32.62**
3	Neuroticism	.14	2.13*	.13	.01	(1, 277) 4.54*
4	Religiousness	.12	2.10*	.13	.01	(1, 276) 4.41*
5	III	.46	8.71*	.47	.18	(1, 275) 75.94**
6	Morality	.27	4.52**	.26	.05	(1, 274) 20.42**
7	Likelihood	.11	1.98*	.12	.01	(1, 273) 3.91*
Total R^2					.38	

** $p < .001$, * $p < .05$.

As can be seen in Table 19, neuroticism, immediate appraisals and fusion in morality were common positive predictors of OBQ-perfectionism/certainty for both sets of data. Yet, age and fusion in likelihood were negatively, but lie and religiousness was positively related with this belief domain in Turkish data.

Table 19. *Predictors of OBQ-Perfectionism/certainty*

Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Turkish Data						
1	Age	-.15	-2.49*	-.15	.02	(1, 286) 6.19*
2	Lie	.12	1.99*	.12	.01	(1, 285) 3.95*
3	Neuroticism	.25	4.50**	.26	.06	(1, 284) 20.25**
4	Religiousness	.18	3.13*	.18	.03	(1, 283) 9.82**
5	III	.29	5.40**	.31	.08	(1, 282) 29.04**

Table 19. *Continued.*

Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Turkish Data						
6	Morality	.21	3.51**	.21	.03	(1, 281) 12.33**
7	Likelihood	-.13	-2.41*	-.15	.02	(1, 280) 5.80*
Total R^2					.25	
Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Canadian Data						
1	Self-esteem	-.40	-7.33**	-.40	.16	(1, 279) 53.66**
2	Neuroticism	.19	3.15*	.19	.03	(1, 278) 9.93*
3	III	.31	5.67**	.32	.08	(1, 277) 32.14**
4	Morality	.14	2.42*	.14	.02	(1, 276) 5.87*
Total R^2					.29	

** $p < .001$, * $p < .05$.

The common predictors of OBQ-importance/control of thoughts were religiousness, neuroticism, immediate appraisals and fusion in morality positively in both Turkish and Canadian samples. However, age and self-esteem were also negatively related with this belief domain in Canadian subjects.

Table 20. *Predictors of OBQ-Importance and control of thoughts*

Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Turkish Data						
1	Religiousness	.29	5.12**	.29	.08	(1, 286) 26.18**
2	Neuroticism	.15	2.63*	.15	.02	(1, 285) 6.93*
3	III	.44	8.87**	.47	.19	(1, 284) 78.58**
4	Morality	.48	9.99**	.51	.18	(1, 283) 99.73**
Total R^2					.47	
Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Canadian Data						
1	Age	-.15	-2.60*	-.15	.02	(1, 279) 6.78*
2	Self-esteem	-.44	-8.22**	-.44	.19	(1, 278) 67.50**
3	Religiousness	.15	2.92*	.17	.02	(1, 277) 8.52*
4	Neuroticism	.13	2.23*	.13	.01	(1, 276) 4.99*
5	III	.45	9.22**	.49	.18	(1, 275) 84.92**
6	Morality	.48	9.86**	.51	.15	(1, 274) 97.13**
Total R^2					.57	

** $p < .001$, * $p < .05$.

The regression of TAF-morality indicated that religiousness, immediate appraisals and importance/control of thoughts were important in fusion in morality for both groups of the samples. In addition, age and self-esteem were also negatively associated for Canadian participants.

Table 21. *Predictors of TAF-Morality*

Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Turkish Data						
1	Religiousness	.41	7.61**	.41	.17	(1, 286) 57.89**
2	III	.21	3.86**	.22	.04	(1, 285) 14.93**
3	OBQ-ICT	.54	10.12**	.52	.25	(1, 284) 102.45**
Total R^2					.46	
Canadian Data						
1	Age	-.25	-4.25**	-.25	.06	(1, 279) 18.08**
2	Religiousness	.38	7.13**	.39	.15	(1, 278) 50.76**
3	Self-esteem	-.24	-4.55**	-.26	.06	(1, 277) 20.70**
4	III	.33	6.44**	.36	.10	(1, 276) 41.44**
5	OBQ-ICT	.54	9.89**	.51	.17	(1, 275) 97.83**
Total R^2					.54	

** $p < .001$, * $p < .05$.

The results for TAF-Likelihood demonstrated that immediate appraisals were only common influential factor for both cultures. Younger participants appeared to make more fusion in this domain in Turkish sample. As the self-esteem decreased, and the emphasis on the thoughts and their control and neuroticism increased, fusion in likelihood also increased for Canadian participants.

Table 22. *Predictors of TAF-Likelihood*

Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Turkish Data						
1	Age	-.13	-2.22*	-.13	.02	(1, 286) 4.91*
2	III	.25	4.45**	.26	.06	(1, 285) 19.86**
Total R^2					.08	
Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Canadian Data						
1	Self-esteem	-.30	-5.23**	-.30	.09	(1, 279) 27.39*
2	Neuroticism	.15	2.38*	.14	.02	(1, 278) 5.68*
3	III	.39	6.96**	.39	.13	(1, 277) 48.47**
4	OBQ-ICT	.21	3.16*	.19	.03	(1, 276) 9.99*
Total R^2					.27	

** $p < .001$, * $p < .05$.

Prediction of control strategy of worry showed that younger subjects in both groups seemed to utilize worry more frequently as a control strategy. It was also performed more for immediate appraisals and morality in both groups of the participants. On the other hand, low self-esteem was related to the worry only for Turkish participants; whereas, this strategy was used more by those who had more neurotic personality characteristics and were more introverted. Moreover, for Canadians, likelihood fusion was also associated with the use of worry as a thought control strategy.

Table 23. *Predictors of thought control-worry*

Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Turkish Data						
1	Age	-.22	-3.85**	-.22	.05	(1, 285) 14.70**
2	Self-esteem	-.22	-3.86**	-.22	.05	(1, 284) 14.87**
3	III	.30	5.43**	.31	.09	(1, 283) 29.46*
4	Morality	.17	3.06*	.18	.02	(1, 282) 9.35*
Total R^2					.21	
Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Canadian Data						
1	Age	-.20	-3.42**	-.20	.04	(1, 279) 11.68**
2	Neuroticism	.32	5.67**	.32	.10	(1, 278) 32.33**
3	Extraversion	-.12	-2.02*	-.12	.01	(1, 277) 4.07*
4	III	.18	3.04*	.18	.03	(1, 276) 9.25*
5	Likelihood	.20	3.19*	.19	.03	(1, 275) 10.18*
6	Morality	.15	2.41*	.14	.02	(1, 274) 5.80*
Total R^2					.23	

** $p < .001$, * $p < .05$.

According to the regression analyses conducted for punishment strategy, it seems that younger people, those who were high in neuroticism, and who had more immediate problematic appraisals and who had more emphasis on thoughts and their control made use of punishment more frequently for both sets of data. Whereas, religiousness was also important for use of punishment strategy among Turkish subjects; decrease in self-

esteem and increase in fusion of likelihood were also associated with punishment use among Canadians.

Table 24. *Predictors of thought control-punishment*

Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Turkish Data						
1	Age	-.17	-2.83*	.17	.03	(1, 285) 8.03*
2	Religiousness	.22	3.82**	.22	.05	(1, 284) 14.58**
3	Neuroticism	.20	3.53**	.21	.04	(1, 283) 12.46**
4	III	.33	6.17**	.35	.10	(1, 282) 38.05**
5	OBQ-ICT	.18	2.84*	.17	.02	(1, 281) 8.08*
Total R^2					.21	
Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Canadian Data						
1	Age	-.12	-2.03*	.12	.02	(1, 279) 4.13*
2	Self-esteem	-.33	-5.95**	.34	.11	(1, 278) 35.38**
3	Neuroticism	.21	3.38**	.20	.03	(1, 277) 11.41**
4	III	.48	9.36**	.49	.22	(1, 276) 87.56**
5	OBQ-ICT	.37	6.33**	.32	.06	(1, 275) 40.03**
6	Likelihood	.16	3.05*	.18	.02	(1, 274) 9.27**
Total R^2					.46	

** $p < .001$, * $p < .05$.

The results of the regression analyses for thought suppression indicated that those who are younger, high in neuroticism and low in self-esteem made suppression more and it was also used for immediate appraisals for both cultures. On the other hand,

religiousness and fusion in morality were also positive predictors of suppression, while likelihood fusion was negatively related for Turkish subjects. For Canadian participants, responsibility and threat estimation was also associated with thought suppression; whereas, social desirability was negatively related.

Table 25. *Predictors of thought suppression*

Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Turkish Data						
1	Age	-.18	-3.14**	-.18	.03	(1, 285) 8.90*
2	Neuroticism	.28	5.04**	.28	.08	(1, 284) 25.24**
3	Self-esteem	-.17	-2.89*	-.17	.03	(1, 283) 8.37*
4	Religiousness	.11	2.02*	.12	.01	(1, 282) 4.08*
5	III	.33	6.37**	.36	.11	(1, 281) 40.53**
6	TAF-Likelihood	-.11	-2.11*	-.13	.01	(1, 280) 4.45*
7	TAF-Moral	.11	1.98*	.12	.01	(1, 279) 3.91*
Total R^2					.28	
Canadian Data						
1	Lie	-.28	-4.82**	-.28	.08	(1, 279) 23.21**
2	Age	-.16	-2.77*	-.16	.03	(1, 278) 7.65*
3	Neuroticism	.37	6.93**	.39	.13	(1, 277) 48.06**
4	Self-esteem	-.17	-2.91*	-.34	.02	(1, 276) 8.49*
5	III	.33	6.25**	.46	.09	(1, 275) 39.07**
6	OBQ-RT	.26	4.52**	.47	.05	(1, 274) 20.40**
Total R^2					.40	

** $p < .001$, * $p < .05$.

Finally, separate hierarchical regression analyses with stepwise equation were also performed to predict immediate problematic appraisals. However, different steps were followed in these regression analyses, because of nature and content of the instrument. In the first block, there were age, gender and lie dimension of the EPQR-A as general control variables; religiousness, self-esteem and other two personality dimensions as individual differences were entered in the second block. Afterwards, the assessments of three dimensions that constitute the first section of the III (i.e., recency, frequency and distress) were included in the third block as specific control variables. Other appraisal factors, namely OCD-relevant belief domains and fusion of thoughts and actions, were entered into the analyses in the last block.

As can be seen from Table 26, frequency of and distress from the experience of intrusions, importance/control of thoughts, responsibility/threat estimation and fusion in likelihood were common positive predictors and self-esteem was common negative predictors of immediate problematic appraisals in both sets of data. On the other hand, being male, high neuroticism and religiousness, and emphasis on perfectionism/certainty also predicted these immediate appraisals in Canadians.

Table 26. *Predictors of immediate problematic appraisal*

Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Turkish Data						
1	Self-esteem	-.14	-2.45*	.14	.02	(1, 286) 5.98*
2	Frequency	.34	6.06**	.34	.11	(1, 285) 36.76**
3	Distress	.24	4.37**	.25	.06	(1, 284) 19.06**
4	OBQ-ICT	.42	8.71**	.46	.17	(1, 283) 75.87**
5	Likelihood	.15	3.23**	.19	.02	(1, 282) 10.40**
6	OBQ-RT	.14	2.26*	.13	.01	(1, 281) 5.12*
Total R^2					.39	
Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Canadian Data						
1	Gender	.16	2.76*	.16	.03	(1, 279) 7.63*
2	Neuroticism	.35	6.03**	.26	.11	(1, 278) 36.35**
3	Self-esteem	-.21	-3.43*	.20	.04	(1, 277) 11.79**
4	Religiousness	.14	2.48*	.15	.02	(1, 276) 6.14*
5	Distress	.45	9.20**	.49	.19	(1, 275) 84.71**
6	Frequency	.21	4.35**	.25	.04	(1, 274) 18.94**
7	OBQ-ICT	.38	7.48**	.41	.10	(1, 273) 55.96**
8	Likelihood	.24	5.25**	.30	.04	(1, 272) 27.56**
9	OBQ-RT	.17	3.34**	.20	.02	(1, 271) 11.17**
10	OBQ-PC	.11	2.11*	.13	.01	(1, 270) 4.46*
Total R^2					.60	

** $p < .001$, * $p < .05$.

In order to provide the easiness of comprehensiveness, common and unique predictors of the independent variables in their respective hierarchical regressions, which were obtained so far, are given in the summary table below.

Table 27. *Summary of regression analyses for both Turkish and Canadian Sample*

Levels	Variables	OBQ-RT				OBQ-PC		
		Turkish	Canadian	Common		Turkish	Canadian	Common
1.General control	Age	Yes (-)	Yes (-)	Yes	Age	Yes (-)	No	No
					Lie	Yes (+)	No	No
2.Individual dif.	Neuroticism	Yes (+)	Yes (+)	Yes	Neuroticism	Yes (+)	Yes (+)	Yes
	Self-esteem	Yes (-)	Yes (-)	Yes	Self-esteem	No	Yes (-)	No
	Religiousness	Yes (+)	Yes (+)	Yes	Religiousness	Yes (+)	No	No
3.Appraisal	III	Yes (+)	Yes (+)	Yes	III	Yes (+)	Yes (+)	Yes
	TAF-Morality	Yes (+)	Yes (+)	Yes	TAF-Morality	Yes (+)	Yes (+)	Yes
	TAF-Likelihood	No	Yes (+)	No	TAF-Likelihood	Yes (-)	No	No

Note: Directions of the relationships in respective regressions are represented via signs (i.e., positive [+] or negative [-]) in parentheses, in the columns.

Table 27. *Continued.*

		OBQ-ICT				III		
		Turkish	Canadian	Common		Turkish	Canadian	Common
1. General control	Age	No	Yes (-)	No	Being male	No	Yes	No
	Neuroticism	Yes (+)	Yes (+)	Yes	Neuroticism	No	Yes (+)	No
2. Individual dif.	Self-esteem	No	Yes (-)	No	Self-esteem	Yes (-)	Yes (-)	Yes
	Religiousness	Yes (+)	Yes (+)	Yes	Religiousness	No	Yes (+)	No
3. Appraisal	III	Yes (+)	Yes (+)	Yes	Frequency	Yes (+)	Yes (+)	Yes
	TAF-Morality	Yes (+)	Yes (+)	Yes	Distress	Yes (+)	Yes (+)	Yes
					OBQ-ICT	Yes (+)	Yes (+)	Yes
					OBQ-PC	No	Yes (+)	No
					OBQ-RT	Yes (+)	Yes (+)	Yes
					TAF-Likelihood	Yes (+)	Yes (+)	Yes

Table 27. *Continued.*

		TAF-Morality			TAF-Likelihood				
		Turkish	Canadian	Common			Turkish	Canadian	Common
1. General control	Age	No	Yes (-)	No	Age	Yes (-)	No	No	
2. Individual dif.	Religiousness	Yes (+)	Yes (+)	Yes	Neuroticism	No	Yes (+)	No	
	Self-esteem	No	Yes (-)	No	Self-esteem	No	Yes (-)	No	
3. Appraisal	III	Yes (+)	Yes (+)	Yes	III	Yes (+)	Yes (+)	Yes	
	OBQ-ICT	Yes (+)	Yes (+)	Yes	OBQ-ICT	No	Yes (+)	No	

Table 27. *Continued.*

		TC-Worry			TC-Punishment				
		Turkish	Canadian	Common			Turkish	Canadian	Common
1. General control	Age	Yes (-)	Yes (-)	Yes	Age	Yes (-)	Yes (-)	Yes	
	Self-esteem	Yes (-)	No	No	Self-esteem	No	Yes (-)	No	
2. Individual dif.	Neuroticism	No	Yes (+)	No	Neuroticism	Yes (+)	Yes (+)	Yes	
	Extraversion	No	Yes (+)	No	Religiousness	Yes (+)	No	No	
	III	Yes (+)	Yes (+)	Yes	III	Yes (+)	Yes (+)	Yes	
3. Appraisal	TAF-Morality	Yes (+)	Yes (+)	Yes	OBQ-ICT	Yes (+)	Yes (+)	Yes	
	TAF-Likelihood	No	Yes (+)	No	TAF-Likelihood	No	Yes (+)	No	

Table 27. *Continued.*

		T. Suppression		
		Turkish	Canadian	Common
1. General control	Age	Yes (-)	Yes (-)	Yes
	Lie	No	Yes (-)	No
	Self-esteem	Yes (-)	Yes (-)	Yes
2. Individual dif.	Neuroticism	Yes (+)	Yes (+)	Yes
	Religiousness	Yes (+)	No	No
	III	Yes (+)	Yes (+)	Yes
3. Appraisal	OBQ-RT	No	Yes (+)	No
	TAF-Likelihood	Yes (-)	No	No
	TAF-Morality	Yes (+)	No	No

Note: Directions of the relationships in respective regressions are represented via signs (i.e., positive [+] or negative [-]) in parentheses, in the columns.

3.4.6. Predictors OCD Symptoms in Canadian and Turkish Data

To answer the questions of what predicts OCD symptoms and whether the predictors of OCD symptoms change cross-culturally, additional separate hierarchical regression analyses with stepwise equation were conducted for Turkish and Canadian

subjects. Similar to the previous section, the variables in the steps of the regressions followed the guidelines mentioned in the comprehensive model that was suggested by the present study. In other words, age, gender and lie constituted general control factors and were entered in the first block. Religiousness, self-esteem and personality dimensions as factors of individual differences were included in the second block. Appraisal factors, namely immediate appraisals and then, general OCD-relevant belief domains, two kinds of fusion of thoughts and actions were taken in the third and fourth block respectively. Finally, worry and punishment dimensions of thought control strategies were included into the analyses in the last block. The reason for the choice of these two strategies came from the findings in the present study that, in line with the literature findings, worry and punishment were consistently found to be associated with OCD symptoms throughout the study. Table 28 presents the results of separate regression analyses.

Table 28. *Predictors of OCD symptoms in Turkish and Canadian data.*

Steps	Variables	β	t	pr.	$R^2 \Delta$	(df) F change
Turkish Data						
1	<u>Age</u>	-.29	-5.06**	-.29	.08	(1, 283) 25.59**
2	<u>Neuroticism</u>	.26	4.67**	.26	.07	(1, 282) 21.83**
3	Religiousness	.16	2.92*	.17	.03	(1, 281) 8.53*
4	<u>III</u>	.32	6.11**	.34	.10	(1, 280) 37.33**
5	<u>OBQ-PC</u>	.32	5.97**	.34	.08	(1, 279) 35.66**
6	<u>Likelihood</u>	.17	3.36*	.20	.03	(1, 278) 11.30**
7	<u>OBQ-RT</u>	.20	2.99*	.18	.02	(1, 277) 8.92*

Table 28. *Continued.*

Steps	Variables	β	t	pr.	R ² Δ	(df) F change
8	TC-Worry	.21	4.11**	.24	.04	(1, 276) 16.91**
Total R ²					.43	
Steps	Variables	β	t	pr.	R ² Δ	(df) F change
Canadian Data						
1	Lie	-.21	-3.56**	-.21	.04	(1, 279) 12.64**
2	<u>Age</u>	-.17	-2.98*	-.18	.03	(1, 278) 8.87*
3	<u>Neuroticism</u>	.25	4.46**	.26	.06	(1, 277) 19.89**
4	<u>III</u>	.31	5.46**	.31	.08	(1, 276) 29.83**
5	<u>OBQ-RT</u>	.33	5.35**	.31	.07	(1, 275) 28.65**
6	<u>OBQ-PC</u>	.20	3.23**	.19	.03	(1, 274) 10.35**
7	<u>Likelihood</u>	.14	2.37*	.14	.01	(1, 273) 5.64*
8	TC-Punishment	.16	2.55*	.15	.02	(1, 272) 6.49*
Total R ²					.35	

** $p < .001$, * $p < .05$.

As can be seen from the table, the common predictors of OCD symptoms among general control variables for both sets of data were age (negative) and neuroticism (positive). Immediate problematic appraisals and emphases in responsibility/threat estimation, perfectionism/certainty and fusion in likelihood were found to be positively associated with the symptoms in both Turkish and Canadian subjects. Yet, religiousness was an additional factor that was related positively to these symptoms among Turkish sample. On the other hand, lie was negatively related with the symptoms for Canadian

subjects. More importantly, Turkish participants seemed to use worry as a control strategy for OCD symptoms; however, punishment was the thought control strategy that was applied frequently for these symptoms among Canadian participants.

3.4.7. Model Testing

Path analysis was conducted via Structural Equation Modeling to examine the relationships among OCD-relevant measures and symptoms cross-culturally in a comprehensive model of OCD symptoms presented in Figure 4 in Chapter 1. In line with the cognitive models of OCD and findings in the literature, it is suggested in the present study that there are three groups of factors that can be categorized as distal and proximal vulnerability variables. To illustrate, self-esteem, religiousness and personality dimensions consist of the nonspecific factors as distal vulnerability factors in the first place. With the experience of the intrusions, the first group of proximal vulnerability variables called appraisal factors comes into the scene. That is, immediate and general OCD-relevant belief domains (i.e., III, OBQ-RT, OBQ-PC, OBQ-ICT, TAF-M & TAF-L) begin to function at this stage. Then, this process leads to the control of the intrusive thoughts (i.e., TC-Worry, TC-Punishment & WBSI etc.). However, these control efforts (i.e., second group of proximal vulnerability variables) paradoxically bring about increase in these thoughts and finally, OCD symptoms emerge. Moreover, Clark (2004) suggested that between the control efforts and symptoms, a person makes a secondary appraisal as a result of thought control efforts, despite having temporary relief, because

these efforts end up inevitably with failure, and this failure result in more problematic appraisals further. In order to evaluate this secondary appraisal process, efficiency and failure dimensions of the TCSQ were also implemented and included during the current study. In consequence, depending on the current cognitive models of OCD in the literature, current comprehensive cognitive model and the findings of the previous analyses in the present study, 4 different models were formed and tested via Structural Equation Modeling. There were two proximal vulnerability groups (i.e., appraisal & control factors) and a distal (i.e., nonspecific factors) vulnerability group, which were also independent latent variables, in these models. Figure 6 gives schematic representations of these 4 models.

In Model 1, it was assumed that path flow between latent variables is as follows: nonspecific, appraisal process, frequency, efficiency and failure of control efforts, and OCD symptoms were preceded by appraisal factors again. However, the current findings of the previous analyses revealed the possibility that the instruments used for the assessment of appraisal process (e.g., III, OBQ & TAF) in the present study may not be appropriate enough to evaluate the secondary appraisal process, since this phase requires the specific assessment of the failure of thought control and its consequences.

Additionally, the findings of the current study so far also indicated that the efficiency and failure components of the TCSQ did not function well and they did not add well beyond the frequency of control strategies and other cognitive factors. Accordingly, efficiency and failure dimensions of thought control as well as the path between these dimensions of control and appraisal at the later stages were excluded respectively in Model 2, 3 and 4. Model 4 reflects the most simplistic and pragmatic approach in the

path analysis and it is also in line with both nature of the present study and recent cognitive models. In the last model, nonspecific vulnerability factors contribute to the appraisal process; then, misinterpretation of the intrusions leads to control efforts for these thoughts. Although these efforts provide temporary relief, they will be problematic in the long term, since it also brings about increase in thought saliency.

Data fit in the analyses was performed with correlation matrix between all observed variables and was assessed by means of data fit indices such as χ^2 , ratio of χ^2 to degree of freedom (df), Goodness of Fit Index (GFI), Adjusted of Goodness of Fit Index (AGFI), Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), Incremental Fit Index (IFI) and Relative Fit Index (RFI). The acceptable criteria for these indices were chosen as follows: low χ^2 , values between 1 and 3 for χ^2 /df ratio, RMSEA between 0.0 and 0.08, values close to 0.90 for the GFI, AGFI, CFI, NI, NNFI, IFI and RFI. Since it was assumed that for larger sample size (i.e., more than 100), alpha value (i.e., p) reaches significance, this issue was ignored during test of the models. The significance of paths from independent to dependent latent variables was also examined with t-test results (Tabachnick & Fidell, 1996). To improve the model data fit, modification indices were also taken into consideration and possible modifications were made in line with the comprehensive model (Tabachnick & Fidell, 1996). Nevertheless, for the easiness of the comprehensiveness, only some of fit indices for the models were summarized and presented in Table 29.

Figure 6. *Schematic representations of the 4 models.*

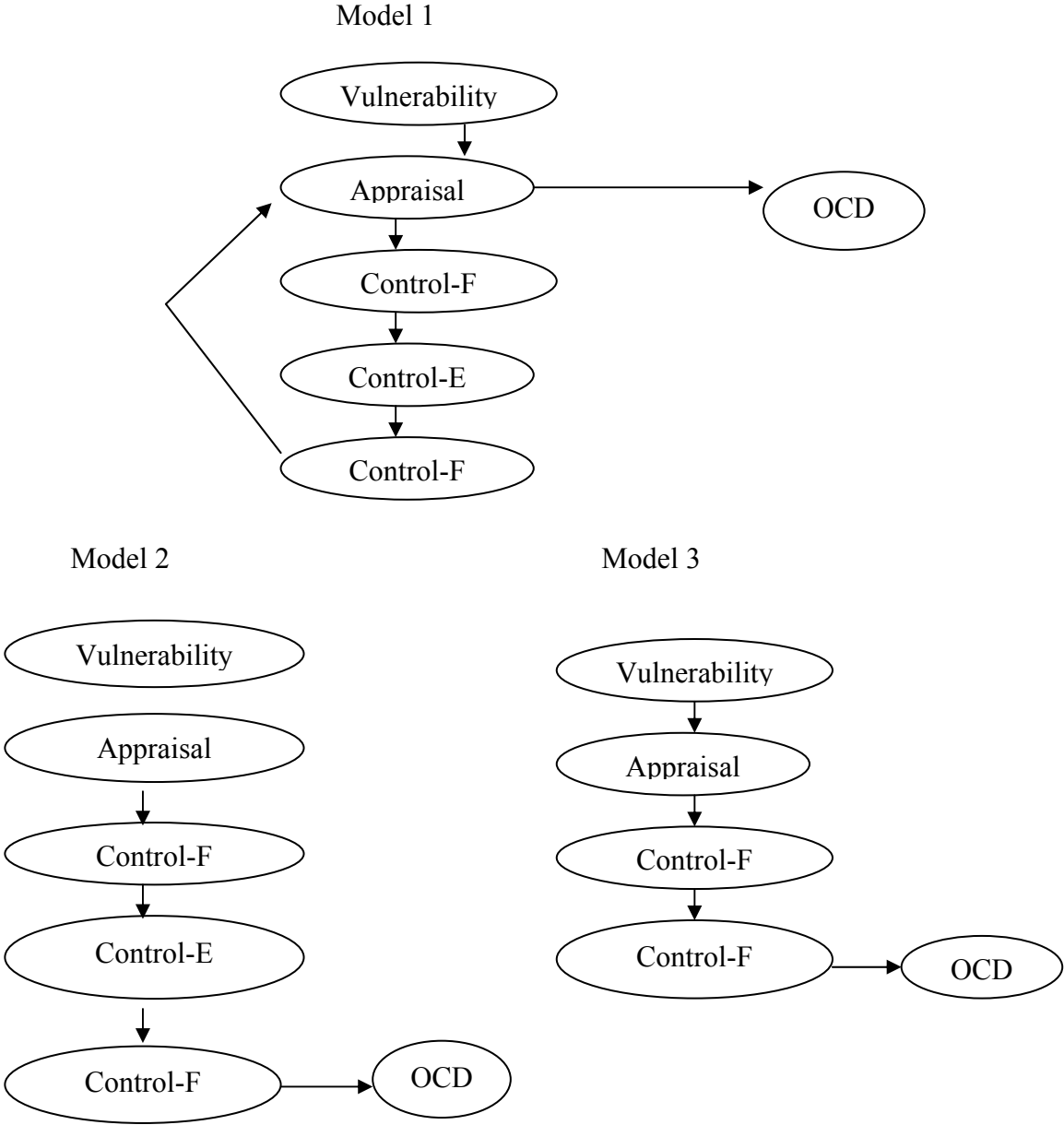


Figure 6. *Continued.*

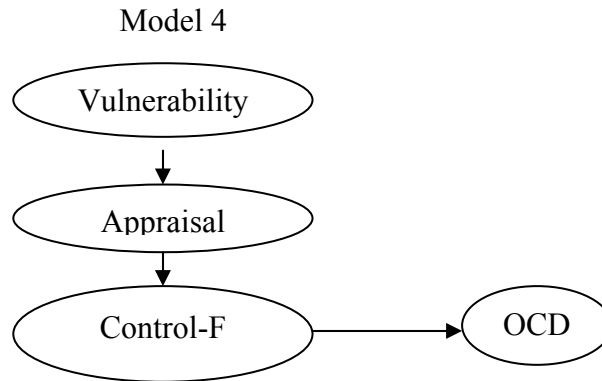


Table 29. *Fit indices of the 5 models in Turkish and Canadian data.*

	χ^2 (df)**	χ^2 /df	GFI	AGFI	RMSEA	CFI	NFI
Turkish Data							
Model 1	2341.29 (554)	4.23	0.70	0.66	0.10	0.56	0.49
Model 2	2481.88 (555)	4.48	0.70	0.65	0.10	0.52	0.46
Model 3	1573.81 (401)	3.92	0.75	0.71	0.09	0.58	0.51
Model 4	463.21 (132)	3.51	0.84	0.79	0.09	0.81	0.76
Model 5*	302.15 (113)	2.68	0.90	0.86	0.07	0.89	0.84
Canadian Data							
	χ^2 (df)	χ^2 /df	GFI	AGFI	RMSEA	CFI	NFI
Model 1	5218.66 (555)	9.40	0.67	0.61	0.12	0.35	0.34

Table 29. *Continued.*

	χ^2 (df)	χ^2/df	GFI	AGFI	RMSEA	CFI	NFI
Canadian Data							
Model 2	2064.32 (401)	5.14	0.72	0.67	0.11	0.58	0.53
Model 3	880.56 (272)	3.23	0.81	0.78	0.09	0.79	0.69
Model 4	463.21 (132)	3.51	0.87	0.83	0.09	0.87	0.82
Model 5*	310.042 (114)	2.71	0.90	0.86	0.07	0.91	0.86

* New models obtained after the exclusion of observed variables with non-significant t-test results.

** $p < .05$

As can be seen from Table 29, Models 1, 2 and 3 poorly fitted for both sets of the data. The values of fit indices were rather lower than ideal criteria. It can be noted that Model 5 was formed in line with the modifications suggested by the analyses for Model 4, such as letting error variances correlate between some appraisal variables and excluding some observed variables among nonspecific and control factors with non-significant t-test results. In addition, changes between Models 4 and 5 were verified by comparison of the models with a formula ($\chi^2_{\text{dif}} = \chi^2_{\text{model4}} - \chi^2_{\text{model5}}$; $\text{df}_{\text{dif}} = \text{df}_{\text{model4}} - \text{df}_{\text{model5}} - \chi^2$ Table). There was not significant difference in fit of the Model 5 between Turkish and Canadian samples ($\chi^2(1) = 4.44$, ns). That is, Model 5 produced the best fit

for both groups of Turkish and Canadian data. Figure 7 and 8 presents these modified models with significant values and paths in two sets of data. Latent variables were represented in ellipses, while observed variables were presented in rectangles.

Figure 7. The best fitted model in Turkish data.

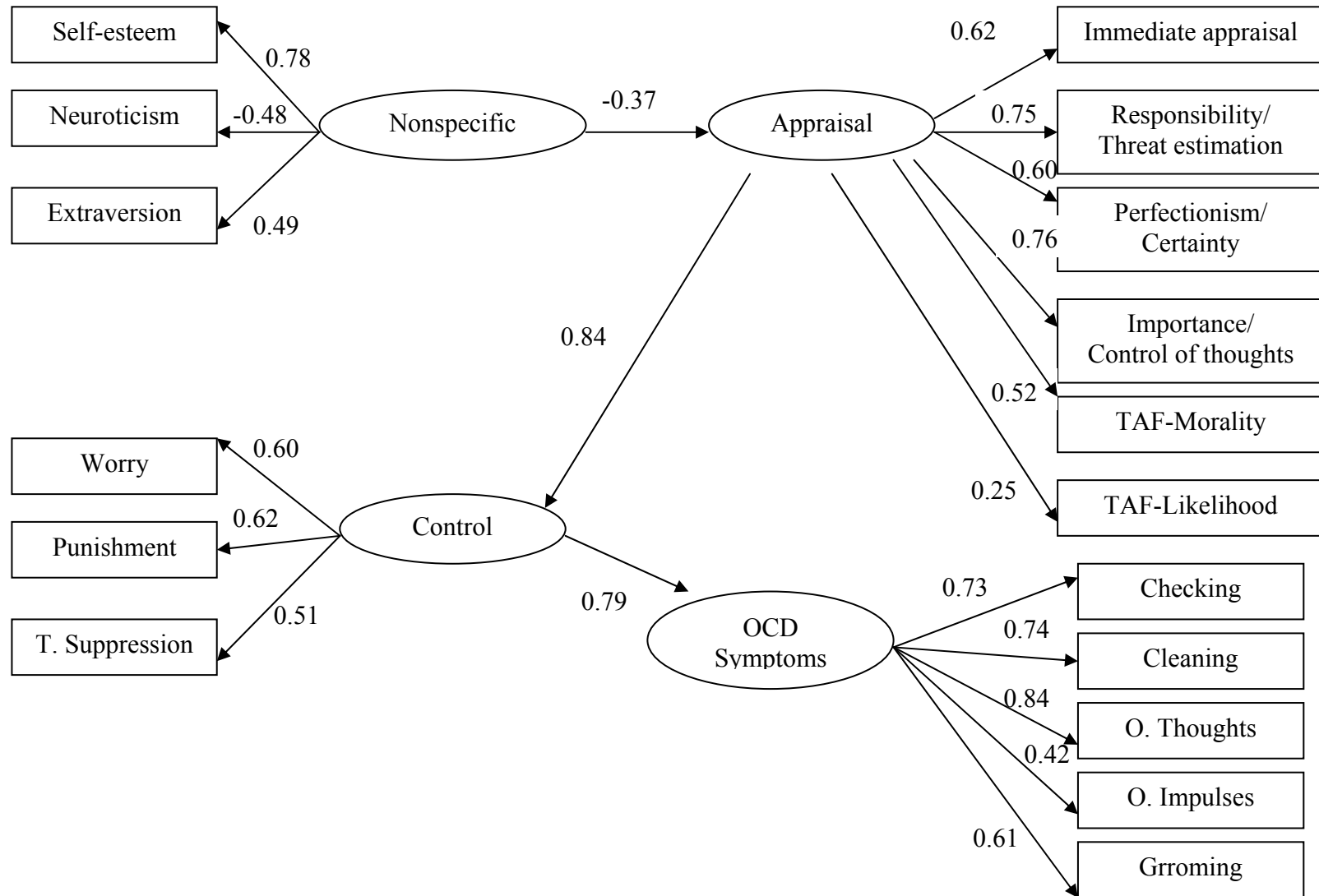
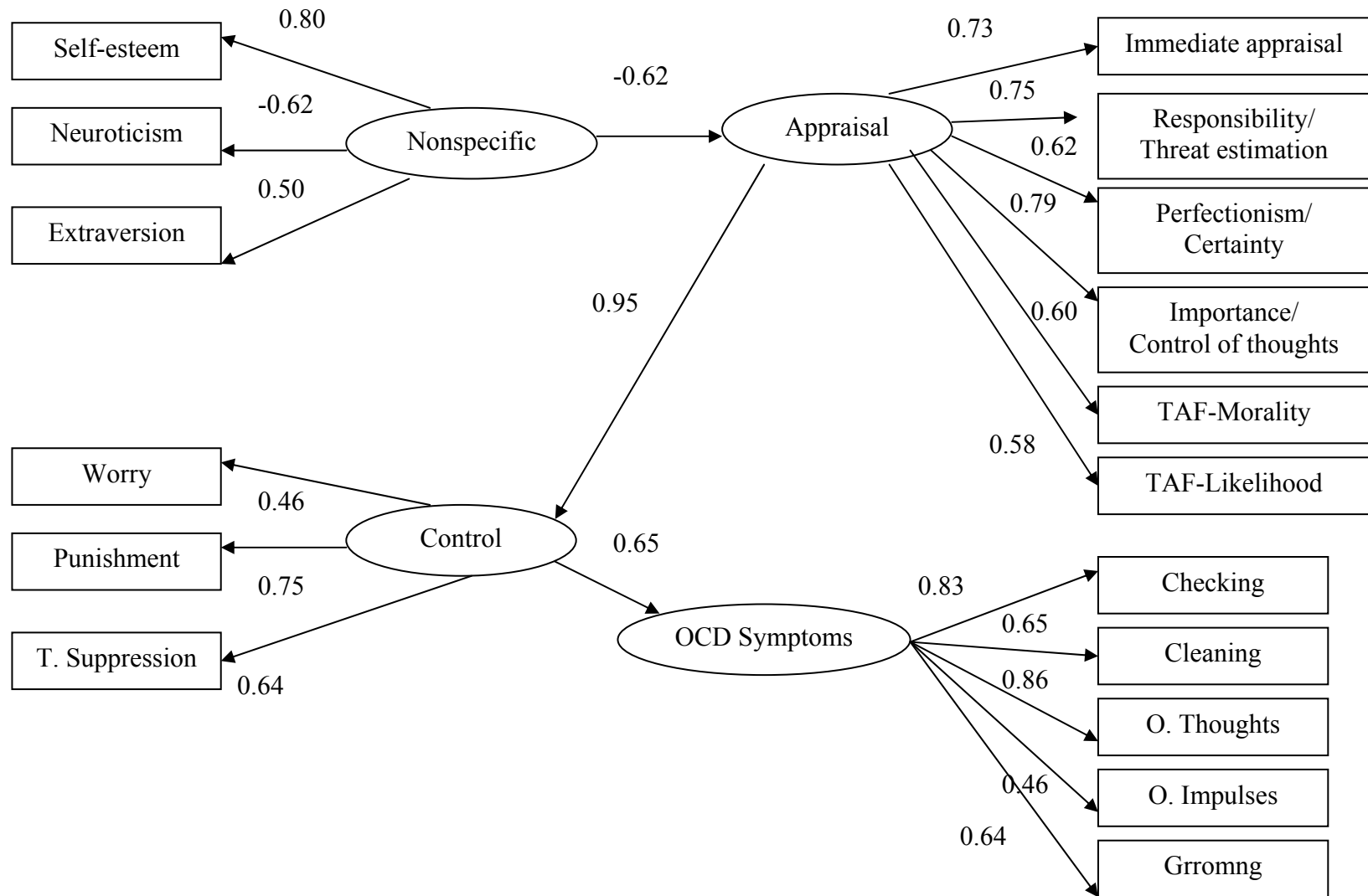


Figure 8. *The best fitted model in Canadian data.*



To conclude, in line with the expectations, the results of the analyses showed that nonspecific factors contribute to the problematic appraisals; in turn, these appraisals trigger the control efforts. However, probably because of inability to reach perfect control and to perceive success, as well as with the help of the temporary relief, these efforts also contribute to the OCD symptoms. This portrait seems to be consistent for both Turkish and Canadian subjects. In other words, it appeared that among distal, nonspecific vulnerability factors, extraversion and self-esteem were negatively and neuroticism was positively associated with the problematic interpretations. Religiousness and psychoticism had no significant effect on latent nonspecific variable. All of the appraisal factors, namely immediate appraisals, general OCD-relevant beliefs (e.g., importance of thoughts, need to control thoughts, responsibility, threat estimation, perfectionism & uncertainty), fusion of thoughts and actions were positively related to the latent control variable. In turn, thought suppression and strategies of worry and punishment were also positively associated with OCD symptoms. The strategies of distraction, social control and reappraisal did not have an influence on latent control variable. The strength of the relationship between observed and latent variables seemed to be similar in range for both sets of data.

CHAPTER 4

DISCUSSION

4.1. Overview

In addition to distal and nonspecific vulnerability factors such as some personality characteristics and self-esteem, the current literature also highlighted several cognitive factors about appraisal and control processes in OCD symptoms. Popular cognitive models emphasized inflated sense of responsibility (Salkovskis, 1989), misinterpretation of intrusions (Rachman, 1997) and thought-control (Clark, 2004) as core elements. However, most of these factors have been examined separately and the role of culture in these factors and symptoms are still under investigation. Accordingly, there is a need for examination of these constructs together, interrelationships among them and the impact of the culture in these relationships. Therefore, the present study suggested a comprehensive cognitive model in which the current factors were grouped under the categories of distal and proximal factors, including nonspecific factors first and then, appraisal and control variables. This model was examined in Turkish and Canadian university students respectively in order to investigate it in a cross-cultural

framework. The aims of the current study were to adapt and/or explore initial psychometric properties of four instruments, to evaluate the interrelationships among OCD-relevant appraisal, control factors and OCD symptoms, and to investigate the comprehensive cognitive model cross-culturally. In this section, the main findings of the present study are provided and discussed. First, the results of the analyses that were performed to explore the psychometric characteristics of instruments adapted are presented. Then, the findings of the main study about the present research questions are discussed. Finally, limitations of the study, clinical implications and directions for future studies are provided.

4.2. Psychometric Properties of the Turkish Versions of the III, OBQ and TCSQ

In line with the aims of the current study, the Interpretation of Intrusions Inventory (III; OCCWG, 2001), Obsessive Beliefs Questionnaire (OBQ; OCCWG, 2001) and Thought Control Strategies Questionnaire (TCSQ; Wells & Davies, 1994) were adapted into Turkish in order to evaluate the immediate and general appraisal concerns, and control processes in OCD symptoms to make cross-cultural comparison. Additionally, in the present study, the Religiousness Screening Questionnaire (RSQ) was designed to assess the general level of the religiousness in Turkish and Canadian participants.

Obsessive-Compulsive Cognitions Working Group (OCCWG) is an international collaborative group that focuses on various cognitive issues about OCD symptoms,

ranging from assessment to therapy. In order to evaluate more specific cognitive agents, this group stressed that the experience of intrusions was followed by immediate appraisal process first. Thus, the group designed the Interpretation of Intrusions of Inventory (III; OCCWG, 1997), which is a unidimensional self-report instrument developed for the assessment of immediate appraisals of intrusive thoughts by focusing on the responsibility, importance and control of thoughts together. Psychometric validity and reliability of the III were supported in both clinical and non-clinical samples and in different Western cultures (Ferguson, Jarry & Jackson, 2006; OCCWG, 1997, 2001, 2003, 2005; Sica et al., 2004).

To meet the need of a measurement tool that evaluates several interrelated cognitive belief domains in OCD, OCCWG (1997, 2003, 2005) designed the Obsessive Beliefs Questionnaire (OBQ), which assesses more enduring and global assumptions and beliefs in the subscales of the importance/ control of thoughts, responsibility/threat estimation and perfectionism/certainty. Like III, satisfactory psychometric properties of the original and revised OBQ were reported by several studies of the OOCWG in clinical and non-clinical, in different Western cultures (2001, 2003, 2005). In addition, the studies aimed at examining the clinical utility of this instrument and investigating empirical research questions has been increasing in number (e.g., Calamari et al., in press; Julien et al., 2006; Taylor et al., 2005, 2006; Tolin et al., 2003).

When an intrusive thought is experienced, people use different strategies, ranging from doing nothing to thought stopping, depending on the outcome of appraisal process, intensity of thought and context, (e.g., Freeston & Ladouceur, 1997). This process might function as the determinant for further action (Clark, 2004; Salkovskis,

1989), and it was mentioned as one of faulty belief domains in OCD (OCCWG, 1997). Especially failure in thought control and relevant secondary appraisal process are also two core elements in one of the cognitive models of OCD (Clark, 2004). On the other hand, this situation is also critical for other pathologies where intrusions are experienced such as depression, post traumatic stress disorder and schizophrenia (e.g., Morrison & Wells, 2000; Reynolds & Wells, 1999). In order to explore the frequency of the control strategies for unwanted thoughts, Wells and Davies (1994) developed Thought Control Strategies Questionnaire (TCSQ), which is a 30-item scale with 4-point Likert type response options. There are five different strategies in the questionnaire; namely, distraction, social control, worry, punishment and reappraisal. More usage of the worry and punishment, and less use of distraction were reported in OCD (Abramowitz et al., 1997, 2003; Larsen et al., 2006).

In the present study, the III and OBQ were adapted into Turkish in order to evaluate immediate and general appraisal concerns related with OCD symptoms. TCSQ was also adapted into Turkish to assess the control process. Furthermore, another dimension that measures the efficiency of control strategies (i.e., with 4-point Likert type response option) was added to the TCSQ during the adaptation. In order for the examination of the concept of the thought control failure process, efficiency scores were reversed and multiplied with frequency scores. Therefore, a failure score, showing the degree of the failure in ascending order, was obtained for each subject and utilized during the evaluation and the analyses of the study. Accordingly, there were three scales for the TCSQ, which were administered to the Canadian sample as well.

Psychometric properties of the Turkish versions of the III, OBQ and TCSQ were explored by checking their reliability and validity in Turkish university students. For the reliability assessment, Cronbach alpha values and item total correlation ranges were examined. The factor structures of the OBQ and TCSQ were not investigated in the study, because the present study was not purely a psychometric research and the primary aim was to investigate the relationships in comparison. The relevant reliability analyses showed that the Turkish versions of these three instruments had satisfactory internal consistency coefficients (Nunnally, 1978), and the item total correlation ranges, in total scale and their subscales, were acceptable in range. Similarly, similar findings were obtained for the Canadian sample, as the same approach was followed for the original forms in Canadian subjects. However, the efficiency and failure dimensions of the TCSQ did not have satisfactory patterns in both Turkish and Canadian subjects, in terms of reliability. In other words, reliability values and item total correlation ranges of these two dimensions were lower in both sample groups.

Originally OBQ has a three-factor structure and TCSQ has five subscales. Construct validity of the Turkish versions of the OBQ and TCSQ was tested on the basis of the factor congruency by comparing factor structures in the Turkish and the Canadian samples via Target Rotation (Vijver & Leung, 1997). When proportionality agreement coefficients (i.e., Tucker phi) were considered with the criterion of 0.85, as a sign for factor congruency (Lorenzo-Seva & Ten Berge 2006), it can be reported that there was a high degree of similarity in the item distributions under 3 factors the OBQ (e.g., importance/control of thoughts, responsibility/threat estimation & perfectionism/certainty). There was also a high degree of resemblance in 4 factors of the

TCSQ between Canadian and Turkish samples; namely, for social control, worry, distraction and reappraisal. On the other hand, factor congruency seemed to be relatively low for the subscale of the punishment. Nevertheless, satisfactory internal consistency values and item total correlation ranges of the punishment subscale for two sets of data provided support to utilize this dimension as well.

Criterion validities of the Turkish versions of three scales were also assessed by comparisons of extreme groups in OCD symptoms. The analyses revealed that Turkish subjects who had higher OCD symptoms also had more concerns in immediate appraisals for intrusions, and more emphasis in responsibility/threat estimation, importance/control of thoughts and perfectionism/certainty than low scorers in OCD. Similarly, when the items of the recency, frequency and distress in Part I of the III were contrasted, it was found that Turkish high OCD scorers also had more frequent intrusions and felt more distress. The findings that Turkish subjects who had more OCD symptoms were also more sensitive and tender in immediate and general appraisal concerns in general is also consistent with the findings of the OCCWG (e.g., 2001, 2003), the cognitive explanations (e.g., Frost & Steketee, 2002) and cognitive models (e.g., Rachman, 1997; Salkosvkis, 1989). Accordingly, these findings seem to present cross-cultural support for these appraisal factors in OCD symptoms, from a non-Western country. Furthermore, as expected, group comparisons in the strategies of thought control showed that similar to the other relevant literature findings (e.g., Abramowitz et al., 1997, 2003; Amir et al., 1997; Larsen et al., 2006) and cognitive assumptions (e.g., Clark, 2004), Turkish participants with high OCD symptoms seemed to use the

strategies of worry and punishment more than low scorers, and they experienced more failure in control tactics in total but more frequently in again worry and punishment.

In consequence, the findings about reliability, and construct, criterion and concurrent validity showed that the Turkish versions of the III, OBQ and TCSQ-frequency were all psychometrically reliable and valid instruments for Turkish university students. This information provided additional support for both cross-cultural utility of these measures and validity of cognitive assumptions about the appraisal and control concerns in the OCD symptoms (Frost & Steketee, 2002; OCCWG, 2003, 2005). Unfortunately, it is not true for the efficiency and failure dimensions of the TCSQ that were added in the present study. In addition to the lower reliability values in both Turkish and Canadian groups, analyses of the validity did not reveal satisfactory results for these two dimensions. Moreover, there were no significant and salient findings in further analyses of the current study. This situation was further confirmed with the findings of model testing which will be discussed later in this chapter; thus, these dimensions were excluded from the analyses. Accordingly, it appears that the addition of two dimensions did not serve efficiently in the examination of thought failure concern and a different instrument with a specific focus on thought control failure might function better.

4.3. Religiousness, OCD-Relevant Factors and OCD Symptoms

Religiousness is a construct that has been mentioned in OCD literature as a potential and influential risk factor for OCD symptoms (e.g., Rasmussen & Tsuang, 1986; Salkovskis et al., 1999; Steketee et al., 1991; Sica et al., 2002). It is also viewed as an area which provides the content and setting for these symptoms (e.g., Greenberg & Witztum, 1991; Greenberg & Shefler, 2002), and in which some cross-cultural differences were observed (e.g., Fontenelle et al., 2004; Okasha et al., 1994). On the other hand, it is not specific to OCD, since it also has some effects in various psychological situations (e.g., Smith, McCullough & Poll, 2003). Therefore, it was included among distal and nonspecific vulnerability factors in OCD symptoms, and in order to investigate the religious concerns in OCD in comparison, another self-report instrument was developed in the present study. The Religiousness Screening Questionnaire (RSQ) is a 7-item self-report instrument that evaluates religiousness in terms of general religious involvement, beliefs and commitments. The psychometric analyses showed that reliability values and item total correlation ranges of the RSQ were quite satisfactory for both Turkish and Canadian samples. There were positive correlations among the RSQ, OCD-relevant measures and symptoms, especially among Turkish subjects. High Turkish OCD scorers were also found to be more religious than low scorers. As a result, it was concluded that the RSQ was a reliable and valid instrument for Turkish and Canadian university students.

Religiosity was reported to influence the severity of OCD symptoms and distress (Shafran et al., 1996; Steketee et al., 1991). It was also found to be related with OCD-relevant cognitions, such as responsibility, perfectionism, importance, control of thoughts (Abramowitz et al. 2004; Nelson et al., in press), and fusion of thoughts and actions in morality (Nelson et al., in press; Rassin & Koster, 2003). On the other hand, religious issues in obsessions seem to be salient especially in Islamic or Jewish countries where conservative religious values are stressed (e.g., Greenberg, 1984; Mahgoup & Abdel-Hafiz, 1991; Okasha et al., 1994; Zohar et al., 2005). In Turkey, there is a propensity of increase in the frequency of religious obsessions towards the eastern part of the country (Karadag et al., 2006; Tezcan & Millet, 1997). Furthermore, the focus of the religious symptoms might differ in OCD patients with different religions (e.g., religious washings in Muslims & worrying about prohibited foods in Jews, while repeated confession in Christians; Greenberg & Witztum, 2001; Okasha et al., 1994), and the influence of some OCD-relevant beliefs might be more salient in different religions and even in different denominations (e.g., higher TAF-Morality in Christians & in Protestants, as compared to Jews & Catholics respectively; Abramowitz et al., 2002; Nelson et al., in press; Siev & Cohen, in press). Accordingly, these findings pointed out that the effects of different religious teachings and practices may have different effects on OCD cognitions and symptoms. On the other hand, there are few studies examining the impact of the religiosity in the cognitive factors among Muslims in comparison. For this reason, the present study investigated the role of religiousness in OCD relevant distal and proximal factors, and OCD symptoms in two levels: namely, in the religion categories and the culture group. Accordingly, the levels of religiousness on these

factors were examined in the groups of Canadian and Turkish samples first that were reported by the majority of the samples respectively as religious affiliations, and both groups were contrasted on these measures. Additionally, the factors that might influence the relationship between religiousness and OCD symptoms were investigated.

Interrelationships among religiousness and other appraisal and control factors were also explored in comparison by means of regression analyses.

To summarize the findings of the group comparison, it can be stated that neither religion category nor religiousness had an impact on self-esteem, concerns on responsibility, threat estimation, perfectionism, certainty and thought suppression. On the other hand, it can be stated that regardless of religion category, religiousness has some common effects on some OCD-relevant cognitive factors and symptoms. It was found that highly religious people expressed more frequent intrusions and they were keen on psychological fusion of thoughts and actions (especially in morality, but not in likelihood), and the importance and control of thoughts. Additionally, these people reported more obsessional thoughts and checking. On the other hand, it is also possible to state that religion also make some unique differences in some factors and symptoms. To illustrate, it was found that Canadian subjects were found to be more extraverted. Whereas, Turkish sample had more neurotic tendencies. More importantly, Turkish subjects reported more distress owing to the intrusions, more immediate problematic appraisals, more emphasis on importance and control of thoughts, and more fusions of thoughts and actions in general. They also seemed to use more thought control strategies in general, and especially more social control, worry and reappraisal. In terms of OCD symptoms, Turkish sample appeared to experience more OCD symptoms in all of the

dimensions assessed in this study (e.g., checking, cleaning, grooming, obsessional thoughts and impulses).

Interaction of religion with religiousness was also found to be significant in some factors. The analyses in thought-action fusion in total indicated that there were no difference between highly religious Turkish and Canadian samples, high and low level of religiousness among Turks, and low level of religiousness among Turkish and Canadian subjects. The only significant difference was in the level of religiousness among Canadian sample that the high group reported more fusion in total. Moreover, there was a more salient interaction effect in the morality fusion. Again, highly religious Canadian subjects expressed more morality fusion than those Canadians who had low level of religiousness; but, there were no differences in the level of religiousness among Turkish sample, and highly religious Canadian and Turkish subjects. Canadians who had low level of religiousness also had lower scores in this dimension than Turkish sample that had low level of religiousness.

Religiousness also seems to make difference in the culture level. Since the religion and religiousness are influential constructs in OCD and there are religiousness differences in OCD-relevant appraisal and control factors, it would be fruitful to explore the relationship between religiousness and OCD symptoms, and the role of these cognitive factors in this relationship. Therefore, mediator roles of appraisal and control factors for the relationship between religiousness and OCD symptoms were examined in the present study. However, correlational and regression analyses revealed the significant effect of religiousness in OCD symptoms only in Turkish data but not in Canadian data. Thus, further analyses and Sobel tests for mediational analyses were

performed only for Turkish participants. It was found that among appraisal factors, general obsessive beliefs (e.g., responsibility/threat estimation, perfectionism/ certainty & importance/control of thoughts), responsibility attitudes, morality fusion were full mediators of religiousness for the OCD symptoms. Among control factors, worry and self-punishment functioned as full mediators, while thought suppression was a partial mediator. In other words, religiousness seems to trigger these appraisal factors and control strategies, and in turn, these factors lead to the OCD symptoms in Turkish sample. On the other hand, religiousness appears to function differently for Canadian subjects.

Finally, the role of religiousness in appraisal and control factors (i.e., independent from OCD symptoms) were also explored with the regression analyses in Turkish and Canadian data, in comparison. It was positively related with responsibility/threat estimation, importance/control of thoughts and morality fusion in both Turkish and Canadian data. However, it was also associated with perfectionism/certainty, self-punishment and thought suppression in Turkish sample. Whereas, it was also influential in immediate appraisals for Canadian participants.

First of all, it was found in the present study that there were religiousness differences in thought-action fusion in morality dimension and in the concern on the importance and control of thoughts. Highly religious people also reported more frequent intrusions and more obsessional thoughts. These findings seem to confirm that there is a relationship between religiosity and OCD, independent from the kinds of religion (Steketee et al., 1991). The role of the key factors such as responsibility and perfectionism was already mentioned in OCD symptoms for the Muslims in different

cultures the previous literature (Ghassemzadeh et al., 2005; Yorulmaz et al., 2006). However, to our knowledge, these results also provided some initial evidence for the relationship between religiosity and OCD symptoms and relevant OCD cognitions in a more comprehensive context for the first time from a Muslim group. Furthermore, it appears that religious people experience more thoughts in obsessional nature and need to check more what they do. In addition, religiosity was also reported to be associated to some OCD-relevant appraisal factors (e.g., responsibility & importance/control of factors) in Christians (Abramowitz, Deaconi, Woods & Tolin, 2004; Nelson, Abramowitz, Whiteside & Deacon, in press; Sica, Novara & Sanavio, 2002). This situation is also valid for Turkish Muslims and Canadian Christians, since religiosity was related to emphases on the thoughts and their control. Accordingly, it is possible to state that religiosity is a critical issue for OCD, because it influences some cognitive vulnerability factors and this situation is common for several monotheistic religions (e.g., Christianity & Islam).

There are also some findings indicating degree of religiousness in the cognitive factors. Thought-action fusion in general and morality domain distinguishes different religiosity levels among Canadian sample. That is, highly religious Canadian subjects tended to make more fusion in general and on morality issues than Christians who had low level of religiousness. Canadian participants with low level of religiousness had also lower scores in morality than Turkish subjects with low level of religiousness. These findings support the findings of Siev and Cohen's study (in press), which showed a higher tendency of Christians in TAF, as opposed to Jews. The emphases on religious beliefs and on the possibility of controlling mental events among Christians, as

compared to the Jews, (Cohen & Rozin, 2001; Cohen, Siegel & Rozin, 2000) were reported as the rationale for this difference. This situation might also be valid for the findings in the present study, because the level of religiosity made a difference within religion groups for Canadian sample. On the other hand, it was found that religiosity did not differ in TAF-total and morality for Turkish sample, and Turkish subjects who had low level of religiousness had higher scores in morality than Canadians with low level of religiousness. It appears that the concept of the TAF is more a prevalent belief area for Turkish subjects. This belief domain was already reported to be associated with OCD symptoms in Turkey before (Yorulmaz et al., 2006), and close religious connotations in morality dimension was presented as justification for this finding. Therefore, this might also account for this difference in the present study, and when difference among the groups with low level of religiousness is taken into consideration, it appears that religiosity is a more salient and prevalent concept in Turkey.

In the present study, it was also found that Canadian Christians were more extraverted than Turkish Muslims, who had more neurotic tendencies. In addition, the latter group reported more distress, immediate problematic appraisal and more concerns on importance and control of thoughts, TAF-total. They also seemed to utilize more thought control strategies (i.e., especially social control, worry, reappraisal). OCD symptoms in checking, cleaning, grooming, obsessional thoughts and impulses were higher in Turkish Muslims. These differences between different religions might result from the characteristics of religions. Unlike Christianity, Islam is a more ritualistic religion in which there are pre-defined behavioral requisites. In addition to the faith, salvation is aimed by following these rules and rituals. For instance, cleanliness, purity

and regular prayers depending on the strict religious rules are important issues in Islam (Ghassemzadeh et al., 2002; Karadağ et al., 2006; Okasha, 2002; Siev & Cohen, in press). Doubts and/or religious intrusions about religious practices are accepted as “vesvese/waswas”, which refers to the temptation by the devil forces as a test for faithfulness (Al Issa & Qudji, 1998). On the other hand, Christianity emphasizes liturgy, intentions and derive for excellence and there are relatively few behavioral rituals. Faith is proven by belief in Jesus (Favier et al., 2000; Sica, Novara & Sanavio, 2002; Siev & Cohen, in press). These characteristics might account for the reasons why intrusions, thoughts and their control are emphasized more and why control strategies are used more, and finally why OCD symptoms are experienced more in Turkish Muslims. Moreover, the differences at the cultural level also remind the close connections and interactions among values, morality and religion (Çukur et al., 2004), and the processes of the internalization and moralization (Rozin, 1999). For instance, collectivism was reported to be related to higher religiosity, which in turn, was connected with conservative values and maintenance of social order. Religions may contribute to the cultural values (e.g., Çukur et al., 2004). Accordingly, individualism is emphasized in Canada (Oyserman, Coon & Kemmelmeier, 2002), while collectivism or relational independence is stressed in Turkey (Kağıtçıbaşı, 2005; Uskul, Hynie & Lalonde, 2004). Thus, this interaction might account for the difference of the effect of religiousness. This point will be discussed in detail in later section.

4.4. Cross-Cultural Comparisons in Non-Specific, Appraisal and Control Factors

Few studies in the relevant literature mentioned about cross-cultural differences in OCD that can be observed in the content of obsessions and some cognitive factors. However, these findings mostly came from Western studies. In addition, there are some nonspecific, appraisal and control factors in OCD in the literature. These factors and critical elements of recent cognitive models of OCD have been studied separately. Thus, the present study suggested a comprehensive model which covers many distal and proximal vulnerability factors (see Figure 4). Cross-cultural comparisons between Turkish and Canadian samples in these factors were conducted with group contrasts, and interrelationships among these factors were examined with the regression analyses, in line with this comprehensive cognitive model.

Group comparisons are discussed in this section in accord with the groups of the factors. Turkish subjects were found to be more neurotic and religious, and high in self-esteem; whereas, Canadian participants were more extraverted. In appraisal factors, distress from intrusions, immediate appraisals, concerns in importance and control of thoughts, and thought-action fusion in morality were higher in Turkish subjects. As for control factors, Turkish participants also seemed to spend more control efforts and to utilize more distraction, social control, self-punishment and reappraisal than Canadian subjects. The scores of the first group in OCD symptoms in all of subscales were also higher than their Canadian counterparts. However, Canadian participants seemed to utilize thought suppression more as a strategy to control their thoughts. Moreover,

correlational analyses showed that religiousness was a variable only in Turkish data that was associated with OCD symptoms, while worry seems to be more related for Turkish sample than Canadian subjects.

Interrelationship among nonspecific, appraisal and control factors of OCD was also investigated with hierarchical regression analyses in Turkish and Canadian data separately. During the analyses, the comprehensive model was taken into consideration. Age and lie scores were entered to the analyses first as general control variables, and self-esteem, religiousness and personality dimensions were evaluated as individual differences or nonspecific factors in the second order. In the last step, immediate appraisals, general OCD beliefs and fusion of thoughts and actions were taken into consideration (where appropriate). Additionally, frequency, recency and distress scores of the subjects were also entered into the analyses, just before appraisal factors in predicting immediate appraisals, since they function as specific preparatory and control variables for this measure. There were generally cross-cultural similarities and differences among Turkish and Canadian samples; thus, the discussion of the common findings will be followed by the presentation of unique differentiations below.

Frequency of and distress from intrusive thoughts were common important predictors of immediate appraisals of intrusions for both Turkish and Canadian subjects. Similarly, making fusion in likelihood, emphases of thoughts and their control, and possibility of threat as well as sense of responsibility seemed also to be influential for immediate interpretations. Lastly, decrease in the self-esteem also appeared to have an impact for the immediate cognitions in both samples. On the other hand, being male,

being high in neuroticism and religiousness, tendencies of perfectionism and certainty also had an effect on this immediate process for Canadian participants.

For general OCD beliefs domains (i.e., responsibility & threat estimation, perfectionism & certainty, importance & control of thoughts), neuroticism, immediate appraisals and fusion in morality were common and prevalent predictors for both data. Religiousness was another common influential variable for responsibility/threat estimation and importance/control of thoughts in both groups, as well as for perfectionism/certainty in Turkish sample. Being younger was effective commonly for the sensitivity in responsibility and threat estimation in both groups; at the same time, it was also a factor for the emphasis on thought and its control in Canadians, and for stress on the perfectionism and certainty in Turks. Moreover, decrease in self-esteem was another common factor for the belief of responsibility and threat; but, it was also effective for two other faulty belief areas in Canadian subjects. On the other hand, fusion in likelihood was a significant variable for responsibility and threat estimation in Canadian sample; whereas, it was a negative factor for perfectionism and certainty in Turkish subjects. Furthermore, responsibility and threat estimation was the variable that predictors in both Turkish and Canadian subjects overlap the most; whereas, fusion in the likelihood was the factor that predictors overlap the least.

For the beliefs about equivalence of thoughts and action in the dimensions of morality and likelihood, immediate appraisals were positively related in Turkish and Canadian subjects. Being religious, and having emphasis on thoughts and their control were also associated with fusion in the morality, in two groups. Additionally, being younger and having low self-esteem were also influential in Canadian participants.

Moreover, low self-esteem, high neuroticism and stress on the importance and control of thoughts were critical factors for fusion in likelihood in this Western group. This time, age was a negative predictor of likelihood fusion in Turkish sample.

The regressions of the thought control efforts were performed only for the strategies of worry, self-punishment and thought suppression, because previous analyses in the present study confirmed the role of these tactics in OCD symptoms, which was also in line with earlier findings in the literature (e.g., Abramowitz et al., 2002; Moore & Abramowitz, in press). The analyses showed that being younger and interpreting intrusions immediately in a negative way were common predictors of worry, self-punishment and thought suppression in both Turkish and Canadian samples. Both groups seemed to utilize worry, when experiencing the fusion in morality. However, in Turkish data, self-esteem was negatively related, while the tendencies of neuroticism and introversion were associated with worry as a strategy for unwanted thoughts in Canadian subjects, who also used it for the fusion in likelihood. On the other hand, being high in neuroticism and having concerns on importance and control of thoughts were common predictors of self-punishment. Additionally, religiousness was also related to this strategy for Turkish subjects; whereas, for Canadians, low self-esteem and fusion in likelihood were other important predictors. Finally, having low self-esteem and high neuroticism appeared to be influential for the use of thought suppression in both groups. In Turkish subjects, religiousness and the fusion in morality were also associated with suppression, while fusion in likelihood was negatively related. Concern in responsibility and threat estimation was also significant variable in suppression in Canadian subjects.

In conclusion, there are really few studies about interrelationships among nonspecific, appraisal and control factors in the literature, although their associations with and their roles in OCD symptoms have been mostly examined. Thus, the present study might be viewed as an entrepreneur in that sense. For the interrelationships among nonspecific, appraisal and control factors in OCD symptoms, it is possible to mention some common patterns in Turkish and Canadian samples. First of all, in line with cognitive models of OCD (Rachman, 1997; Salkovskis, 1989) that highlighted the impacts of frequency and distress during interpretations of intrusions, the present study yielded a common finding that frequency of intrusions experienced and distress resulting from these intrusions are critical factors for immediate problematic appraisals. Neuroticism, fusion in the morality and immediate negative appraisals are valid and effective factors in both groups for general OCD-relevant beliefs. Immediate appraisals are also critical for two dimensions of the psychological fusion of thoughts and actions. It is also influential in thought control strategies of worry, self-punishment and suppression. Accordingly, these findings suggest some cross-culturally stable relationships for these factors. They also present some support for the role of neuroticism as a nonspecific factor contributing to the other cognitive factors and the symptoms of the OCD (e.g., Fullana et al., 2004; Bienvenu et al., 2000; Mataix-Cols et al., 2000; Scarrabelotti et al., 1995). The interrelationships among these appraisal factors have already been suggested in the cognitive models of the OCD (Clark, 2004; Rachman, 1997; Salkovskis, 1991) to some extent. In other words, for instance, cognitive model of misinterpretations of intrusions (Rachman, 1997) suggested that the cognitive bias of thought-action fusion is one of the factors which contribute to the

threat perception and misinterpretations of intrusions, and this fusion was also an important example of overestimation of thoughts and control (Thodarson & Shafran, 2002). It was found to be associated with inflated responsibility (Shafran et al., 1996; Zucker et al., 2002). Moreover, Moore & Abramowitz (in press) found that appraisal factors of OCD also mediated the relationship between self-punishment and OCD symptoms. Accordingly, the common patterns revealed in the present study seem to be consistent with relevant literature.

Among nonspecific factors, self-esteem was found to be negatively associated with concern on responsibility, threat estimation, immediate appraisals and thought suppression for both groups of Turkish and Canadian samples. Additionally, it was also influential in emphasizing thought and its control and perfectionism and certainty, morality and likelihood fusion, and self-punishment for Canadian subjects. For Turkish participants, it was also influential in worry as a control strategy. Accordingly, it can be stated that self-esteem is a critical factor which might play roles in different appraisal and control processes of the OCD. Thus, the impact of self-esteem is confirmed once more with the current study, even in a non-Western country, since self-esteem was reported to function as a contributing factor to misinterpret intrusions before (Fennel, 1997; Rachman, 2006). Moreover, age was found to be negatively related to the concerns on responsibility and threat estimation, fusion in the morality and all thought control strategies (i.e., worry, self-punishment & suppression) in both groups of the sample. Additionally, it was also influential in the beliefs of perfectionism/certainty and fusion in the likelihood for Turkish subjects. In the Canadian sample, it was associated with immediate appraisals and the belief of importance and control of thoughts as well.

Therefore, being younger seems to be one of the significant nonspecific factors that contribute to increase in the vulnerability for OCD-relevant appraisal and control factors. Actually when the age ranges of the samples of the current study is also taken into consideration (i.e., 17-27 years old), these findings really seem to be parallel to the epidemiological characteristics of the OCD. Retrospective studies with adult OCD patients indicated that almost half of them reported adolescence period for the onset of the disorder (Maina et al., 1999; Rasmussen & Eisen, 1990). Moreover, it can be also suggested that the age ranges of the student samples corresponds to the period associated with psychological, emotional and behavioral problems (Compas, Howell, Phares, Williams & Guinta, 1989), probably with additional effect of stressful life events such as the transition from high school to university and the change in living conditions and responsibility etc. (Albert et al., 2000; Koçkar & Gençöz, 2004; Rachman, 1997; Rasmussen & Tsuang, 1986; Yorulmaz et al., 2007)

Religiousness was another variable found to be important for several appraisal and control factors in OCD. To illustrate, for both culture groups of the study, it was associated with some general OCD-relevant appraisal factors such as importance and control of thoughts, responsibility and threat estimation, and morality fusion. It was also related with perfectionism and certainty, self-punishment and suppression in Turkish sample. In addition, it was influential in immediate appraisal for Canadian subjects. The relationship between religiosity and OCD was already mentioned in the previous section. Similarly, these common findings seems to be in line with the relevant literature, because it was asserted that religiousness might contribute to the vigilance and overvaluation for thought processes (Sica et al., 2002), and religiosity was found to be

associated with responsibility, overestimation of threat, perfectionism, importance and control of thoughts (Abramowitz et al., 2004; Nelson et al., in press; Sica et al., 2002). It was also influential in fusion of thoughts and actions in morality but not in likelihood dimension (Nelson et al., in press; Rassin & Koster, 2003). Unique relationships for each sample group reveal the possibility that the characteristics of religions might account for such differences (Greenberg & Witztum, 1991; Siev & Cohen, in press).

4.5. Cross-Cultural Comparisons in the Predictors of the OCD Symptoms

To answer one of the research questions of the present study about the roles of nonspecific, appraisal and control factors in OCD symptoms in a cross-cultural comparison, separate hierarchical regression analyses were conducted with stepwise equation in Turkish and Canadian data. The guidelines specified in the comprehensive cognitive model were again taken into consideration during the analyses. Similar to the previous section, the steps of the regressions were general control factors, individual differences (i.e., nonspecific factors), immediate and then general appraisal factors. Finally, thought control strategies of worry, self-punishment, and thought suppression were entered into the analyses.

There were again common and specific predictors of OCD symptoms in both Turkish and Canadian data respectively. For both groups, neuroticism was positive but age was negative predictor of the symptoms among nonspecific factors. Among appraisal factors, immediate problematic appraisals, sensitivity in responsibility and

threat estimation, perfectionism and certainty, and fusion in likelihood were common positive predictors of the OCD symptoms. In other words, Turkish and Canadian university students who were younger and high in neuroticism, and who tended to misinterpret their own intrusions, have inflated sense of responsibility, overestimation of threat, perfectionistic predisposition, uncertainty concerns and to make more fusion in likelihood also seemed to suffer from more OCD symptoms. However, there were also some unique predictors. Religiousness was significant in these symptoms only for Turkish subjects; whereas lie was negatively related in Canadian participants. That is, as the religiousness increased, OCD symptoms also increased in Turkish sample; whereas, these symptoms increased, when the social desirability decreased for Canadian subjects. Moreover, there was also a difference in terms of control efforts. Turkish sample appeared to utilize the worry as a strategy for OCD symptoms, but Canadian students preferred self-punishment.

As the findings of the regression analyses are considered, age and neuroticism can be highlighted as common nonspecific and distal vulnerability factors that are influential in the OCD symptoms. It seems that this situation is parallel with the literature findings about these factors. The age ranges of the present samples correspond to the period that was found to be associated with several psychological, emotional and behavioral problems and sensitivities in general (Compas et al., 1989) as well as the onset of the OCD for some patients (Maina et al., 1999; Rasmussen & Eisen, 1990) and/or the increase in the impact of the factors (Albert et al., 2000; Rasmussen & Tsuang, 1986). Neuroticism, on the other hand, is one of the personality dimensions reported to be closely related with OCD symptoms in both clinical and nonclinical

samples (Bienvenu et al., 2000; Samuels et al., 2000). Among appraisal factors, interpreting intrusive thoughts in a negative manner immediately after the experience and the concerns on the responsibility, threat estimation, perfectionism and certainty, and psychological fusion in the likelihood dimension were already mentioned as important and influential elements that had significant roles in the OCD symptoms by cognitive models (Clark, 2004; Rachman, 1997; Salkovskis, 1989) and many different research and resources (e.g., Frost & Steketee, 2002; OCCWG, 2005; Shafran et al., 1996; Taylor et al., 2002). Similarly, these common points were confirmed once more in the present study that examined several factors in comparison between Turkish and Canadian samples. Moreover, the impact of these factors on OCD symptoms were also supported in a predominantly Muslim culture and additional evidences were presented beyond the findings of the studies focusing on factors independently (e.g., Yorulmaz et al., 2006).

The regression analyses for OCD symptoms also provided some unique relationships that require more attention. To illustrate, religiousness was a significant predictor of these symptoms only in Turkish sample. This finding reminds possible impacts of different characteristics of the religions. In other words, as religious affiliation in Turkish sample that was reported predominantly (i.e., 70 %) is Islam which is a more ritualistic and rule-based religion (Karadağ et al., 2006). In addition, cleanliness and purity are emphasized in Islam, like Jews (Greenberg & Witztum, 2001). Greenberg and Shefler (2002) mentioned repetitive and ritualistic performance, necessity of precision and concern on cleanliness and repeated washings as some superficial similarities between religion and OCD. Therefore, similarities or possible

connotations between the characteristics of Islam as a religion and symptoms of the OCD may account for this difference. It can also be asserted that the sample in the present study was actually non-clinical university students; nevertheless, the possible connections and/or diffusions between religion and cultural characteristics (Hofstede, 2001) might contribute the impact of religion into the daily life of Turkish people. This issue will be discussed more in later section below. Furthermore, worry was the control strategy to be used for these symptoms in Turkish sample; whereas, self-punishment was the control tactic for OCD symptoms in Canadian subjects. Actually, both control strategies of worry and self-punishment were reported to be associated with OCD symptoms before (Abramowitz et al., 2003; Amir et al., 1997).

Finally, the comprehensive model was examined via Structural Equation Modeling. The model was made up of different factors mentioned by different popular cognitive models in order to meet the need for a model which include all core elements of the recent cognitive models of the OCD together (Clark, 2004; Rachman, 1997; Salkovskis, 1991). There are some distal and proximal vulnerability factors that are influential in OCD symptoms at different levels. Distal factors refer to some nonspecific factors. Even though they are not cognitive in nature, they might contribute to the cognitive processes in OCD. These factors are composed of some personality characteristics such as neuroticism and extraversion (Fullana et al., 2004), religiousness (Greenberg & Witztum, 2001; Steketee et al., 1991), self-esteem (Ehnholt et al., 1999). The model assumes that these variables contribute to the appraisal factors, one of which is among proximal vulnerability factors. Appraisal factors are among cognitive variables, since they are influential during interpretation of intrusive thoughts.

Immediate problematic appraisals, responsibility/threat estimation, perfectionism/certainty, importance/control of thoughts (OCCWG, 2001), fusion of thoughts and actions in morality and likelihood (Shafran et al., 1996) constituted this appraisal group. With the effect of these factors, misinterpretation of intrusions leads to the anxiety and discomfort and then, it results in the use of the control strategies. Despite temporary relief, these control efforts do not function efficiently in long term, and person begins to exhibit OCD symptoms.

In line with the recent cognitive models (Clark, 2004; Rachman, 1997; Salkovskis, 1991), four different models were suggested and tested. Starting from the inclusion of thought control efficiency and failure, and secondary appraisal process (i.e., elements of Clark's model), the models turned into the most parsimonious and simple from; that is, the fourth model specified the paths from nonspecific to the appraisal, and then, to the control factors with OCD symptoms as outcome variable. During the analyses, the variables that were not significant in the groups were excluded to obtain the best fit. In conclusion, the analyses and fit indices showed that this parsimonious comprehensive model had the best fits for both Turkish and Canadian data (see Figure 7 & 8 respectively).

In both best fitted models, there is a huge overlap, since the variables were the same in two models, despite having different values. As expected, the results of the analyses indicated that nonspecific factors seem to supply the OCD-relevant appraisal; consecutively, the appraisal process contributes to the control efforts. Yet, owing to probably inadequacy of these efforts, symptoms of OCD emerge. This situation appears to be consistent for both Turkish and Canadian university students. That is to say, for

both groups, nonspecific latent variable that consisted of low self-esteem and extraversion, and high neuroticism was related with OCD-relevant appraisal factors. The latent factor of the appraisal composed of immediate problematic appraisals, responsibility/threat estimation, perfectionism/certainty, importance/ control of thoughts, fusion in morality and likelihood was positively associated with control factor. This factor was composed of worry, punishment and thought suppression. Finally, control factor was related with OCD symptoms.

To conclude, with the SEM, some findings obtained from the previous analyses in the present study were reconfirmed. Self-esteem and neuroticism among nonspecific factors, immediate problematic appraisals, OCD-relevant general belief domains, fusion of thoughts and actions among appraisal factors, and finally worry, self-punishment and suppression among control factors were all found to be associated to the OCD symptoms in both cultures. However, a new variable, extraversion, came out as a significant element for this symptom group. This situation is also parallel to the previous literature findings, introversion was reported for OCD symptoms before (Fullana et al., 2004; Mataix-Coles et al., 2000).

4.6. General Overview of the Present Findings

In the present study, it was first aimed to adapt and examine the psychometric properties of Turkish versions of the III, OBQ and TCSQ in Turkish university students. Even though the core elements of current cognitive models of the OCD has been usually

explored separately in Western countries, there is still a need for the investigation of these factors together as well as the impact of culture in these cognitive processes. Therefore, the main goal of the study was to examine interrelationships among nonspecific, appraisal and control factors, and OCD symptoms in Turkish with Canadian university students, and to compare the relative importance of these factors in two cultures.

The III (OCCWG, 2001), OBQ (OCCWG, 2001) and TCSQ (Wells & Davies, 1994) had a common characteristic that all of them were developed for the evaluation of some elements of the cognitive processes for unwanted intrusive thoughts. In other words, they were designed for the assessments of the immediate appraisals and general faulty belief domains related to the OCD symptoms, and thought-control strategies used for unwanted thoughts respectively. Their psychometric properties were proven in both clinical and nonclinical samples from various Western countries (e.g., Ferguson et al., 2006; OCCWG, 2003, 2005; Sica et al., 2004). During the current study, they were translated and adapted into Turkish, and the relevant analyses revealed that their Turkish versions were also psychometrically reliable and valid instruments for Turkish university students. On the other hand, there was an exception. In order to test the impact of failure of thought control efforts, efficiency dimension was implemented to the TCSQ. However, the analyses showed that the efficiency dimension and the failure component (i.e., multiplication of frequency scores with efficiency ones) did not have satisfactory psychometric properties and they also did not function well and did not measure what was aimed; thus, they were excluded from further analyses.

The second part of the present study focused on the examination of nonspecific, appraisal and control factors, and OCD symptoms. Group comparisons, correlational and regression analyses, tests of mediational models and model testing were performed during current investigation. As a result, there were common and unique patterns or cross-cultural similarities and differences for the interrelationships among the factors and OCD symptoms in Turkish and Canadian samples.

To start with, common patterns between two sets of data are presented. Regardless of religion category, religiousness or religiosity had some common effects on OCD-relevant factors and symptoms in both Turkish and Canadian samples. For instance, religious people tended to experience more frequent intrusive thoughts, psychological fusions of thoughts and actions in the morality aspect and sensitivity in the emphases of the thoughts and their control. This situation was confirmed with group comparisons and regression analyses. Similarly, they also report more obsessional thoughts and checking. As a result, this information presents support for the literature findings of the relationship between religion, religiosity and OCD, and its impact as a risk factor (Rasmussen & Tsuang, 1986; Shafran et al., 1996; Steketee et al., 1991), and it also presents evidence for the effect of religiosity in distress and anxiety (Hutchinson et al., 1998), and OCD beliefs (Abramowitz et al., 2002, 2004; Nelson et al., in press). On the other hand, from the analyses performed at the culture level, religiosity was also found to be associated with the faulty beliefs of importance and control of thoughts, responsibility and threat estimation, and the morality fusion. This information supports the previous findings showing the impact of religiosity in vigilance and overemphasis for thought processes (Sica et al., 2002) and in various belief domains of OCD

(Abramowitz et al., 2004; Nelson et al., in press; Rassin & Koster, 2003; Sica et al., 2002). As a result, in terms of coming from relatively neglected sample groups that are from Muslims and a developing non-Western country, Turkey, this situation is relatively new and contributory to the relevant OCD literature.

Another commonality between Turkish and Canadian participants can be observed in the predictors of OCD-relevant appraisal and control factors. First, frequency of and distress from intrusive thoughts seems to be influential factors for immediate problematic appraisals for these thoughts. Neuroticism, immediate problematic appraisals about intrusive thoughts and the fusion in morality are found to be critical factors for OCD-relevant beliefs, while immediate appraisals are influential in fusion of thoughts and actions in morality and likelihood dimensions. It is also effective in control strategies of worry, self-punishment and suppression. In addition, responsibility and threat estimation is the factor that its predictors overlap the most in both Turkish and Canadian subjects. These findings are largely in line with the current cognitive models (Rachman, 1997, Salkovskis, 1991), suggesting that frequency and distress are important during appraisal and control processes of intrusions, and interpretations of intrusions trigger more general beliefs and determine further processes. The study findings (e.g., OCCWG, 2003 Purdon & Clark, 2002; Smari, 2001; Purdon, 2004) and current cognitive approach to OCD (Clark, 2004; OCCWG, 2003, 2005; Frost & Steketee, 2002) confirm these assumptions. Negative impacts of the self-esteem and being younger in the appraisal and control processes of the OCD were shown once more in the current study, as the supports for previous literature findings (e.g., Albert et al., 2000; Fullana et al., 2004; Rachman, 2006).

More importantly, there are similarities between Turkish and Canadian participants in the predictors of the OCD symptoms among the nonspecific, appraisal and control factors. Being high in neuroticism, being younger, having predisposition of faulty assumptions in threat estimation, responsibility, perfectionism, uncertainty and making more likelihood fusion seem to make people vulnerable to OCD symptoms and this situation seems to be culture-free. Finally, last common pattern between cultures was attained with examination of the comprehensive cognitive model in the present study. In line with the recent cognitive models of OCD symptoms (e.g., Rachman, 1997; Salkovskis, 1985) and previous literature findings in several areas (e.g., Clark, 2004; Frost & Steketee, 2002), the comprehensive cognitive model was formed and tested in Turkish and Canadian samples. There were nonspecific, appraisal and control factors that were interrelated with each other and that had paths among as in the presented order. This comprehensive model was confirmed in both groups in the current study. In other words, it seems that nonspecific, distal vulnerability factors contribute to the appraisal process, which in turn, brings about the control efforts. However, these counterproductive methods inevitably lead to OCD symptoms. In conclusion, the pattern of relationship found between these factors supports the validity of the cognitive models and shows its cross-cultural invariability. In addition, introversion also came out as a significant negative variable among nonspecific factors. This point was already mentioned in the OCD literature (e.g., Mataix-Coles et al., 2000).

There are also unique patterns of the interrelationships among factors, and OCD symptoms. First, religion categories also make some differences in OCD-relevant factors and symptoms. Thought-action fusion in total and morality dimension seems to differ

between different levels of the religiousness among Canadians. However, it is not the case for Turkish sample. The religiosity levels did not differ in two areas in the latter group, and Canadian subjects with low level of religiousness had lower scores in the morality fusion than Turkish subjects who had similar level of religiousness. This situation provides support for previous findings highlighting the influence of the religiosity levels for the Christians (Siev & Cohen, in press). Yet, it seems that morality is a more diffuse concept among Turkish Muslims, possibly because of close connotations between religion and morality in Turkey (Yorulmaz et al., 2006). On the other hand, the findings about the stresses in the distress from intrusions, importance/control of thoughts and use of thought control strategies and the impacts of religiousness in all of the obsessive faulty belief domains, morality fusion, worry and self-punishment, and thought suppression through OCD symptoms only in Turkish subjects warrant attention. This group also reported more OCD symptoms in different clusters. These findings remind the issue that characteristics of the religion category might account for these differences. Like Jews, Islam is a more ritualistic and form-based religion that also emphasize cleanliness, purity and behavioral rules (Ghassemzadeh et al., 2002; Karadağ et al., 2006; Okasha, 2002), and religious doubts (i.e., “vesvese”) are also highlighted as temptation efforts of the devil (Al Issa & Qudji, 1998).

Another area pointing to the unique patterns is group comparisons. Turkish university students appear to be sensitive to distress from intrusions, and making immediate problematic appraisals, emphasizing importance and control of thoughts and merging/fusing thoughts and actions in the morality domain. In addition, they tend to use

more thought control efforts. They also report more OCD symptoms. On the other hand, as being more extraverted, Canadian university students have predisposition to suppress unwanted thoughts. In the interrelationships among nonspecific, appraisal and control factors of the OCD, the most salient difference between groups is the fusion in likelihood, since it was the appraisal factor that Turkish and Canadian samples overlap the least. Immediate problematic appraisal is the only variable effective for this domain in Turkish sample. Moreover, these appraisal and control factors are affected negatively by the self-esteem more in Canadian subjects. Worry and self-punishment are two strategies for likelihood fusion for Canadians as well. More importantly, the differences in the predictors of the OCD symptoms between two groups deserve more attention. Religiousness is a factor related to OCD symptoms only for Turkish subjects. Additionally, the strategy of worry (i.e., as an indirect tactic) is the control effort that comes forward in this group as well. However, self-punishment (i.e., as a more direct strategy) is the thought control method utilized by Canadian participants more for the OCD symptoms.

Even though there are no specific studies focusing on the relationship between OCD symptoms and culture, few cross-cultural studies on OCD gave some clues about the impact of culture (e.g., Kyrios et al., 2001; Sica et al., 2001). Accordingly, the characteristics of the culture might provide some rationales for these group differences between Turkish and Canadian subjects. Functioning as mental software for individuals, culture presents collective patterns and rules of thinking, feeling and acting (Hofstede, 2001). It also refers to common patterns of behaviors for people living in a country (Cheung, 1998; Rozin, 2003; Sica et al., 2002). Hofstede (2001) defined four dimensions

for describing the cultures all over the world: namely, individualism, masculinity, power distance, and uncertainty avoidance. High uncertainty avoidant people are expected to experience more distress, anxiety and aggression (Hofstede, 2001). Some relevant studies indicated that more pathological fears were observed in masculine and highly uncertainty avoidant cultures (Arrindell et al., 2003, 2004). These cultures were also found to dislike ambiguity and maintain clarity, with collective tendencies (Shupper et al., 2004). In collectivist and high power-distance countries, internally targeted control strategies (i.e., efforts of controlling the self) were reported to be utilized more (Tweed et al., 2004; Sinha, Wilson & Watson, 2000). This type of coping is similar to the emotion-focused coping (Folkman & Lazarus, 1988) in that this group of coping represents more indirect strategies aimed at managing one's own emotions. On the other hand, collectivism was reported to correspond to the conservative values, maintenance of social order and religiosity (Çukur et al., 2004; Schwartz & Huismans, 1995). Accordingly, these cultural dimensions are actually interrelated and might have determinant effect on people at the cultural level.

According to Hofstede's list of the countries (2001), Turkey is a more collectivist (stress on interpersonal relationships), relatively masculine (high degree of discrepancy in gender roles), more uncertainty avoidant (low tolerance for ambiguity) with inequalities of power (stress on power and wealth) as compared to Canada. On the other hand, Western cultures are also defined as individualistic with total independence of individual, while material and emotional interdependence is stressed in the pure collectivist countries; whereas, dialectical synthesis of these two poles (i.e., material independence but emotional interdependence) is valid in Turkey (Kağıtçıbaşı, 1996).

Thus, the difference in OCD symptoms and factors (e.g., control factors-internally controlling the self vs. externally targeted control) between two countries might be explained by the nature of the Turkish culture as a relatively collectivist (Tweed et al., 2004) and uncertainty avoidant and masculine culture (Arrindell et al., 2003, 2004; Hoftsedde, 2001). The impact of the religiosity in OCD symptoms and morality fusion also seems plausible, since collectivist tendencies support conservative values. Another account might be the nature of the country. Despite being a secular country by its constitutional charter, the impact of religion in Turkish culture is even obvious in the present university student sample (Islam-70%). However, Canada is known to be a more secular country (Christianity- 30% in the present case). Evolution in the religion is also important issue, since it influences the cultural characteristics. There is a salient difference among Canada and Turkey, in terms of this aspect. Thus, this might also contribute to the cultural difference as well as the impact of current political climates in the countries respectively. On the other hand, it can also be argued that uncertainty avoidance might contribute to the need for rules, structure and pre-determined rituals for people; thus, which may facilitate coping with the events and life. Though personal achievement and work is required for salvation may be linked to individualism in Islam, it is not limited to personal life (Çukur et al., 2004) and it has some prominent regulations for normal daily life. One's contribution to own community and country is also emphasized (Abu Saad, 1998). Accordingly, like societal rules, the ritualistic nature of the Islam may also contribute to solve possible uncertainties in this way, while contributing to the collectivism in some extent in cultures like Turkey, as a developing non-Western country. In addition, the social pressure in collectivist cultures may

contribute to the cross-cultural differences. On the other hand, uncertainties might be perceived as challenges and do not result in discomfort, so that, people living in Westerns countries such as Canada do not need alternative tools. At the same time, like law, since other regulations function well, life conditions are defined and structured in Western countries. In addition, the nature of the religion (e.g., Christianity) may support individuality (Çukur et al., 2004; Shuper et al., 2004).

4.7. Limitations of the Present Study

The present research provided some cross-cultural similarities and differences in the interrelationships among nonspecific, appraisal and control factors, and OCD symptoms in comparison of Turkey, as a non-Western, predominantly Muslim-secular country, and Canada, as a Western country. With a comprehensive cognitive model, prepared in line with the current cognitive models, it also tried to cover many vulnerability variables. Nevertheless, there are some limitations that require attention and should be taken into consideration during the interpretation of these findings.

To start with, there are several methodological limitations that restrict generalizability. The current study has a cross-sectional design, in which some relevant self-report instruments were administered to the university students at one point in time. However, in order to attain robust findings about the vulnerability concept, a longitudinal design that includes a more focused-sample with specific characteristics, and that examines these factors at different times in long term might be more fruitful.

This approach may facilitate to interpret the impact of the OCD-relevant vulnerability factors. In addition, owing to some practical reasons, the current research only included some of the vulnerability factors. Therefore, inclusion of other variables (e.g., cognitive self-consciousness) may extend our understanding of the interrelationships in OCD symptoms. Moreover, studies with different methodological properties such as experimental designs or data collection with structured interviews might add some influential points to the findings.

Although OCD is one of the anxiety disorders (DSM-IV, APA, 1994), the findings that the experiences of intrusive thoughts are quite prevalent (Clark & Purdon, 1995; Salkovskis & Harrison, 1984) and that differences assigned for psychopathology lies in the appraisal process, frequency and distress (Rassin et al., 2001) led to include non-clinical samples in the relevant research in the OCD literature. Obsessive-compulsive phenomena and/or symptoms are the focus points in these studies (Burns, Formea, Keortge & Sternberger, 1995; Gibbs, 1996; Mataix-Cols et al., 2000).

Accordingly, in line with this trend, the present study also included non-clinical samples from Turkey and Canada. Since it examines the vulnerability factors in general, it might seem plausible. Nevertheless, the findings might be replicated by examining these factors and their associations further in OCD patients, even in comparison of the OCD patients and non-clinical samples or other diagnostic groups. Moreover, the research with more representative nonclinical samples from all age groups will facilitate our understanding about these factors.

Parallel to the previous limitations, another restriction is the nature of measurement tools used in this research. In other words, several self-report instruments

were utilized as data collection tools. However, self-report assessment is based on the person's own report, and it requires awareness in some extent. On the other hand, there are automatic and strategic processes in the cognitive functioning (Beck & Clark, 1997). Some processes might include automatic activations that operate beyond awareness, and during the assessment based on the self-report measures, some cognitive biases might intervene the declaration. Furthermore, the format of some instruments (e.g., rating part of the Interpretations of Intrusions Inventory) may be difficult to comprehend for some patients who have low level of education and socio-economic status. For this reason, other strategies such as use of interview or experimental administrations might support the findings attained from self-report administrations.

Level of religiousness was found to be one of the effective nonspecific vulnerability factors (i.e., especially for Turkish participants), and an instrument for the evaluation of the religiousness was designed for the present study. Therefore, these findings about religiousness should be taken into consideration as preliminary evidences. Since it has effects on life in many different aspects, more research is needed with other instruments that assess religiosity in multidimensional structure. Furthermore, the present samples were chosen among university students and normal distribution was taken into consideration. However, religiosity might function differently in specific populations such as the samples drawn from the theological schools or fundamentalist groups respectively in different countries. Similarly, the samples with the same religion from various countries such as Turkish and Arabic Muslims vs. Canadian, Lebanese Christians will contribute to explain the differentiation in the interaction of religion with

the culture. For this reason, the inclusion and examination of such samples might assist to comprehend these relationships better.

During the assessments of the current vulnerability factors, again because of the practical constraints, none of the categories of the intrusive thoughts were focused. Instead, the intrusions were examined generally. That is to say, it is possible to categorize the intrusions in accord with different characteristics such as harming, moral and religious intrusions (see section 3.4.1 in the Result section), and there might be different processes and factors that might be interrelated differently in separate categories of intrusions. Additionally, this situation might also be valid for different subclusters of the OCD symptoms such as cleaning and checking, or obsessions and compulsions; but, various specific instruments aimed to reveal these variations in the subtypes of the symptoms and intrusions is required as well. Thus, more research is needed in subtypes of the OCD symptoms and intrusions in order to uncover the possible diversities among these categories. One method to include this point might be the use of various

Finally, the impact of culture was assessed only in two countries at different points in cultural dimensions such as individualism-collectivism. Yet, this point may also limit the interpretations, and inclusion of more extreme countries in these dimensions might facilitate the effect of cultural characteristics in OCD. In addition, both samples were composed of university students drawn among those who were living in the big and central cities in respective countries. This brings the issue of representativeness of the sample for the country. On the other hand, these factors might function differently in samples living in other parts of country with various

demographical characteristics. As a result, the findings of the current study should be accepted to be valid among university students from Turkey and Canada. They should be approached cautiously and the issues of the limitations should be taken into consideration during assessment.

4.8. Clinical Implications

This is actually the first study in several aspects related to the OCD symptoms. It examined the role of numerous vulnerability factors in nonspecific, appraisal and control processes in OCD symptoms, in comparison of Turkish sample with Canadian participants. It also explored the impact of the factors along with the comprehensive cognitive model for OCD symptoms. Accordingly, during the study, three instruments about appraisal and control processes were adapted into Turkish and a new measurement tool about the religiosity was designed; then, four measures were proven to have satisfactory psychometric properties in the university students. It also provided some cross-cultural similarities and differences in these vulnerability factors and relationships among them, which can be viewed in a specific culture, Turkey, and in a cross-cultural framework. Generally speaking, this information can be assessed as guidelines in the prevention programs designed for vulnerability factors against OCD and as clues for both assessment and treatment of the OCD symptoms.

By adapting the III, OBQ and TCSQ into Turkish, the present study presented some valuable instruments that can be used for further studies designed for the

assessment of appraisal and control processes in Turkey. By this way, it is possible to follow current research trend around the world (e.g., OCCWG studies) and to provide the presentation of the cultural support from a non-Western country for cognitive assumptions. Apart from the research interests, these instruments might also be used as guidance for psychoeducation programs designed for various vulnerability factors in nonclinical or subclinical groups, and as evaluation tools of the current situation of Turkish patients and as tools of the improvements during the assessment and treatment phases of the psychotherapy for OCD. To illustrate, these instruments include problematic processes of the appraisal and beliefs in OCD; thus, information about these issues can be presented and normalization as well as awareness may be initiated in these programs.

In addition to the instrument tools, the findings of the current study present some clues for critical vulnerability factors. Therefore, researchers and clinicians should be aware of these vulnerability factors, and various educational and interventional programs can be prepared and administered to different groups of samples. For example, the importance of level of self-esteem and controversial impact of the religiousness might be emphasized during educational programs. Search for these factors during intervention programs might also facilitate problematic processes. Moreover, they can be expanded to different age or conditional groups such as adolescents, early adults or fresh year university students and new parents with infant, after replicating them in these groups. The present study also provided some cross-cultural similarities and differences among the vulnerability factors. To illustrate, it was indicated that there was a relationship between nonspecific, appraisal and control factors through OCD. Accordingly, there are

some influential factors that seem to be free from cultural effects. The intervention programs focusing on these factors such as problematic appraisal and control factors used for intrusive experiences might be beneficial, regardless of the country it was performed. This trend also provides the universality for treatment models. On the other hand, there are also some culture-specific factors such as TAF-Morality and religiousness. It was already suggested that TAF should be included in psychotherapy for OCD with the techniques of downward arrow or so what and exposure with response prevention (Freeston et al., 1996; Rassin et al., 2001; Zucker et al., 2002). However, instead of TAF-Likelihood, TAF-Morality seems to need a specific focus in the assessment and the intervention in Turkey, since it is a prevalent and influential issue, as opposed to Canada, where morality fusion was found to be only associated with religiosity. Moreover, religiosity was found to be related with OCD symptoms only in Turkish culture and it could trigger several OCD-beliefs and control strategies towards OCD symptoms. It also appears to be closely related with Turkish culture, because it has close connotations with morality domain as well as social rules, and it might function as regulator in social life. Thus, it seems that both morality and religiosity operate somehow together and it deserves a special focus during the assessment and intervention for Turkish people. In addition, another culture-specific finding is about the sensitivity of Turkish people in immediate appraisals and emphasis on importance and control of thoughts as well as use of control strategies generally. More importantly, it was found that Turkish university students used worry as a thought-control strategy for OCD symptoms; but, Canadian participants utilized self-punishment and suppression. Although both strategies appear to be counterproductive, worry is a more indirect and

emotion-focused coping strategy, while punishment and suppression are more active approaches. Abramowitz et al (2003) revealed that after psychotherapy, tendency for the use of control strategies can be changed. Therefore, this difference between cultures also should be taken into consideration for assessment, education and intervention programs. Specifically it can be recommended for clinicians that they should focus on and examine the effect of these culture-specific concepts during therapy and education; they should also question, reveal and help for cognitive restructuring for hidden connections among them by use of cognitive behavioral therapy techniques such as downward arrow, pie charts etc.

4.9. Directions for Future Studies

The findings of the present study provided some evidences in various common or cross-culturally invariant and unique or specific to each culture, patterns of interrelationships among nonspecific, appraisal and control factors and OCD symptoms. Directions for future studies can be grouped under methodological and conceptual suggestions to improve the properties of the study.

The current study included only non-clinical university students from Turkey and Canada. Therefore, in order to replicate these relationships in the patients who have formal OCD diagnosis and other anxiety disorders (e.g., generalized anxiety disorders) or depression and to clarify these associations in comparison, clinical samples should be included into further studies. Furthermore, different categories of intrusions and symptom clusters might differ in the appraisal and control processes. For example, a new trend in the literature was the research about new parents with newborn infants. Several preliminary studies showed that they, especially mothers, experience a great deal of intrusions related to their babies (Larsen et al., 2006). In addition, the information obtained from samples composed of different age groups (e.g., children, adolescents or elders) or different samples with various demographic properties (e.g., people living in urban vs. rural areas) etc. Thus, there are still needs for the examination of underrepresented samples. On the other hand, studies performed with longitudinal designs will probably present better evidences for the impact of the vulnerability factors in the course of time. In addition, the present study included only some of the

vulnerability factors, especially non specific ones, owing to practical constraints; thus, inclusion and examination of other vulnerability factors (e.g., cognitive self-consciousness), with different methodologies such as interviews and experiments will show a more clear portrait for OCD factors.

The cross-cultural investigations about psychopathology have been a subject matter of interest for long time. This trend in OCD provided some initial evidences about the impact of the culture in OCD and relevant factors, and this trend is becoming more popular. Nevertheless, there should be more research to conclude and obtain comprehensive findings. During the assessment of the effect of the culture in these processes, cultural definitions are needed and in accordance with these definitions, several countries should be chosen in the continuum. In the current study, only two countries in the list of Hofstede's culture list (2001) were included. There are two points about this issue. First, instead of using a list prepared before, the relevant tools of cultural descriptions might also be administered in order to avoid within differences in these descriptions and each culture. Second, selection of countries from more than two extremes (e.g., at two countries from extreme points and one from middle points) might also indicate possible cross-cultural differences better; namely, samples from Canada or USA, Turkey or Iran, and Japan or Korea. In addition to two groups living in the host country for a while, additional samples drawn among those people who immigrate to the country recently may provide the impacts of acculturation and immigration or adapting to new environment (e.g., samples from Netherlands & Turkey as well as Turkish immigrants begin to live in Netherlands recently) on these processes.

Religion is one of the influential subjects in the OCD: thus, it was included in the current study among nonspecific vulnerability variables. It was also found to be a significant variable in appraisal, control factors and OCD symptoms. Therefore, some improvements in some issues will contribute to examine this subject in more detail. First issue is that the present samples were non-clinical university students from Turkey and Canada. On the other hand, the inclusion of extreme groups in religiosity and various groups from different religious denominations will provide better understanding of its role in OCD. In addition, religiosity might function in different categorical religions. To illustrate, monotheistic religions might differ from other kinds of religions (e.g., Buddhism). Moreover, differences between and within different religions and religiosity may be another subject matter of interest. Samples from various theological schools and various denominations of different religions will also facilitate to study the religiosity in these processes. The last point about this issue is the nature of the religiosity that it can be assessed in multidimensional aspects, since religion and religiosity can be dealt with different components such as religious beliefs, feeling, behavior and knowledge (Yaparel, 1996). On the other hand, the interaction of religion or religiosity with the culture is also another subject matter of interest, because nature of religiosity will be affected by the culture that is experienced. In that sense, there might be differences, for example, between Muslims living in North America or Europe and the ones in Middle East. The same possibility is also valid for other kinds of religions (e.g., European Christians vs. South American Christians). As a result, this issue of religiosity and characteristics of the religions can be studied with specific focuses on these subjects, with different methodologies and designs, and in different samples, in comparison.

The present study aimed at the examination of the recent cognitive models of the OCD with one comprehensive cognitive model. To achieve this aim, different instruments were utilized. However, those included to evaluate failure of thought-control and secondary appraisal as some core elements of Clark's thought-control model (2004) did not function well, and thus were excluded from the study. Thus, the future studies might design and administer specific efficient instruments focusing on the secondary appraisal processes and the consequences of the failure in thought control. Then, these dimensions can also be included the comprehensive cognitive model and new models can also be examined in comparison.

There is also other side of the coin. In other words, mostly negative aspects in the appraisal and control processes of intrusive experiences were examined in the relevant literature. Nonetheless, people also experience some positive thoughts that might even contribute to the mood state of people. It seems that appraisal and control processes, and maintenance efforts for these positive thoughts (e.g., like those in the fantasies) are important subjects and possibly will contribute the cognitive differences between negative and positive intrusions. Moreover, some of the findings of the current study such as those on the extraversion and self-esteem seem to provide some initial ideas about resilience factors against OCD symptoms. Therefore, this issue might be explored and relevant findings might be taken into consideration during educational programs, even before the onset of the disorder, for vulnerable individuals.

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APPENDICES

APPENDIX A: QUESTIONNAIRES

DEMOGRAPHIC INFORMATION FORM

Bu çalışma, öğrencilerin yaşadığı bazı durumlar ve bu durumlara verdikleri tepkileri değerlendirmek amacıyla yürütülmektedir. Sorular için doğru yada yanlış cevap yoktur. Önemli olan sizin neler hissettiğinizdir. Çalışmadan elde edilen bilgiler kesinlikle gizli tutulacak ve araştırmacılar dışında kimse ile paylaşılmayacaktır. Araştırma verileri toplu halde değerlendirileceğinden **isminizi yazmanıza gerek yoktur**. Soruları eksiksiz ve içtenlikle doldurmanız sağlıklı veri toplanabilmesi için son derece önemlidir. Katkılarınızdan dolayı teşekkür ederiz.

Uzm. Psk. Orçun Yorulmaz (B-44)

Doç. Dr. Tülin Gençöz

Orta Doğu Teknik

Üniversitesi

Psikoloji Bölümü

Öğrenci No (son 4 rakamı):

1. Cinsiyetiniz: Kadın <input type="checkbox"/> Erkek <input type="checkbox"/>	2. Yaşınız:
3. Doğum Yeriniz:	4. Bölüm/Sınıf:
5. Siz dahil kaç kardeşsiniz :	6. Siz kaçınıcı çocuksunuz:

<p>7. Annenizin eğitim düzeyi:</p> <p><input type="checkbox"/> Okuma-yazma bilmiyor</p> <p><input type="checkbox"/> Okur-yazar</p> <p><input type="checkbox"/> İlkokul</p> <p><input type="checkbox"/> Ortaokul</p> <p><input type="checkbox"/> Lise</p> <p><input type="checkbox"/> Üniversite</p> <p><input type="checkbox"/> Üniversite üzeri</p>	<p>8. Babanızın eğitim düzeyi:</p> <p><input type="checkbox"/> Okuma-yazma bilmiyor</p> <p><input type="checkbox"/> Okur-yazar</p> <p><input type="checkbox"/> İlkokul</p> <p><input type="checkbox"/> Ortaokul</p> <p><input type="checkbox"/> Lise</p> <p><input type="checkbox"/> Üniversite</p> <p><input type="checkbox"/> Üniversite üzeri</p>
<p>9. Ailenizin gelir düzeyi: <input type="checkbox"/> Yüksek <input type="checkbox"/> Orta <input type="checkbox"/> Düşük</p>	
<p>10. Yaşamınızın çoğunu geçirdiğiniz yer:</p> <p><input type="checkbox"/> Büyük şehir (İstanbul, Ankara, İzmir) <input type="checkbox"/> Şehir <input type="checkbox"/> Kasaba <input type="checkbox"/> Köy</p>	
<p>11. Şu an yaşadığınız yer:</p> <p><input type="checkbox"/> Aileyle birlikte evde <input type="checkbox"/> Arkadaşlarla evde <input type="checkbox"/> Akrabalarla evde <input type="checkbox"/> Yurtta</p>	
<p>12. Bu güne kadar psikiyatrik bir tanı aldınız mı?</p> <p>Evet <input type="checkbox"/> (belirtiniz) Hayır <input type="checkbox"/></p>	
<p>13. Şu an psikiyatrik bir ilaç kullanıyor musunuz? Evet <input type="checkbox"/> (belirtiniz) _____</p> <p>Hayır <input type="checkbox"/></p>	

ROSENBERG SELF ESTEEM SCALE (RSE)

Aşağıda 10 ifade yer almaktadır. Yine aşağıdaki 1-4'lü ölçeği kullanarak, her bir maddeye ne kadar katıldığınızı yandaki boşluğa uygun rakamı yerleştirerek belirtiniz. Cevaplarınızda lütfen açık ve dürüst olunuz. 4'lü ölçek şöyledir:

- 1 = Tamamen katılıyorum
2 = Katılıyorum
3 = Katılmıyorum
4 = Hiç katılmıyorum

1. Kendimi en az diğer insanlar kadar değerli buluyorum	.....
2. Bazı olumlu özelliklerim olduğunu düşünüyorum	.....
3. Genelde kendimi başarısız bir kişi olarak görme eğilimindeyim	.....
4. Ben de diğer insanların bir çoğunun yapabildiği kadar birşeyler yapabilirim	.....
5. Kendimde gurur duyacak fazla birşey bulamıyorum	.....
6. Kendime karşı olumlu bir tutum içindeyim	.....
7. Genel olarak kendimden memnunum	.....
8. Kendime karşı daha fazla saygı duyabilmeyi isterdim	.....
9. Bazen kesinlikle kendimin bir işe yaramadığımı düşünüyorum	.....
10. Bazen kendimin hiç de yeterli bir insan olmadığımı düşünüyorum	.....

EYSENCK PERSONALITY QUESTIONANIRE REVISED-A (EPQR-A)

Yönerge: Lütfen aşağıdaki her bir soruyu, 'Evet' yada 'Hayır'ı yuvarlak içine alarak cevaplayınız. Doğru veya yanlış cevap ve çeldirici soru yoktur. Hızlı cevaplayınız ve soruların tam anlamları ile ilgili çok uzun düşünmeyiniz.

1. Duygu durumunuz sıklıkla mutlulukla mutsuzluk arasında değişir mi?	Evet	Hayır
2. Konuşkan bir kişi misiniz?	Evet	Hayır
3. Borçlu olmak sizi endişelendirir mi?	Evet	Hayır
4. Oldukça canlı bir kişi misiniz?	Evet	Hayır
5. Hiç sizin payınıza düşenden fazlasını alarak açgözlülük yaptığınız oldu mu?	Evet	Hayır
6. Garip yada tehlikeli etkileri olabilecek ilaçları kullanır mısınız?	Evet	Hayır
7. Aslında kendi hatanız olduğunu bildiğiniz birşeyi yapmakla hiç başka birini suçladınız mı?	Evet	Hayır
8. Kurallara uymak yerine kendi bildiğiniz yolda gitmeyi mi tercih edersiniz?	Evet	Hayır
9. Sıklıkla kendinizi her şeyden bıkmış hisseder misiniz?	Evet	Hayır
10. Hiç başkasına ait olan bir şeyi (toplu iğne veya düğme bile olsa) aldınız mı?	Evet	Hayır
11. Kendinizi sinirli bir kişi olarak tanımlar mısınız?	Evet	Hayır
12. Evliliğin modası geçmiş ve kaldırılması gereken bir şey olduğunu düşünüyor musunuz?	Evet	Hayır
13. Oldukça sıkıcı bir partiye kolaylıkla canlılık getirebilir misiniz?	Evet	Hayır
14. Kaygılı bir kişi misiniz?	Evet	Hayır
15. Sosyal ortamlarda geri planda kalma eğiliminiz var mıdır?	Evet	Hayır
16. Yaptığınız bir işte hatalar olduğunu bilmeniz sizi endişelendirir mi?	Evet	Hayır
17. Herhangi bir oyunda hiç hile yaptınız mı?	Evet	Hayır
18. Sinirlerinizden şikayetçi misiniz?	Evet	Hayır
19. Hiç başka birini kendi yararınıza kullandınız mı?	Evet	Hayır
20. Başkalarıyla birlikte iken çoğunlukla sessiz misinizdir?	Evet	Hayır

21. Sık sık kendinizi yalnız hisseder misiniz?	Evet	Hayır
22. Toplum kurallarına uymak, kendi bildiğinizi yapmaktan daha mı iyidir?	Evet	Hayır
23. Diğer insanlar sizi çok canlı biri olarak düşünürler mi?	Evet	Hayır
24. Başkasına önerdiğiniz şeyleri kendiniz her zaman uygular mısınız?	Evet	Hayır

RESPONSIBILITY ATTITUDES QUESTIONNAIRE (RAS)

Bu anket, insanların zaman zaman benimsediği tutum ve inançları sıralamıştır. Her bir ifadeyi dikkatlice okuyunuz ve okuduktan sonra o ifadeye ne derece katıldığınızı belirtiniz. Kararınızı ifade etmek için DÜŞÜNCENİZİ EN İYİ TANIMLAYAN rakamı daire içine alınız. Tamamen Katılıyorsanız 7 rakamını, Hiç Katılmıyorsanız 1 rakamını; eğer ifade ile ilgili bir fikriniz yoksa yada kararsızsanız 4 rakamını işaretleyiniz. Her bir ifade için, yalnızca bir durumu seçtiğinizden emin olunuz. İfadenin, sizin için tipik bir tutum olup olmadığına karar vermek amacıyla değerlendirme yaparken ÇOĞUNLUKLA nasıl olduğunuzu düşününüz.

	Hiç Katılmıyorum				Tamamen Katılıyorum			
1. Yanlış giden şeylerden çoğu zaman kendimi sorumlu hissederim	1	2	3	4	5	6	7	
2. Bir tehlikeyi önceden görmeme karşın bir harekette bulunmazsam, suçlanacak kişi konumuna ben düşerim.	1	2	3	4	5	6	7	
3. Yanlış giden şeyler için kendimi sorumlu hissetmek konusunda fazla hassasım.	1	2	3	4	5	6	7	
4. Kötü şeyler düşünmem, kötü şeyler yapmam kadar fenadır.	1	2	3	4	5	6	7	
5. Bazı davranışların sonuçları üzerinde, bunları ben yapmış olmasam bile oldukça fazla endişelenirim.	1	2	3	4	5	6	7	
6. Bana göre bir felaketi önlemek üzere harekete geçmemek, bir felakete yol açmak kadar kötüdür.	1	2	3	4	5	6	7	
7. Birine zarar verme ihtimali bulunduğunu bildiğimde, ne kadar imkansız görünse de hep bunu engellemeye çalışırım	1	2	3	4	5	6	7	
8. En küçük hareketlerin bile sonuçlarını mutlaka düşünmeliyim	1	2	3	4	5	6	7	
9. Çoğu kez, diğer insanların benim hatam olarak görmedikleri şeylerin sorumluluğunu kendi üzerime alırım.	1	2	3	4	5	6	7	

	Hiç Katılmıyorum				Tamamen Katılıyorum		
10. Yaptığım her şey ciddi problemlere yol açabilir	1	2	3	4	5	6	7
11. Başkalarına veya bir şeylere zarar vermeme sık sık ramak kalıyor	1	2	3	4	5	6	7
12. Başkalarını tehlike ve kötülüklerden korumalıyım	1	2	3	4	5	6	7
13. Başkalarına asla en ufak bir zarar bile vermemeliyim	1	2	3	4	5	6	7
14. Davranışlarım için ayıplanacağımı biliyorum	1	2	3	4	5	6	7
15. Yanlış giden şeyler üzerinde en ufak etkim bir etkim varsa, onu önlemeye çalışmalıyım	1	2	3	4	5	6	7
16. Bana göre, en ufak bir felaket olasılığı olduğunda harekete geçmemek felakete neden olmak kadar kötüdür	1	2	3	4	5	6	7
17. Eğer başkalarını etkileyecekse, en basit bir dikkatsizlik bile benim için affedilemez bir şeydir	1	2	3	4	5	6	7
18. Günlük hayatı ilgilendiren durumlarda, hareketsiz kalmam, kötü niyetle yapılan davranışlar kadar zarar verici olabilir	1	2	3	4	5	6	7
19. Çok küçük bir zarar verme olasılığı bulunsa bile ne yapıp edip onu engellemeye çalışırım	1	2	3	4	5	6	7
20. Başkalarına zarar vermiş olduğuma bir kez inanırsam, kendimi asla affetmem	1	2	3	4	5	6	7
21. Geçmişte yaptıklarımın çoğu, başkalarına bir zarar gelmesini engelleme niyeti taşımıştır	1	2	3	4	5	6	7
22. Başkalarının, benim yaptığım şeylerin tüm sonuçlarından korunduklarından emin olmalıyım	1	2	3	4	5	6	7
23. Başkalarının, benim değerlendirmelerime pek güvenmemeleri gerektiğini düşünüyorum	1	2	3	4	5	6	7

	Hiç Katılmıyorum				Tamamen Katılıyorum		
24. Eğer herhangi bir şey için suçlanmayacağımdan <u>emin</u> olamıyorsam, suçlanacak biri konumunda olduğumu hissederim	1	2	3	4	5	6	7
25. Eğer yeterince önlem alırsam, başkalarına zarar verecek kazaları önleyebilirim	1	2	3	4	5	6	7
26. Çoğu kez, eğer yeterince dikkatli olmazsam, kötü şeylerin olabileceğini düşünürüm	1	2	3	4	5	6	7

RELIGIOUSNESS SCREENING QUESTIONNAIRE (RSQ)

Dini inanışınız var mı? Var (belirtiniz): ☐ _____ Yok ☐

Lütfen aşağıdaki soruları, sizi en iyi tanımlayan cevap şikkını seçerek cevaplayınız.

1. Dini inanışınız, yaşamınızda ne kadar yer tutar?				
Hiç				Oldukça çok
1	2	3	4	5
2. Davranışlarınız ve yaşam tarzınız, dini öğretilerden/ilkelerden ne derecede etkilenir?				
Hiç				Oldukça çok
1	2	3	4	5
3. Kendinizi ne ölçüde dini bir insan olarak tanımlarsınız?				
Hiç				Oldukça çok
1	2	3	4	5
4. Dini inançlarınıza ne kadar bağlısınız?				
Hiç				Oldukça çok
1	2	3	4	5
5. Ne sıklıkla dini aktivitelere katılır veya dini ibadetin yapıldığı yerlere gidersiniz? (Genelde yaptıklarınıza en yakın cevabı işaretleyin)				
Hiçbir zaman	Zaman zaman	Ayda bir	Haftada bir	Her Gün
1	2	3	4	5
6. Ne sıklıkla dua edersiniz? (Genelde yaptıklarınıza en yakın cevabı işaretleyin)				
Hiçbir zaman	Zaman zaman	Ayda bir	Haftada bir	Her Gün
1	2	3	4	5
7. Dini metinleri/kitapları/kutsal yazıları ne sıklıkla okursunuz? (Genelde yaptıklarınıza en yakın cevabı işaretleyin)				
Hiçbir zaman	Zaman zaman	Ayda bir	Haftada bir	Her Gün
1	2	3	4	5

OBSESSIVE BELIEFS QUESTIONNAIRE (OBQ-44)

Bu envanterde, insanların zaman zaman takındıkları bir dizi tutum ve inanış sıralanmıştır. Her bir ifadeyi dikkatlice okuyunuz ve ifadeye ne kadar katılıp katılmadığınızı belirtiniz.

Her bir ifade için, *nasıl düşündüğünüzü en iyi tanımlayan* cevaba karşılık gelen rakamı seçiniz. İnsanlar birbirinden farklı olduğu için envanterde doğru veya yanlış cevap yoktur.

Sunulan ifadenin, tipik olarak yaşama bakış açınızı yansıtıp yansıtmadığına karar vermek için sadece *çoğu zaman* nasıl olduğunuzu göz önünde bulundurunuz.

Derecelendirme için aşağıdaki ölçeği kullanınız:

1	2	3	4	5	6	7
Kesinlikle Katılmıyorum	Katılmıyorum	Biraz Katılmıyorum	Ne katılıyorum Ne katılmıyorum	Biraz Katılıyorum	Katılıyorum	Tamamen Katılıyorum

Derecelendirme yaparken, ölçekteki orta değeri işaretlemekten (4) kaçınmaya çalışınız; bunun yerine, inanış ve tutumlarınızla ilgili ifadeye genellikle katılıp katılmadığınızı belirtiniz.

1. Sıklıkla çevremdeki şeylerin tehlikeli olduğunu düşünürüm	1	2	3	4	5	6	7
2. Birşeyden tamamıyla emin değilsem, kesin hata yaparım?	1	2	3	4	5	6	7
3. Benim standartlarıma göre, herşey mükemmel olmalıdır	1	2	3	4	5	6	7
4. Değerli biri olmam için yaptığım herşeyde mükemmel olmalıyım	1	2	3	4	5	6	7
5. Herhangi bir fırsat bulduğumda, olumsuz şeylerin gerçekleşmesini önlemek için harekete geçmeliyim	1	2	3	4	5	6	7
6. Zarar verme/görme olasılığı çok az olsa bile, bedeli ne olursa olsun onu engellemeliyim	1	2	3	4	5	6	7
7. Bana göre, kötü/uygunsuz dürtülere sahip olmak aslında onları gerçekleştirmek kadar kötüdür	1	2	3	4	5	6	7
8. Bir tehlikeyi önceden görmeme karşın bir harekette bulunmazsam, herhangi bir sonuç için suçlanacak kişi konumuna ben düşerim	1	2	3	4	5	6	7
9. Birşeyi mükemmel biçimde yapamayacaksam hiç yapmamalıyım	1	2	3	4	5	6	7
10. Her zaman sahip olduğum tüm potansiyelimi kullanmalıyım	1	2	3	4	5	6	7
11. Benim için, bir durumla ilgili tüm olası sonuçları düşünmek çok önemlidir	1	2	3	4	5	6	7

12. En ufak hatalar bile, bir işin tamamlanmadığı anlamına gelir	1	2	3	4	5	6	7
13. Sevdiğim insanlarla ilgili saldırgan düşüncelerim veya dürtülerim varsa, bu gizlice onları incitmeyi istediğim anlamına gelir	1	2	3	4	5	6	7
14. Kararlarımdan emin olmalıyım	1	2	3	4	5	6	7
15. Her türlü günlük aktivitede, zarar vermeyi engellemede başarısız olmak kasten zarar vermek kadar kötüdür	1	2	3	4	5	6	7
16. Ciddi problemlerden (örneğin, hastalık veya kazalar) kaçınmak, benim açımdan sürekli bir çaba gerektirir	1	2	3	4	5	6	7
17. Benim için, zararı önlememek zarar vermek kadar kötüdür	1	2	3	4	5	6	7
18. Bir hata yaparsam üzüntülü olmalıyım	1	2	3	4	5	6	7
19. Diğerlerinin, kararlarım veya davranışlarımdan doğan herhangi bir olumsuz sonuçtan korunduğundan emin olmalıyım	1	2	3	4	5	6	7
20. Benim için, herşey mükemmel olmazsa işler yolunda sayılmaz	1	2	3	4	5	6	7
21. Müstehcen düşüncelerin aklımdan geçmesi çok kötü bir insan olduğum anlamına gelir	1	2	3	4	5	6	7
22. İlave önlemler almazsam, ciddi bir felaket yaşama veya felakete neden olma ihtimalim, diğer insanlara kıyasla daha fazladır	1	2	3	4	5	6	7
23. Kendimi güvende hissetmek için, yanlış gidebilecek herhangi bir şeye karşı olabildiğince hazırlıklı olmalıyım	1	2	3	4	5	6	7
24. Tuhaf veya iğrenç düşüncelerim olmamalı	1	2	3	4	5	6	7
25. Benim için, bir hata yapmak tamamen başarısız olmak kadar kötüdür	1	2	3	4	5	6	7
26. En önemsiz konularda bile herşey açık ve net olmalıdır	1	2	3	4	5	6	7
27. Din karşıtı bir düşünceye sahip olmak, kutsal şeylere karşı saygısız davranmak kadar kötüdür	1	2	3	4	5	6	7
28. Zihnimdeki tüm istenmeyen düşüncelerden kurtulabilmeliyim	1	2	3	4	5	6	7
29. Diğer insanlara kıyasla, kendime veya başkalarına kazara zarar vermem daha muhtemeldir	1	2	3	4	5	6	7
30. Kötü düşüncelere sahip olmak tuhaf veya anormal biri olduğum anlamına gelir	1	2	3	4	5	6	7
31. Benim için önemli olan şeylerde en iyi olmalıyım	1	2	3	4	5	6	7
32. İstenmeyen bir cinsel düşünce veya görüntünün aklıma gelmesi onu gerçekten yapmak istediğim anlamına gelir	1	2	3	4	5	6	7
33. Davranışlarımdan olası bir aksilik üzerinde en küçük bir etkisi varsa sonuçtan ben sorumluyum demektir	1	2	3	4	5	6	7
34. Dikkatli olsam da kötü şeylerin olabileceğini sıklıkla düşünürüm	1	2	3	4	5	6	7

35. İstenmeyen biçimde zihnimde beliren düşünceler, kontrolü kaybettiğim anlamına gelir	1	2	3	4	5	6	7
36. Dikkatli olmadığım takdirde zarar verici hadiseler yaşanabilir	1	2	3	4	5	6	7
37. Birşey tam anlamıyla doğru yapılıncaya kadar üzerinde çalışmaya devam etmeliyim	1	2	3	4	5	6	7
38. Şiddet içerikli düşüncelere sahip olmak, kontrolü kaybedeceğim ve şiddet göstereceğim anlamına gelir	1	2	3	4	5	6	7
39. Benim için bir felaketi önlemekte başarısız olmak ona sebep olmak kadar kötüdür	1	2	3	4	5	6	7
40. Bir işi mükemmel biçimde yapmazsam insanlar bana saygı duymaz	1	2	3	4	5	6	7
41. Yaşamımdaki sıradan deneyimler bile tehlike doludur	1	2	3	4	5	6	7
42. Kötü bir düşünceye sahip olmak, ahlaki açıdan kötü bir şekilde davranmaktan çok da farklı değildir	1	2	3	4	5	6	7
43. Ne yaparsam yapayım, yaptığım iş yeterince iyi olmayacaktır	1	2	3	4	5	6	7
44. Düşüncelerimi kontrol edemezsem cezalandırılırım	1	2	3	4	5	6	7

INTERPRETATIONS OF INTRUSIONS INVENTORY (III)

Aşağıdaki sorular, zihninizde aniden beliren nahoş ve istenmeyen düşünce, görüntü veya dürtülerle ilgili yaşadıklarınızla ilgilidir. Neredeyse herkesin bu tür yaşantıları vardır; ancak insanlar, bunların yaşanma sıklığı ve rahatsız ediciliği boyutlarında birbirinden farklılaşır. Bu tür muhtemel olumsuz düşüncelerin bazı örnekleri aşağıda verilmiştir:

- X Utanç verici veya korkunç birşey yapma dürtüsü
- X Zarar vermek istemediğiniz birine zarar verme düşüncesi veya görüntüsü
- X Yeterince dikkatli olmadığınız için korkunç birşey olacağı düşüncesi
- X İstenmeyen bir cinsel dürtü veya görüntüsü
- X Siz veya başka birinin, zarar verebilen/tehlikeli bir maddeye temas etmesi ile kirlenmesi veya pis olması düşüncesi
- X Bir yangına sebep olabilecek aracı/maddeyi açık bıraktığı düşüncesi
- X Sevdiği birinin kaza geçirdiği görüntüsü
- X Nesnelerin mükemmel biçimde düzenlenmediği düşüncesi
- X Dini veya ahlaki inanışlarınıza karşıt bir düşünce veya görüntü
- X Kaba veya utanç verici bir şey söyleme dürtüsü
- X Arabayı yolun dışına veya akan bir trafiğin içine sürme düşüncesi
- X Kapıyı kilitlememeniz ve birinin içeriye girebileceği düşüncesi

Lütfen, burada bahsedilen düşüncelerin gün içerisinde kurduğumuz hoş hayaller veya fanteziler OLMADIĞINA dikkat ediniz. Aynı zamanda sağlık, mali veya diğer ailevi meselelerle ilgili genel endişelerinizle de ilgilenmiyoruz. Ayrıca depresyon veya düşük öz-güvene eşlik eden çeşitli düşüncelerden de BAHSETMİYORUZ. İLGİLENDİĞİMİZ ŞEY, aslında zihninizde beliren, istem dışı ve uygunsuz gördüğünüz düşünce, zihinsel görüntü veya dürtülerdir.

Lütfen aşağıdaki boşluklara aklınıza gelen iki tane istenmeyen düşünce yazınız:

(1) _____

(2) _____

Lütfen, aşağıdaki derecelendirme ölçeklerini kullanarak, bu ve diğer benzer düşünceler ile ilgili aşağıdaki soruları cevaplayınız. Lütfen bu sorular için uygun rakamları yuvarlak içine alınız:

A. En son ne zaman bu tür bir düşünce aklınıza geldi?

Geçen	Geçen	Geçen	Geçen	Geçen	Geçen
Yıl içerisinde	6 ay içerisinde	4 hafta içerisinde	2 hafta içerisinde	Hafta içerisinde	24 saat içinde
1	2	3	4	5	6

B. Geçtiğimiz 6 ay içerisinde, bu tür bir düşünceyi ne sıklıkla aklınıza geldi?

Ayda bir	Yaklaşık	Yaklaşık	Haftada	Yaklaşık	Günde
kereden daha az	ayda birkaç kez	haftada bir kez	birkaç kez	günde bir kez	birkaç kez
1	2	3	4	5	6

C. Bu tür bir düşünce aklınıza geldiğinde genellikle ortalama ne kadar sıkıntı duyuyorsunuz?

Hiç 0 Çok az 1 Biraz 2 Orta düzeyde 3 Çok 4 Aşırı düzeyde 5

Yukarıda tanımladığınız tipteki gibi istem dışı düşüncelerden rahatsızlık duyduğunuzda, aşağıdaki listelenen düşüncelere ne kadar katılırsınız; lütfen derecelendiriniz. Düşünceye dair inanışınızı en iyi temsil eden rakamı yuvarlak içine alınız.

Derecelendirme için aşağıdaki ölçeği kullanınız:

0 10 20 30 40 50 60 70 80 90 100

Bu düşünceye hiç inanmadım	Bu düşüncenin doğruluğuna orta düzeyde inandım	Bu düşüncenin doğruluğuna tamamen inandım
1. Bu düşünceye karşı kontrolümü geri kazanmalıyım	0 10 20 30 40 50 60 70 80 90 100	
2. İstenmeyen bir düşünceye sahip olmak, o düşünce doğrultusunda davranacağım anlamına gelir	0 10 20 30 40 50 60 70 80 90 100	
3. Gerçekleşebilecek kötü şeyleri düşündüğüm için onları önlemek üzere harekete geçmem gerekir.	0 10 20 30 40 50 60 70 80 90 100	
4. Bu düşünceye sahip olmam, düşüncenin önemli olduğu anlamına gelir	0 10 20 30 40 50 60 70 80 90 100	
5. Zihnimdeki bu düşünceden kurtulabilmeliyim	0 10 20 30 40 50 60 70 80 90 100	
6. Bu düşüncenin aklımdan geçmesi, onun gerçekleşmesine yol açabilir	0 10 20 30 40 50 60 70 80 90 100	
7. Bu düşünce bir işaret (alamet) olabilir	0 10 20 30 40 50 60 70 80 90 100	
8. Bu düşünceye sahip olduğum için yaptıklarım mahvolacaktır	0 10 20 30 40 50 60 70 80 90 100	
9. Bu düşünce doğrultusunda birşey yapmazsam ve kötü birşey olursa, bu benim hatam olur.	0 10 20 30 40 50 60 70 80 90 100	
10. Bu istenmeyen düşünceye karşı koymazsam ben sorumsuz biriyim demektir	0 10 20 30 40 50 60 70 80 90 100	
11. Bu düşünce benim zihnimden kaynaklandığına göre, bu düşünceyi istiyor olmalıyım	0 10 20 30 40 50 60 70 80 90 100	
12. Bu istenmeyen düşünceyi görmezden gelmek hata olur	0 10 20 30 40 50 60 70 80 90 100	
13. Bu düşünceyi kontrol edemediğim için zayıf bir insanım	0 10 20 30 40 50 60 70 80 90 100	
14. Bu düşüncenin gerçekleşmesi riskini göze alamam	0 10 20 30 40 50 60 70 80 90 100	
15. Yanlış gidebilecek birşey düşündüğüme göre, artık onun gerçekleşmeyeceğinden emin olma konusunda ben sorumluyum	0 10 20 30 40 50 60 70 80 90 100	
16. Bu düşünceye sahip olduğuma göre gerçekleşmesini istiyor olmalıyım	0 10 20 30 40 50 60 70 80 90 100	
17. Bu düşünceye sahip olmam, zihnimin kontrolü kaybedebileceğim anlamına gelir	0 10 20 30 40 50 60 70 80 90 100	

18. Bu düşünce üzerinde daha fazla kontrol sahibi olsam, daha iyi bir insan olurum	0 10 20 30 40 50 60 70 80 90 100
19. Bu düşünce sonucunda kötü birşey olmayacağına dair emin olmam gereklidir	0 10 20 30 40 50 60 70 80 90 100
20. Bu düşünce insanlara zarar verebilir	0 10 20 30 40 50 60 70 80 90 100
21. Bu düşünceye sahip olmak kontrolü kaybettiğim anlamına gelir	0 10 20 30 40 50 60 70 80 90 100
22. Bu düşünceye sahip olmak, tuhaf ve anormal olduğum anlamına gelir	0 10 20 30 40 50 60 70 80 90 100
23. Bu düşünceyi görmezden gelirse sorumsuz biri olurum	0 10 20 30 40 50 60 70 80 90 100
24. Bu düşünceye sahip olmak, korkunç bir insan olduğum anlamına gelir	0 10 20 30 40 50 60 70 80 90 100
25. Bu istenmeyen düşünceyi kontrol edemezsem kesin kötü birşeyin olması kaçınılmazdır	0 10 20 30 40 50 60 70 80 90 100
26. Bu düşünce üzerinde kontrol sahibi olmalıyım	0 10 20 30 40 50 60 70 80 90 100
27. Bu gibi şeyler üzerinde ne kadar çok düşünürsem, gerçekleşme riski o kadar artar	0 10 20 30 40 50 60 70 80 90 100
28. Bu düşünceye dair birşey yapmazsam kendimi suçlu hissederim	0 10 20 30 40 50 60 70 80 90 100
29. Bu tür birşeyi düşünmemem gerekir	0 10 20 30 40 50 60 70 80 90 100
30. Bu düşünceyi kontrol etmezsem cezalandırılırım	0 10 20 30 40 50 60 70 80 90 100
31. Bu düşünceyi göz ardı edersem sonrasında ortaya çıkabilecek ciddi bir sonuçtan ben sorumlu olabilirim	0 10 20 30 40 50 60 70 80 90 100

THOUGHT CONTROL QUESTIONNAIRE (TCQ)

Birçok insanın aklına zaman zaman kontrol edilmesi zor olan nahoş ve/veya istenmeyen düşünceler (sözel ve/veya görsel olarak) gelebilir. Bu ankette, *genel olarak* bu tür düşünceleri kontrol etmek üzere kullanılan teknikleri ele almaktayız.

Aşağıda, bu tür düşünceleri kontrol etmek için kullanılan bir dizi yöntem bulunmaktadır. Lütfen her bir ifadeyi dikkatlice okuyunuz, ve *her bir tekniği ne sıklıkla kullandığınızı* ve sonrasında *bu yöntemin düşüncelerinizi kontrol etmede ne derece etkili olduğunu* uygun rakamı *yuvarlak içine alarak* belirtiniz. Ankette doğru veya yanlış cevap yoktur. Cevaplarken her bir madde üzerinde çok fazla zaman harcamayınız.

Aklıma nahoş ve/veya istenmeyen bir düşünce geldiğinde:

	Ne Sıklıkla?				Ne Kadar Etkili?			
	Asla	Bazen	Sıklıkla	Neredeyse her zaman	Hiç	Biraz	Orta Derecede	Çok
1. Onun yerine aklıma olumlu şeyler getirmeye çalışırım	1	2	3	4	1	2	3	4
2. Kendime bu kadar aptal olma derim	1	2	3	4	1	2	3	4
3. İstenmeyen düşünceye odaklanırım	1	2	3	4	1	2	3	4
4. O düşünce yerine, daha önemsiz bir kötü şeyi düşünmeye çalışırım	1	2	3	4	1	2	3	4
5. Bu düşüncemden hiç kimseye bahsetmem	1	2	3	4	1	2	3	4
6. Böyle bir şeyi düşündüğüm için kendimi cezalandırırım	1	2	3	4	1	2	3	4
7. Başka endişelerim üzerine odaklanırım	1	2	3	4	1	2	3	4
8. Düşüncemi kendime saklarım	1	2	3	4	1	2	3	4
9. Onun yerine, kendimi işle meşgul ederim	1	2	3	4	1	2	3	4
10. Düşüncenin ne kadar geçerli olduğunu sorgularım	1	2	3	4	1	2	3	4
11. Böyle bir düşünce aklıma geldiği için kendime kızarım	1	2	3	4	1	2	3	4
12. Düşünceyi tartışmaktan kaçınırım	1	2	3	4	1	2	3	4
13. Böyle bir düşünce aklıma geldiği için kendime bağırırım	1	2	3	4	1	2	3	4
14. Düşüncemi mantık çerçevesinde analiz ederim	1	2	3	4	1	2	3	4

15. Düşünceyi durdurmak için kendimi çimdikler veya kendime vururum	1	2	3	4	1	2	3	4
16. Onun yerine hoş şeyler düşünürüm	1	2	3	4	1	2	3	4
17. Arkadaşlarımla bu düşüncelerle nasıl baş ettiğini öğrenirim	1	2	3	4	1	2	3	4
18. Onun yerine daha önemsiz, ufak tefek şeyleri dert edinirim	1	2	3	4	1	2	3	4
19. Hoşlandığım birşeyler yaparım	1	2	3	4	1	2	3	4
20. Düşünceyi yeniden yorumlamaya çalışırım	1	2	3	4	1	2	3	4
21. Başka birşey düşünürüm	1	2	3	4	1	2	3	4
22. Daha küçük sorunlarım hakkında daha çok düşünürüm	1	2	3	4	1	2	3	4
23. Düşünceye başka bir başka bir açıdan yaklaşıyorum	1	2	3	4	1	2	3	4
24. Onun yerine geçmişteki endişelerimi düşünürüm	1	2	3	4	1	2	3	4
25. Arkadaşlarıma, benzer düşünceleri olup olmadığını sorarım	1	2	3	4	1	2	3	4
26. Farklı olumsuz bir düşünceye odaklanırım	1	2	3	4	1	2	3	4
27. Bu düşüncenin aklıma gelme sebeplerini sorgularım	1	2	3	4	1	2	3	4
28. Kendime, bu düşünceye odaklanırsam kötü birşey olacak derim	1	2	3	4	1	2	3	4
29. Düşünceyle ilgili bir arkadaşım ile konuşurum	1	2	3	4	1	2	3	4
30. Kendimi meşgul ederim	1	2	3	4	1	2	3	4

THOUGHT-ACTION FUSION SCALE (TAFS)

Aşağıda bazı düşünce ve davranışlara ilişkin ifadeler yer almaktadır. Her ifadeyi dikkatlice okuduktan sonra bu ifadeye ne kadar katıldığınızı belirtiniz. **Tamamen katılıyorsanız 4, Hiç katılmıyorsanız 0** rakamını işaretleyiniz. Doğru yada yanlış cevap yoktur. Hiçbir maddeyi boş bırakmamaya özen gösteriniz.

	Hiç Katılmıyorum			Tamamen Katılıyorum	
1. Eğer birinin zarar görmesini istersem, bu neredeyse ona zarar vermem kadar kötüdür.	0	1	2	3	4
2. Bir akrabamın ya da arkadaşımın trafik kazası geçirdiğini düşünürsem, bu onun kaza geçirme riskini artırır.	0	1	2	3	4
3. Düşerek yaralandığımı düşünürsem, bu benim düşüp yaralanma riskimi artırır.	0	1	2	3	4
4. Din karşıtı bir düşünceye sahip olmak, bence neredeyse böyle davranmak kadar günahtır.	0	1	2	3	4
5. Başka birine küfretmeyi akıldan geçirmek, bence neredeyse gerçekten küfür etmek kadar kabul edilemez bir durumdur.	0	1	2	3	4
6. Bir arkadaşım hakkında kaba şeyler düşündüğümde, ona neredeyse kaba davranmış kadar vefasızlık etmiş olurum.	0	1	2	3	4
7. Bir insanla ilişkimde onu kandırmayı düşünmek, bence neredeyse gerçekten kandırmak kadar ahlaksızlıktır.	0	1	2	3	4
8. Bir akrabamın ya da arkadaşımın işini kaybettiğini düşünürsem, bu onun işini kaybetme riskini artırır.	0	1	2	3	4
9. Bir başkasıyla ilgili müstehcen şeyler düşünmem, neredeyse bu şekilde davranmam kadar kötüdür.	0	1	2	3	4
10. Bir akrabamın ya da arkadaşımın hastalandığını düşünürsem, bu onun hastalanma riskini artırır.	0	1	2	3	4
11. Saldırganlık içeren düşüncelere sahip olmak, bence neredeyse saldırgan davranmak kadar kabul edilemez bir durumdur.	0	1	2	3	4
12. Kıskançlık içeren bir düşüncem olduğunda, bu durum neredeyse bunu söylemiş olmamla aynıdır.	0	1	2	3	4
13. Trafik kazası geçirdiğimi düşünürsem, bu benim kaza geçirme olasılığımı artırır.	0	1	2	3	4

14. Bir başkasına müstehcen hareketler yapmayı düşünürsem, bu neredeyse öyle davranmam kadar kötüdür.	0	1	2	3	4
15. Kutsal yerlerde müstehcen şeyler düşünmek, bence kabul edilemez bir durumdur.	0	1	2	3	4
16. Bir akrabamın ya da arkadaşımın düşerek yaralandığını düşünürsem, bu onun düşüp yaralanma riskini artırır.	0	1	2	3	4
17. Hastalandığımı düşünürsem, bu benim hasta olma riskimi artırır.	0	1	2	3	4
18. Bir arkadaşına olumsuz bir eleştiride bulunmayı akıldan geçirmek, bence neredeyse bunu söylemek kadar kabul edilemez bir durumdur.	0	1	2	3	4
19. Kutsal yerlerde müstehcen şeyler düşünmem, neredeyse oralarda böyle şeyleri gerçekten yapmam kadar günahdır.	0	1	2	3	4

WHITE BEAR SUPPRESSION INVENTORY (WBSI)

Aşağıda bazı düşünce ve davranışlara ilişkin ifadeler yer almaktadır. Lütfen her bir ifadeyi dikkatle okuduktan sonra bu ifadeye ne kadar katıldığınızı yanındaki harflerden uygun olanı yuvarlak içine alarak belirtiniz. Doğru ya da yanlış cevap yoktur. Hiçbir maddeyi boş bırakmamaya özen gösteriniz.

A	B	C	D	E
Kesinlikle Katılmıyorum	Katılmıyorum	Fikrim Yok ya da Bilmiyorum	Katılıyorum	Kesinlikle Katılıyorum

1. Bazı şeyleri düşünmemeyi tercih ederim	A B C D E
2. Bazen düşündüğüm şeyleri neden düşündüğümü merak ederim.	A B C D E
3. Kendimi düşünmekten alıkoyamadığım düşüncelerim var.	A B C D E
4. Aklıma geliveren ve bir türlü kurtulamadığım imgeler/görüntüler var.	A B C D E
5. Dönüp dolaşıp yine aynı şeyi düşünüyorum.	A B C D E
6. Keşke bazı şeyleri düşünmekten vazgeçebilsem	A B C D E
7. Bazen düşüncelerim o kadar hızlı değişiyor ki onları durdurmak istiyorum	A B C D E
8. Her zaman sorunları aklımdan çıkarmaya çalışırım	A B C D E
9. İstemedenden birden bire aklıma gelen düşünceler var	A B C D E
10. Düşünmemeye çalıştığım bazı şeyler var.	A B C D E
11. Bazen gerçekten aklımdakileri düşünmekten vazgeçebilsem diyorum.	A B C D E
12. Sık sık kendimi düşüncelerimden uzaklaştıracak şeyler yaparım.	A B C D E
13. Uzaklaşmaya çalıştığım düşüncelerim var	A B C D E
14. Kimseye söylemediğim bir sürü düşüncem var.	A B C D E
15. Bazen bazı düşüncelerin zihnimi meşgul etmesini önlemek için başka şeylerle uğraşırım	A B C D E

PAUDA INVENTORY-WSUR (PI-WSUR)

Aşağıdaki ifadeler, günlük hayatta herkesin karşılaşabileceği düşünce ve davranışlar ile ilgilidir. Her bir ifade için, bu tür düşünce ve davranışların sizde yaratacağı rahatsızlık düzeyini göz önüne alarak size en uygun olan cevabı seçiniz. Cevaplarınızı aşağıdaki gibi derecelendiriniz:

0 = Hiç

1 = Biraz

2 = Oldukça

3 = Çok

4 = Çok Fazla

	Hiç	Biraz	Oldukça	Çok	Çok Fazla
1. Paraya dokunduğum zaman ellerimin kirlendiğini hissedirim	0	1	2	3	4
2. Vücut sıvıları (ter, tükürük, idrar gibi) ile en ufak bir temasın bile giysilerimi kirleteceğini ve bir şekilde bana zarar vereceğini düşünürüm	0	1	2	3	4
3. Bir nesneye yabancıların yada bazı kimselerin dokunduğunu biliyorsam, ona dokunmakta zorlanırım	0	1	2	3	4
4. Çöplere veya kirli şeylere dokunmakta zorlanırım	0	1	2	3	4
5. Kirlenmekten ya da hastalanmaktan korktuğum için umumi tuvaletleri kullanmakta kaçınırım.	0	1	2	3	4
6. Hastalıklardan veya kirlenmekten korktuğum için umumi telefonları kullanmaktan kaçınırım	0	1	2	3	4
7. Ellerimi gerektiğinden daha sık ve daha uzun süre yıkarım	0	1	2	3	4
8. Bazen kendimi, sırf kirlenmiş olabileceğim ya da pis olduğum düşüncesiyle yıkanmak ya da temizlenmek zorunda hissediyorum	0	1	2	3	4
9. Mikrop bulaşmış veya kirli olduğunu düşündüğüm bir şeye dokunursam hemen yıkanmam veya temizlenmem gerekir	0	1	2	3	4
10. Bir hayvan bana değerirse kendimi kirli hissedirim ve hemen yıkanmam yada elbiselerimi değiştirmem gerekir	0	1	2	3	4
11. Giyinirken, soyunurken ve yıkanırken kendimi belirli bir sıra izlemek zorunda hissedirim	0	1	2	3	4
12. Uyumadan önce bazı şeyleri belli bir sırayla yapmak zorundayım	0	1	2	3	4
13. Yatmadan önce, kıyafetlerimi özel bir şekilde asmalı ya da katlamalıyım	0	1	2	3	4
14. Doğru dürüst yapıldığını düşünebilmem için yaptıklarımı bir kaç kez tekrarlamam gerekir	0	1	2	3	4
15. Bazı şeyleri gereğinden daha sık kontrol etme eğilimindeyim	0	1	2	3	4

16. Gaz ve su musluklarını, elektrik düğmelerini kapattıktan sonra tekrar tekrar kontrol ederim	0	1	2	3	4
17. Düzgün kapatılıp kapatılmadıklarından emin olmak için eve dönüp kapıları, pencereleri ve çekmeceleri kontrol ederim	0	1	2	3	4
18. Doğru doldurduğumdan emin olmak için formları, evrakları, ve çekleri ayrıntılı olarak tekrar tekrar kontrol ederim	0	1	2	3	4
19. Kibrit, sigara vb'nin iyice söndürüldüğünü görmek için sürekli geri dönerim	0	1	2	3	4
20. Elime para aldığım zaman birkaç kez tekrar sayarım	0	1	2	3	4
21. Mektupları postalamadan önce bir çok kez dikkatlice kontrol ederim	0	1	2	3	4
22. Aslında yaptığımı bildiğim halde, bazen yapmış olduğumdan emin olamam	0	1	2	3	4
23. Okurken, önemli bir şeyi kaçırdığımdan dolayı geri dönmem, ve aynı pasajı iki veya üç kez okumam gerektiği izlenimine kapılırım	0	1	2	3	4
24. Dalgınlığının ve yaptığım küçük hataların felaketle sonuçlanacağını hayal ederim	0	1	2	3	4
25. Bilmeden birini incittiğim konusunda çok fazla düşünürüm veya endişelenirim	0	1	2	3	4
26. Bir felaket olduğunu duyduğum zaman onun bir şekilde benim hatam olduğunu düşünürüm	0	1	2	3	4
27. Bazen sebepsiz yere kendime zarar verdiğime veya bir hastalığım olduğuna dair fazlaca endişelenirim	0	1	2	3	4
28. Bıçak, hançer ve diğer sivri uçlu nesneleri gördüğümde rahatsız olur ve endişelenirim	0	1	2	3	4
29. Bir intihar veya cinayet vakası duyduğumda, uzun süre üzülür ve bu konuda düşünmekten kendimi alamam	0	1	2	3	4
30. Mikroplar ve hastalıklar konusunda gereksiz endişeler yaratırım	0	1	2	3	4
31. Bir köprüden veya çok yüksek bir pencereden aşağı baktığımda kendimi boşluğa atmak için bir dürtü hissedirim	0	1	2	3	4
32. Yaklaşmakta olan bir tren gördüğümde, bazen kendimi trenin altına atabileceğimi düşünürüm	0	1	2	3	4
33. Bazı belirli anlarda umuma açık yerlerde kıyafetlerimi yırtmak için aşırı bir istek duyarım	0	1	2	3	4
34. Araba kullanırken, bazen arabayı birinin veya bir şeyin üzerine sürme dürtüsü duyarım	0	1	2	3	4
35. Silah görmek beni heyecanlandırır ve şiddet içeren düşünceleri aklıma getirir	0	1	2	3	4

36. Bazen hiçbir neden yokken bir şeyleri kırma ve zarar verme ihtiyacı hissedirim	0	1	2	3	4
37. Bazen işime yaramasa da, başkalarına ait olan şeyleri çalma dürtüsü hissedirim	0	1	2	3	4
38. Bazen süpermarketten bir şey çalmak için karşı konulmaz bir istek duyarım	0	1	2	3	4
39. Bazen savunmasız çocuklara ve hayvanlara zarar vermek için bir dürtü hissedirim	0	1	2	3	4

APPENDIX B

TUKISH SUMMARY

1. GİRİŞ

DSM-IV-TR'ye (APB, 2000) göre Obsessif-Kompulsif Bozukluk (OKB), istem-dışı zihinde beliren ve kişide rahatsızlık ve sıkıntı uyandıran obsesyonlar, ve bu rahatsızlıktan kurtulmak için kasıtlı olarak sergilenen zihinsel ya da davranışsal tepkilerin, yani kompulsiyonların eşlik ettiği bir tür kaygı bozukluğudur. Obsesyon ve kompulsiyonlar zaman alır (günde 1 saatten fazla) ve gündelik yaşamda aksamalara neden olur. Tek başlarına görülseler de genel olarak obsesyon ve kompulsiyon birlikte gözlenir. En yaygın ikililer arasında bulaşma/kirlenme obsesyonu ve temizlik kompulsiyonları, patolojik şüphecilik ve kontrol etme, sayı sayma, düzenleme ve simetri, ve biriktirme rapor edilmiştir (Rasmussen & Eisen, 1991, 1992). Bir zamanlar nadir bir bozukluk olarak kabul edilse de son dönemki epidemiolojik çalışmalar, yaşam boyu görülme sıklığının ortalama % 2.5 olduğunu ve bu sıklığın farklı birçok ülkede de benzer oranda olduğunu göstermiştir (Weissmann ve ark., 1994). Genel olarak kadın ve erkeklerde aynı oranda görülse de özellikle temizlik alt tipinde kadınların ya da kontrol alt tipinde erkeklerin çoğunlukta olduğu bilinmektedir (Rasmussen & Eisen, 1991; Weissmann ve ark., 1994). Tipik hastalık başlangıç döneminin, geç ergenlik ya da erken yetişkinlik dönemi (15 ile 25 yaş arası) olduğu bildirilse de (Rasmussen & Tsuang, 1986), çocuklukta da tanı almak mümkündür ve niteliksel olarak arada benzerlikler mevcuttur (Samuels & Nestadt, 1997). Travmatik yaşam olayları (Cromer, Schmidt &

Murphy, yayında), çocuk sahibi olma (Abramowitz ve ark., 2001, 2003) ve işte yükselme (Maina ve ark., 1999) gibi stres yaratan yaşam olaylarının hastalığı tetiklediği bildirilmiştir (Rasmussen & Tsuang, 1986). Ülkemizde yapılan birçok araştırma da OKB vakalarında benzer özellikler rapor etmiştir (Çilli ve ark., 2004; Karadağ ve ark., 2006, Eğrilmez ve ark., 1997; Tükel ve ark., 2004, 2006).

Olaydan çok olayın yorumlanış biçiminin önemli olduğuna ilişkin temel bilişsel varsayım (Beck ve ark., 1985), diğer kaygı bozukluklarında olduğu gibi OKB için de geçerlidir ve modellerde bu varsayım temel alınmaktadır. Örneğin, Salkovskis' nin abartılı sorumluluk algısı modeli (1985, 1989), hem hastalığın oluşmasında hem de sürdürülmesinde sorumluluk yanlışlığının önemli bir rolü olduğunu iddia eder. Aslında herkes, zaman zaman istem dışı zihinde beliren düşüncelere sahiptir (Salkovskis & Harrison, 1984); ancak, geçmiş deneyimlerle oluşan ama işlevsel olmayan sorumluluk şeması (Salkovskis ve ark., 1999), şiddetli olumsuz bir olay yaşandığında aktif hale gelir. Kişi, bu düşüncelerden ve olası sonuçlarından sorumluluk ve sıkıntı duymaya başlar; daha önce nötr olan çevredeki birçok uyaran, daha çok düşünce oluşumuna ve daha fazla dikkat edilmesine yol açar. Birey, düşünceyi bastırma ve kaçınma gibi zihinsel veya davranışsal nötrleme davranışları yani kompulsüyonlar sergilemeye başlar. Bunlar başta rahatsızlığı kısa süreliğine ortadan kaldırırsa da, düşüncelerin kontrolüyle korkulan sonuca maruz kalmadığı için uzun vadede tekrar düşüncelerin ortaya çıkmasıyla döngü başa döner. Modeldeki sorumluluk algısının geçerliği, çeşitli anket çalışmaları (Freeston ve ark., 1992; Foa ve ark., 2001), klinik gözlemler (Rachman, 1993), deneysel manipülasyonlar (Arntz ve ark., 2007) ve tedavi etkinlik çalışmaları (Freeston ve ark., 1996) ile desteklenmiştir.

Rachman'ın (1997, 1998) düşüncelerin hatalı yorumu modelinde, normal istem dışı düşüncelerin nasıl obsesyonlara dönüştüğü açıklanır. Model, istem dışı düşüncelerin aslında herkesçe yaşandığına ve farklılığın duyulan rahatsızlık, düşünce sıklığı ve verilen tepkiler olduğu bulgularına dayanmaktadır (Clark & Purdon, 1995; Salkovskis & Harrison, 1984). Birey aklına geliveren istem dışı düşünceyi, ahlak dışı, günah, delilik, iğrenç ve tehdit edici bulur; kişiliğinin kontrol edemediği ya da bilmediği bir parçasının ürünü olarak gördüğünden olası bir kontrol kaybı, zara verme işareti olarak algılar ve tehlikeli sonuçları olacağını varsayar. Bu tür düşünceler, akla geldikçe daha fazla dikkat çeker ve yorumlama hataları başlar. Örneğin, çocuğuna zarar vermesi ihtimali aklına gelen bir anne, her bıçak ya da benzeri bir nesne gördüğünde aklına bu olasılık gelir ve bu nesneler tehdit olmaya başlar. Çevredeki birçok uyaran da bu biçimde birer uyarana dönüşür ve bu gibi durum ve uyaranlardan kaçınma başlar. Kaçınma ise hatalı yorumları doğrulayan bir kehanete dönüşür, çünkü bireyin bunu ispatlamaya girişimini engeller. Sonuçta, düşüncelerin duyduğu rahatsızlıkla birey, olası olumsuz sonuçları önlemek üzere kompulsüyonlar sergilemeye başlar. Obsesyonlar, kişisel önem atfedildikçe devam edecektir.

Clark (2004) ise, önceki iki modeli kabul ederken, düşünce kontrolünün daha önemli olduğuna dikkat çekmektedir ve düşünce-kontrolü modelinde, bireyin düşüncelerinden rahatsızlık duymasıyla onları kontrol etmeye çalıştığına, ancak tam düşünce kontrolü mümkün olmadığı için bu çabanın nafile olduğuna ve sonuçta başarısızlık olarak değerlendirildiğine vurgu yapar. İkinci fark ise, bu başarısızlığın yorumlanmasının sonraki tepkilerde etkili olduğu varsayımdır, çünkü bu yorum,

düşüncenin etkinliğini ve hatalı yorumun doğruluğunu ve olumsuzluğunu pekiştirir, daha fazla kontrol çabasına yol açar. Sonuçta kompulsüyonlar gelişir.

Uluslar arası bir araştırma grubu olan Obsessif-Kompulsif Bilişsel Çalışma Grubu, ilgili literatürü gözden geçirerek OKB’de etkili olan hatalı inanç alanlarını belirlemiştir: abartılı sorumluluk algısı, abartılı tehdit öngörüsü, düşüncelerin ve kontrolünün aşırı derecede önemsenmesi, mükemmeliyetçilik, belirsizliğe tahammülsüzlük. Anlık düşünce yorumlarını ve genel inanç düzeylerini değerlendirmek üzere de İstem Dışı Düşünce Yorumları Envanteri (OKBÇG, 2001) ve Obsessif İnançlar Anketi’ni (OKBÇG, 2001) hazırlamışlardır. İlk tek boyutlu ve ikincisi 3 boyutlu (sorumluluk/theddit öngörüsü, mükemmeliyetçilik/belirsizlik & düşüncelerin önemi/kontrolü) olan bu ölçüm araçlarının psikometrik özellikleri farklı batılı ülkelerde klinik olan ve olmayan örneklemelerde desteklenmiştir (Faul ve ark., 2004; Julien ve ark., 2006; OKBÇ, 2003, 2005; Sica ve ark., 2004; Tolin ve ark., 2003). Ayrıca OKB’deki farklı semptom alt tiplerindeki rolleri de araştırılmakla birlikte henüz net bir tablo elde edilememiştir (Ferguson ve ark., 2006; Julien ve ark., 2006; Taylor ve ark., 2005; Woods ve ark., 2004). Öte yandan, hasta grupları ile yapılan bazı çalışmalar (Calamari ve ark., yayında; Taylor ve ark., 2005; Taylor ve ark., 2006), bu inanç alanlarının etkin olmadığı bazı OKB hastalarının da olabileceği sonucuna ulaşmışlardır.

Bilişsel yaklaşım, yatkınlık-stres paradigmasına paralel olarak, yatkınlığı olan insanların, yoğun stresli olaylar sonucunda çeşitli patolojiler geliştirebileceği vurgulanmıştır (Riskind & Alloy, 2006). OKB’de ise, stresli yaşam olaylarının rolü zaten bilinmektedir (örn., Maina ve ark., 1999; Rasmussen & Tsuang, 1986). Ancak, diğer patolojiler gibi OKB’deki yatkınlık faktörlerini de uzak/özgül olmayan ve

yakın/özgül değişkenler olarak gruplamak mümkündür (Riskind & Alloy, 2006). Özgül olmayan faktörler arasında ebeveyn tutumları ve yaklaşımları (Abramowitz, 2006; Ayçiçeği ve ark., 2002; Doron & Kyrios, 2005), öz-güven ve öz değer (Fennel, 1997; Fava ve ark., 1996; Bhar ve ark., yayında), nörotisizm (Bienvenu ve ark., 2000; Clark, 2004; Fullana ve ark., 2004), psikotisizm (Fullana ve ark., 2004; Mataix-Coles ve ark., 2000) ve dindarlık (Rasmussen & Tsuang, 1986; Salkovskis ve ark., 1999; Steketee ve ark., 1991; Sica ve ark., 2002) yer almaktadır. Bu değişkenler özgül olmasa da, diğer spesifik bilişsel yatkınlık faktörlerine katkıda bulunabilmektedir. Örneğin, dine ve OKB arasındaki olası ilişkiye duyulan ilgi eskilere dayanmaktadır. Tekrarlayan ve ritüel nitelikteki uygulamalar, kesinliğe duyulan gekersinim, yapılmadığında duyulan sıkıntı, suçluluk ve katılık yüzeysel bezerlikler arasındadır (Greenberg & Wtitzum, 1991; Greenberg & Shefler, 2002; Schultz & Searlman, 2002; Shafran ve ark., 1996). Ayrıca dindarlığın OKB semptom düzeyini ve ilgili inançları etkilediği daha önce belirtilmiştir (Abramowitz ve ark., 2004; Hutchinson ve ark., 1998; Nelson ve ark., yayında; Tolin ve ark., 2001). Bu değişkenlerin yanı sıra, OKB'ye özgü bilişsel yatkınlık faktörlerinden de söz etmek mümkündür. Örneğin, daha önce sözü edilen sorunlu inanç alanlarındaki hassasiyet (Clark ve ark., 2003; OCCWG, 1997; Rachman, 1997; Salkovskis, 1999) bunların başında gelmektedir. Abramowitz ve ark. (2006, 2007, yayında), yeni bebekleri olan ebeveynlerde bebekleri olmadan ölçülen inanç alanlarının, bebek doğduktan sonraki OKB semptom düzeylerini yordadığını bulmuşlardır. Jakobi ve ark. (2006), OKB'ye ilişkin inançların (özellikle sorumluluk/tehdit öngörüsünün) ebeveyn ve onların çocuklarında ortak yordayıcılar olduğunu bildirmiştir. Rachman (2006) da, abartılı

ahlaki standartlar (düşünce-davranış karmaşası ile ilintili), depresyon ve anksiyete yatkınlığını bu faktörler arasında saymaktadır.

Kültür, kolektif düşünme, hissetme ve davranış örüntüleri ya da bir arada yaşayan bireyler için zihinsel yazılım olarak tanımlanabilir (Hofstede, 2001). Bu anlamda, psikopatolojideki rolü her zaman bir ilgi konusu olmuştur. Kültürün yarattığı beklenti ve standartlar, sosyal rollerdeki değişim, yatkınlığa katkı (kültür tarafından benimsenmiş ebeveyn tutumları), sorunun ifade edilme biçimi gibi çeşitli yollarla patolojiyi etkilemektedir (Cheung, 1998; Draguns & Matsumi, 2003; Sica ve ark., 2002). Literatürde kültürler arası değişmezlik ve kültüre özgül durumlar vurgulanmıştır (Cheung, 1998; Friedman, 1998). Kültürler arası psikopatoloji etkisini değerlendirirken, kültür tanımlamaları kullanılmaktadır. Örneğin, Hofstede (2001), 4 boyut tanımlamıştır: Bireycilik, erkeksilik, güç mesafesi, belirsizlikten kaçınma. Yaklaşık 40'ın zerinde ülkeden edindiği verileri kullanarak bir liste oluşturmuştur. Bu özellikler arasında da ilişkiler olduğu belirtilmiştir (Shupper ve rak., 2004). Bu konuda yapılan çeşitli araştırmalar (Arindell ve ark., 1997, 2003, 2004; Tweed ve ark., 2004; Shupper ve ark., 2004), erkeksiliğin görece fakir ülkelerde iyilik haliyle, zengin ülkelerde ise kadınlığın ilişkili olduğunu; ülke bazında erkeksiliğin ve/veya belirsizlikten kaçınmanın patolojik korkuyla ve iç-yönelimli başa çıkma yöntemleri ile daha bağlantılı olduğu bildirilmiştir.

Kültür ve OKB arasındaki ilişkiye bakıldığında, epidemiolojik ve olgusal özellikler açısından ülkemizin de dahil olduğu kültürler arası bir tutarlılıktan söz etmek mümkündür (Çilli ve ark., 2004; Tükel ve ark., 2004; Howarth & Weissmann, 2000; Weissmann ve ark., 1994). Öte yandan, obsesyonların içeriğinde ve bilişsel faktörlerde kültürler arası farklar olduğu da bildirilmiştir. Örneğin, Brezilya ve İngiltere'de öfkeyle

ilgili obsesyonlar (Fontenelle ve ark., 2004; Okasha ve ark., 1994), Meksika’da cinsel obsesyonlar (Nicolini, 2002) daha çok rapor edilmesine karşın, Mısır, Hindistan, İsrail, Suudi Arabistan, Bahreyn ve Türkiye’de (Greenberg, 1984; Greenberg & Shefler, 2002; Mahgoup & Abdel-Hafciz, 1991; Millet & Tezcan, 1997; Okasha ve ark., 1994; Zohar ve ark., 2005) dini obsesyonlarda artış gözlenmektedir. Türkiye’de ise yapılan 4 araştırmada, muhafazakar değerlerinin baskın olduğu doğuya doğru gidildiğinde dini obsesyon oranlarında artış gözlenmektedir (Eğrilmez ve ark., 1997; Karadağ ve ark., 2006; Tezcan & Millet, 1997; Tek & Uluğ, 2001).

İlgili literatürde bilişsel alanda ise yine kültürler arası farklar bulunmuştur. Örneğin, Kyrios ve ark. (2001), Avusturyalı örneklemde İtalyanlarla karşılaştırıldığında sorumluluk, mükemmeliyetçilik ve OKB semptomları arasında benzer yönde ilişki bulunsa da ilk grupta ilişkinin daha güçlü olduğu bildirilmiştir. Kyrios ve ark. (2001), Anglo-Sakson kültürün kişisel kontrol konularına daha çok vurgu yaptığını belirtmiştir. Sica ve ark. (2001), bilişsel değişkenler ve OKB semptomları arasında ilişki en çok Amerikalı örneklemde ve ardından İtalyanlarda ve en az Yunanlılarda gözlemiştir. Ülkemizde ise ahlak boyutunda Düşünce-Davranış Karmaşası’nın (DDK) OKB ile daha kuvvetli bir ilişkisi olduğunu bulunmuştur (Yorulmaz ve ark., 2006).

Dindarlık, yatkınlık faktörü olmasının dışında kültürler arası olası farkların olabileceği başka bir alandır. Bu durum da, dinlerin niteliksel farklılıklarından kaynaklanabilir. İslam, Yahudilik gibi daha forma ve şekle dayalı, belirli ve tanımlanmış ritüellerin olduğu bir dindir. Hristiyanlıkta, inanç ön plana çıkarken, diğer iki dinde inancın yanı sıra davranışsal gereklilikler de bulunmaktadır (Karadağ ve ark., 2006). İslam dininde ayrıca, dine dair şüpheler yani vesveseler de OKB’deki dini şüpheciliğe

benzer niteliklere sahiptir. Şeytan tarafından test edilme girişimleri olarak da değerlendirilmektedir (Al Issa & Qudji, 1998; Ghassemzadeh ve ark., 2002; Okasha, 2002). Hristiyanlıkta ise, kişi düşüncelerinden dahi sorumludur ve günah çıkarma seremonisi vardır (Greenberg & Witztum, 1991). Değerler ve etik kurallar, din gibi ailede aktarılmaya başlar ve içselleştirilir (Rozin, 1999). Din ve ahlak arasındaki yakın ilişkiden dolayı, farklı din ve mezheplerde bu ilişkinin içeriği değişecektir. Örneğin, Müslüman OKB hastaları daha çok temizlenme seremonilerinden, Yahudiler yeme sınırlamalarından, Hristiyanlar ise tekrarlayan günah çıkarmadan şikayetçi olurlar (Greenberg & Witztum, 2001). Örneğin, DDK-Ahlak alt boyutunun Hristiyanlarda Yahudilere oranla daha belirgin olması, bu inanç vurgusuna atfedilmiştir (Siev & Cohen, yayında). Aynı din içerisinde bile OKB'ye ilişkin kavramlarda benzerlik ve farklılıklar görmek mümkündür (Abramowitz ve ark., 2004; Nelson ve ark., yayında). Ancak literatürdeki çok az çalışma bu kavramların Müslümanlardaki durumunu karşılaştırmalı ele almıştır.

Sonuç olarak, OKB'ye ilişkin bilişsel modellerin çoğu birbirinden bağımsız olarak ele alınmıştır; temel kavramları birlikte inceleyen çalışma yoktur. Ayrıca, bu durum yukarıda sözü edilen yatkınlık kavramlar için de geçerlidir. Literatürde başka bir eksiklik de, çalışma örneklemlerinin çoğunlukla batılı ülkelerden ve seçilmiş olması, ve Müslümanlardan karşılaştırmalı bir çalışmanın olmamasıdır. Dolayısıyla ilgili bilişsel kavramlar üzerine kültür ve din etkisi henüz ele alınmamıştır. Bu çalışmada, öncelikle bilişsel modeller bir araya getirilerek değerlendirilebilir yatkınlık faktörlerinin yer aldığı OKB semptomlarında kapsamlı bir bilişsel model önerilmektedir. Modelde, özgül olmayan yatkınlık faktörleri (dindarlık, öz-güven, kişilik özellikleri) ve OKB'ye özgü

olan yorumlama (istem dışı düşüncelerin yorumlanması, obsessif-kompulsif inanışlar, DDK) ve kontrol faktörleri (düşünce kontrol stratejileri & düşünce bastırma) yer almakta ve faktör grupları arasında OKB semptomlarında doğru ilişkisel bağlantılar bulunmaktadır. İstenmeyen düşüncelerin herkeste olduğu ve bu nedenle OKB çalışmalarında tanı almayan grupların da yer aldığı bulgusundan hareketle (Burns ve ark., 1995; Gibbs, 1996; Mataix-Cols ve ark., 2000), bu çalışmada da yatkinlık faktörlerinin ele alınması sebebiyle de klinik olmayan üniversite öğrencileri örneklem olarak yer almıştır. Araştırmada 3 ölçek Türkçe'ye uyarlanması ve psikometrik özelliklerinin incelenmesi, kapsamlı bilişsel modelin test edilmesi ve kültürün rolünün değerlendirilmesi hedeflenmiştir.

2. YÖNTEM

Katılımcılar: Araştırmanın iki grup örneklemini vardır. İlk grubu, The University of British Columbia, Vancouver-Kanada'da çeşitli bölümlerde okuyan 360 üniversite öğrencisi oluşturmaktadır. Sağlıklı bir karşılaştırma yapabilmek ve göç etkisini en aza indirmek amacıyla yaşamının yarısından çoğunu Kuzey Amerika'da geçirme kriteri uygulandığında, 281 öğrenci (% 25'i erkek, yaş ortalaması: 19.99, % 44'ü Asya kökenli, % 37'si dinini Hristiyanlık olarak belirtmiş) araştırmaya dahil olmuştur. 2.grubu da ODTÜ'de çeşitli bölümlerde okuyan 309 üniversite öğrencisi oluşturmaktadır (% 49'u erkek, yaş ortalaması: 21.26, % 57'si bugüne kadar büyük şehirde yaşamış, % 77'si dinini İslamiyet olarak belirtmiş).

Ölçüm Araçları: Katılımcılara demografik bilgi formu dahil 10 ölçek set halinde uygulanmıştır. Ölçüm araçları sırasıyla şöyledir:

Eysenck Kişilik Anketi-Revize edilmiş ve Kısaltılmış Form (EKA-RK): 24 maddelik Evet/Hayır biçiminde cevapları olan ve 6'sar maddelik psikotizm, yalan, nörotizm ve dışadönüklük alt boyutları olan bir envanterdir (Eysenck ve ark., 1985). Hem orijinal form hem de Türkçe formu psikometrik açıdan geçerli ve güvenilir özelliklere sahiptir (Francis ve ark., 1992; Karancı ve ark., yayında).

Dindarlık Tarama Anketi (DTA): Dindarlık düzeyini belirlemek amacıyla, bu çalışmada dine bağlılık, dini prensiplerin yaşam üzerindeki etkinliği, dini inanışları değerlendiren 7 maddelik bir anket oluşturulmuştur. Psikometrik değerlendirme sonraki bölümde verilecektir.

Rosenberg Öz-Güven Ölçeği (RÖÖ): Popüler bir araç olan bu ölçek, genel anlamda özgüveni değerlendirmek üzere hazırlanan 10 maddelik bir ölçektir (Rosenberg, 1965). Dilimize de uyarlanmış olan ölçek (Çuhadaroglu, 1985) sıklıkla kullanılmaktadır.

İstem Dışı Düşünceleri Yorumlama Envanteri (İDYE): OKBÇG (2001) tarafından, istem dışı düşüncelerin anlık yorumlanış biçimini değerlendirmek amacıyla hazırlanmış 31 maddelik bir envanterdir. İlk bölümde katılımcıya bu düşünceler örnekler sunularak, iki örnek vermesi ve sonrasında verilen düşünceyle ilgili 31 maddeyi değerlendirmesi istenir (0-hiç & 100- tamamen doğruluğuna inanıyorum arasında; değerlendirmede 10'lu ölçeğe çevrilir). Tek faktörlü olup, farklı birçok çalışmada uygulanmıştır (Ferguson ve ark., 2006; OKBÇG, 2001, 2003, 2005; Sica ve ark., 2004). Envanter, bu çalışmada dilimize uyarlanmıştır.

Obsesif-Kompulsif İnanışlar Anketi (OİA): Orijinali 7’li Likert tipe sahip 87 madde olan bu anket, OKB’nin başlangıcında ve sürdürülmesinde etkin olan işlevsel olmayan inanışları değerlendirmek üzere OKBÇG (2001) tarafından geliştirilmiştir. Son çalışmasında grup (2005), anketi gözden geçirerek 44 maddelik versiyonunu hazırlamıştır. Orijinal formundaki 6 boyutun 3’lü yapıya dönüştürülmüştür: sorumluluk/tehdit öngörüsü, mükemmeliyetçilik/belirsizlik. Çeşitli çalışmalarda etkinliği araştırılmış ve tatmine edici bulgulara ulaşılmıştır (Calamari ve ark., yayında; Julien ve ark., 2006; OKBÇG, 2003, 2005; Taylor ve ark., 2006; Woods ve ark., 2004).

Düşünce-Davranış Karmaşası Ölçeği (DDK): Shafran ve ark. (1996) tarafından düşünce ve davranışlardaki karmaşayı değerlendirmek üzere geliştirilmiş, 4’lü Likert tipi 19 maddelik bir ölçektir. Yapılan çalışmalar, orijinalden farklı olarak, ahlak ve olasılık olmak üzere 2 boyutunun daha tutarlı biçimde ortaya çıktığını göstermiştir (örn., Rassin ve ark., 2001). Ölçeğin, Türkçe versiyonu da geçerli ve güvenilir bulunmuştur (Yorulmaz ve ark., 2004).

Düşünce Kontrol Stratejileri Anketi (DKSA): İstenmeyen bir düşünce akla geldiğinde kullanılan kontrol stratejilerini değerlendirmek üzere hazırlanmış 4’lü cevap şıklı 30 maddelik bir ankettir (Wells & Davies, 1994). Sosyal kontrol, dikkat dağıtma, endişelenme, kendini cezalandırma ve yeniden değerlendirme olmak üzere 5 boyutu vardır. OKB’de daha çok endişelenme ve kendini cezalandırma boyutlarının etkili olduğu bulunmuştur (Abramowitz ve ark., 2003; Amir ve ark., 1997). Henüz Türkçe’ye uyarlanmamış bu anket, düşünce kontrolünü değerlendirmek üzere de bu çalışma kapsamında adapte edilerek ele alınmıştır. Düşünce kontrol yöntemlerinin sıklığını ölçen ankete, bu çalışmada ayrıca etkinlik boyutu da eklenmiştir. Etkinlik boyutunun tersine

çevrilmiş skorları ile sıklık boyutundaki skorlarının çarpımıyla kontrolde başarısızlık değerlendirilmeye çalışılmıştır.

Beyaz Ayı Bastırma Envanteri (BABE): İstenmeyen düşüncelerin bastırılmasını, 5’li Likert tipi 15 madde ile ölçmeyi hedefleyen bir envanterdir (Wegner & Zanakos, 1994). Tek boyutlu olmasına karşın, birden fazla faktörü olduğu (Blumberg, 2000) ve istenmeyen düşünce deneyimlerinin olup olmadığını da test eden maddeler olduğu yönünden eleştirilmektedir (Rassin, 2003). Ülkemizde Türkçe versiyonu n psikometrik özellikleri hem klinik gruplarda (Yorulmaz ve ark., 2007) hem de klinik olmayan örneklemde desteklenmiştir (Altın & Gençöz, 2006).

Sorumluluk Tutumları Ölçeği (STÖ): 7’li Likert tipi 26 maddeden oluşan ve OKB’deki abartılı sorumluluğa dair tutum ve yaklaşımları değerlendirmek üzere tasarlanmıştır (Salkovskis ve ark., 2000). Ülkemizde de geçerli ve güvenilir olduğu farklı çalışmalarda bulunmuştur (Yorulmaz ve ark., 2002, 2004, 2006).

Padua Envanteri-Washington Eyalet Üniversitesi Revizyonu (PI-WEÜR): Orijinali, OKB’deki obsesyon ve kompilyüsonlardan duyulan rahatsızlığı ölçmek üzere hazırlanmış 5’li Likert tipi 60 maddeden oluşan bir envanterdir (Sanavio, 1988). Ancak son zamanlarda, obsesyon ile birlikte endişeleri de değerlendiren maddeleri olduğu yönünde eleştirilmiş ve Burns ve ark. (1996), ilgili maddeleri çıkararak 39 maddelik bu versiyonu oluşturmuştur. Türkçe versiyonun da tatminkar düzeyde psikometrik özellikleri olduğu bulunmuştur (Yorulmaz ve ark., 2006, 2007).

İşlemler: Ölçeklerin uyarlanması esnasında çeviri-geri çeviri yöntemi uygulanmıştır (Brislin ve ark., 1973). Çalışma esnasında 10 ölçekten oluşan set, etik

kuruldan ve bölüm başkanından izin alınarak öğrencilere uygulanmış ve katılım karşılığı olarak öğrencilere bonus puan verilmiştir.

3. TEMEL BULGULAR VE TARTIŞMA

Güvenirliliği değerlendirmek üzere yapılan analizlerde, hali hazırda Türkçe versiyonu bulunan tüm ölçeklerin güvenilirliğinin Türk örnekleminde kabul edilebilir değerlere sahip olduğu bulunmuştur. Bu çalışma kapsamında çevrilen İDYE, OİA ve DKSÖ'nün içsel tutarlılık ve madde-toplam korelasyon ranjlarının hem Türk hem de Kanadalı öğrencilerde oldukça tatminkar olduğu gözlenmiştir. Bu çalışma, birincil bir psikometrik çalışma olmadığından ve faktörler arası ilişkilerin incelenmesi hedeflendiğinden, OİA ve DKSÖ için ayrı faktör analizi yapılmamış ve orijinal faktör yapıları göz önüne alınmıştır. Yine de sağlıklı bir karşılaştırma yapmak için her iki kültürdeki faktör yapıları, Hedef Dönüştürme Analizi (Vijver & Leung, 1997) ile test edilmiştir. Orantısal uzlaşma katsayı kriteri 0.85 alındığında (Lorenzo-Seva & Ten Berge 2006), OİA'daki sorumluluk/tehdit öngörüsü, düşüncelerin ve kontrolünün önemsenmesi ve mükemmeliyetçilik/belirsizlik faktörlerindeki madde dağılımlarının büyük oranda örtüştüğü gözlenmiştir. Benzer bir durum, DKSÖ için de geçerlidir. Dolayısıyla, iki ölçeğin kavramsal geçerlilik gösterdiği söylenebilir. Ancak, güvenilirlik değerleri yeni eklenen etkinlik ölçüm boyutu ve başarısızlık skorları için hem Kanadalılarda hem de Türk öğrencilerde görece düşüktür.

Üç yeni çevrilen ölçeğin kriter geçerliliği, PI-WEÜR'deki OKB semptom düzeyi yüksek ve düşük olan grup karşılaştırmalarıyla test edilmiştir. Beklenen yönde, yüksek düzey semptom gösterenlerin düşüklere oranla daha fazla anlık problemlili yorumlama

yaptığı, sorumluluk/tehdit öngörüsü, mükemmeliyetçilik/belirsizlik düşüncelerin ve kontrolünün önemi gibi inanç alanlarında daha hassas oldukları bulunmuştur. İDYE'nin ilk bölümündeki katılımcıların örnek olarak yazdıkları istem dışı düşüncelerin sıklığı, en son ne zaman yaşandığı ve duyulan sıkıntı boyutlarında karşılaştırıldıklarında ise, ilk grupta bu tür düşüncelerin daha sık akla geldiği ve daha çok sıkıntı duydukları gözlenmiştir. Bu durum, hem ölçeklerin geçerliliğini desteklemekte, hem de bilişsel modeller (Clark, 2004; Rachman, 1997; Salkovskis, 1989) ve bulgularla (örn., Frost & Steketee, 2002) paralellik göstermektedir. Ayrıca, düşünce kontrolünde literatür bulgularını destekler sonuçlar elde edilmiştir (Amir ve ark., 1997; Abramowitz ve ark., 1997, 2003). Yüksek düzey semptomu olanlar, daha çok endişelenme ve kendini cezalandırma stratejilerini kullanmışlardır. Yanı sıra, kontrol ve yorumlama süreçlerine dair yeni çevrilen ölçeklerin, OKB semptomları, araştırma kapsamındaki ilgili diğer ölçekler ve benzer durumları ölçen ölçeklerle (örn. STÖ& OİA, DKSÖ & BADÖ gibi) anlamlı ve pozitif yöndeki korelasyonları bu ölçeklerin eş-zaman ve kriter geçerliğini destekler niteliktedir. Sonuç olarak, yeni çevrilen üç ölçeğin Türk üniversite öğrencilerinde geçerli ve güvenilir ölçüm araçları olduğu söylenebilir. Ayrıca, dindarlığı ölçmek üzere geliştirilen DTA'nın, OKB semptomları ile pozitif korelasyonu ve yüksek düzey OKB semptomu gösteren grubun daha dindar bulunması, ölçeğin psikometrik özellikleri açısından tatmin edici olduğuna ipuçları vermektedir (Greenberg & Witztum, 2001; Steketee ve ark., 1991).

Ana çalışma bulgularına bakıldığında, Kanadalı ve Türk grupları karşılaştırıldığında (total ya da tekil skorlarda ANOVA, alt boyutlarda MANOVA), Türk öğrencilerin daha dindar, daha yüksek öz-güven ve daha çok içe-dönük olduklarını

göstermiştir. Ayrıca bu düşüncelerden Türk öğrencilerin daha çok sıkıntı duydukları, olumsuz yorumlarda bulundukları, ve düşünceyi ve kontrolünü daha çok önemsedikleri, ahlak boyutunda daha fazla karmaşa yaşadıkları gözlenmiştir. Kontrol yöntemlerini, endişe hariç tüm alt boyutlarda daha çok kullanırken, Kanadalı öğrencilerin daha çok bastırmayı tercih ettikleri bulunmuştur. OKB semptom düzeyine bakıldığında Türklerin daha çok semptom rapor ettiği de söylenebilir. Örnek olarak verilen istem dışı düşünceler karşılaştırıldığında ise benzer şekilde her 2 grupta da zarar verme, ahlak/sosyal/cinsel konularındaki düşünceler (Nedeljkovic ve ark., 2006) ilk sırada yer almaktadır. İleriki bölümde yapılacak olan regresyon analizlerinde yer alan değişkenler arası korelasyonlara bakıldığında, her iki grupta da ilgili değişkenler arası beklenen yönde ilişkiler görülmektedir (örn., nörotizm ile yorumlama, kontrol etme ve OKB semptom düzeyleri arasında pozitif, öz-güven ile ise negatif korelasyonlar). Öte yandan, dindarlık ve OKB arasında sadece Türk örnekleme ilişkisi bulunurken, endişelenme Türk örnekleme daha OKB ile daha belirgin bir korelasyona sahiptir ($z = -2.05, p < .05$).

Kanadalı ve Türk örnekleme dinini belirten gruplarda, grup içi ve gruplar arası din ve dindarlık farklılıklara bakılmıştır. Dolayısıyla Kanadalı Hristiyan ve Türk Müslümanlar arasında MANOVA ve ANOVA ile grup farkları ele alınmıştır. Öncelikle her iki grupta bu iki kavramın gruplar arasında ya da grup içinde öz-güven, sorumluluk/tehdit öngörüsü, mükemmeliyetçilik /belirsizlik ve düşünce bastırmada herhangi bir fark yaratmadığı bulunmuştur. Öte yandan, dini ne olursa olsun, dindarların daha sık istem dışı düşünceye sahip olduğu, ahlak boyutunda daha fazla DDK yaşadıkları ve düşüncelerini ve onların kontrolünü daha fazla önemsedikleri bulunmuştur. Ayrıca dindar grubun OKB semptomlarında daha fazla obsesyonel

düşünce ve kontrol etme davranışları sergiledikleri gözlenmiştir. Yanı sıra, kültür düzeyinde yapılan regresyon analizlerinde dindarlığın, düşünceleri ve kontrolü, sorumluluk/tehdit öngörüsü ve ahlak boyutundaki DDK'yı öngördüğü bulunmuştur. Dolayısıyla bu bulgular, dindarlık ve OKB semptomları ve inançları arasındaki ilişkiyi destekler niteliktedir (Abramowitz ve ark., 2002, 2004; Nelson ve ark., yayında; Rasmussen & Tsuang, 1986; Shafran ve ark., 1996; Steketee ve ark., 1991). Dolayısıyla, Müslüman bir ülkeden benzer nitelikte bulgular edinildiği varsayılabilir. Öte yandan, dindar Kanadalı Hristiyanlar, olmayanlardan daha çok genel anlamda ve ahlak boyutunda düşünce-davranış karmaşası yaşamaktadır. Dindar olmayan Hristiyanlar, dindar olmayan Müslümanlardan ahlak boyutunda daha az karmaşa yaşamaktadırlar. Türk Müslümanlarda ise herhangi bir fark bulunamamıştır. Bu durum, Siev ve Cohen'in (yayında) belirttiği gibi, Hristiyanlıktaki inanç düzeyindeki ve zihinsel olguları kontrol etme olasılığına yapılan vurgudan kaynaklanabilir. Müslümanlarda fark bulunmaması ise bunun yaygın bir durum olduğu, bu durumun din ve ahlak arasındaki yakın ilişkiden kaynaklanmış olabileceğini akla getirmektedir (Yorulmaz ve ark., 2004). Türk Müslümanlar ise, daha çok anlık hatalı yorumlama yapmakta, düşünceleri ve kontrolünü daha çok önemsemekte ve daha çok kontrol yöntemi kullanmaktadırlar. Ayrıca toplamda ve tüm alt tiplerde daha OKB çok semptom rapor etmişlerdir. Bu farklılık da, dinin niteliğinden kaynaklanabilir. İslamiyet, Hristiyanlıktan farklı olarak, daha seremoniye ağırlık veren, ritüelleri olan ve yapılandırılmış bir dindir (Ghassemzadeh ve ark., 2002; Karadağ ve ark., 2006; Okasha, 2002). Hristiyanlık ise inanca ağırlık vermekte ve görece daha az ritüele dayanmaktadır (Favier ve ark., 2000; Sica ve ark., 2002; Siev &

Cohen, yayında). Ayrıca din, ahlak ve kültür arasındaki yakın etkileşim ve değerleri içselleştirme süreci buna katkıda bulunmuş olabilir (Çukur ve ark., 2004; Rozin, 1999).

Regresyon analizi ile incelenen özgül olmayan, yorumlama ve kontrol değişkenleri arasındaki iç-ilişkiler incelenmiştir. Her iki grupta, istem dışı düşüncenin sıklığı ve bundan duyulan sıkıntı, düşüncenin anlık yorumlanmasına katkıda bulunmaktadır Nörotisizm, anlık yorumlama ve ahlak boyutundaki karmaşa, OKB'ye ilişkin farklı inanç alanlarını yordama etkili iken, anlık yorumlama yine her 2 grupta da ahlak ve olasılık boyutlarındaki karmaşayı yordamada anlamlıdır. Anlık yorumlama, ayrıca endişelenme, kendini cezalandırma ve bastırmada yine anlamlı bir değişkendir. Sorumluluk/tehdit öngörüsü, 2 gruptaki yordayıcılarda en çok örtüşme görülen inanç alanıdır. Sonuçta bu bulgular, bilişsel modeller (Rachman, 1997; Salkovskis, 1991) ve çeşitli çalışma bulguları (örn., OCCWG, 2003 Purdon & Clark, 2002; Smari, 2001; Purdon, 2004) ve OKB'ye dair son dönem bilişsel yaklaşımla paralellik göstermektedir. Öz-güvenin ve yaşça genç olmanın yorumlama ve kontrol süreçleri üzerindeki etkisi de önceki bulguları destekler niteliktedir (örn., Albert et al., 2000; Fullana et al., 2004; Rachman, 2006).

OKB semptomlarını yordayan faktörleri incelemek için ayrı ayrı yapılan hiyerarşik regresyon analizlerinde, nörotisizmde yüksek puanın olması, yaşça genç olmak, tehdit öngörüsü, mükemmeliyetçilik, sorumluluk ve belirsizlik inanç alanlarındaki hassasiyet, ve ahlak alanındaki karmaşanın OKB semptomlarını anlamlı biçimde her 2 grupta da yordadığı bulunmuştur. Başka deyişle, bu faktörlerin OKB'ye olan yatkınlığa katkıda bulunduğu ve kültürden bağımsız ya da kültürler arası tutarlı olarak işlev gösterdiği söylenebilir.

Başka bir kültürler arası tutarlılık da, bu çalışmada önerilen kapsamlı bilişsel modelde gözlenmiştir. Modelde, özgül olmayan yatkınlık faktörleri yorumlamaya, yorumlama da kontrol çabalarına katkıda bulunmaktadır. Kontrol çabaları da OKB semptomları ile ilintilidir. Bu model, düşünce kontrolünün etkinliği ve başarısızlığının, ve bu başarısızlığa odaklanan ikincil yorumlamanın da dahil olduğu 4 model arasında, hem Türk hem de Kanadalı öğrenci grubunda LISREL ile test edilmiş ve en iyi uyum gösteren model olduğu bulunmuştur. Dolayısıyla, bu faktör grupları arasındaki ilişki de kültürler arası tutarlılık göstermektedir. Bu analizde, önceki analizlerden farklı olarak, içe-dönüklük beklenen yönde (Mataix-Coles ve ark., 2000) yorumlamaya pozitif yönde bir katkıda bulunmaktadır.

Sonuç olarak, gruplar arasında kültürler arası tutarlılıklar ilgili literatür bulguları ve bilişsel modeller ile paralellik gösterirken, kültürler arası farkın gözlendiği durumlar da mevcuttur. OKB'deki kültürün rolü, literatürdeki az sayıda araştırma tarafından ele alınmıştır; bu farklarda genel olarak kültürel özelliklerin rolü olduğu belirtilmiştir (örn., Kyrios ve ark., 2001; Sica ve ark., 2001). Bu iddia, bu çalışmada bulunan farklar için de söylenebilir. Ortak davranış, duygulanım ve düşünmedeki kolektif örüntüler, kültürel özellikler olarak tanımlanabilir (Cheung, 1998; Rozin, 2003; Sica et al., 2002). Hofstede, 2001). Hofstede'in (2001) kültür tanımları ile yapılan bazı çalışmalar, belirsizlikten kaçınmanın yoğun olduğu toplumların daha fazla sıkıntı, kaygı ve öfke yaşadığını (Hofstede, 2001), buna ilaveten erkeksi toplumlarda daha çok patolojik korkular yaşandığını belirtmişlerdir (Arrindell ve ark., 2003, 2004). Bu toplumlarda insanların belirsizlikten hoşlanmadığı ve daha çok kolektif/toplumcu eğilimler gösterdiği gözlenmiştir (Shupper ve ark., 2004). Toplumcu ve güç mesafesinin fazla olduğu

toplumlarda, ie ynelimli (kendini kontrol etme abaları) ya da duygusal odaklı baa ıkma yntemleri kullandıkları rapor edilmiřtir (Tweed ve ark., 2004; Sinha ve ark., 2000). Bu yaklařım, bireyin kendi duygularını ynlendirmesi ve kontrol edebilmesi iin daha dolaylı stratejilere olan benzerlięi ile klasik anlamdaki duygu-odaklı baa ıkma yntemlerine rtuřme gstermektedir (Folkman & Lazarus, 1988). te yandan, toplumculuk muhafazakar deęerler, sosyal dzenin ve dindarlıęın srdrlmesi ile ilintilidir (ukur ve ark., 2004; Schwartz ve ark., 1995). Dolayısıyla, bu kltrel boyutlar birbiriyle iliřkilidir.

Hofstede'in (2001) lke deęerleri listesine gre, Kanada'ya gre Trkiye daha toplumcu (kiřiler arası iliřkileri nemseyen), grece erkeksi (cinsiyetler arası cinsiyet rollerinde ayrıřma), daha belirsizlikten fazla kaınan ve g eřitsizlięinin daha ok (gce ve alım gcnn nemsenmesi) olduęu bir kltre sahiptir. te yandan, batılı kltrler, bireyin baęımsızlıęına vurgu yapan daha bireyci lkelerdir; toplumcu lkelerde ise baęımlılık ve insanlar arası iliřkiler vurgulanır. Trkiye'de ise iki ucun diyalektik sentezini grmek mmkndr (iliřkisel baęımlılık-maddesel baęımsızlık, duygusal baęlılık; Kaęıtbařı, 1996). Bu nedenle, OKB semptomları ve faktrlerindeki kltrler arası farklar (rn., kontrol yntemlerindeki), Trk kltrnn grece toplumcu (Tweed ve ark., 2004) ve belirsizlikten kaınan ve erkeksi bir yapıda olmasından kaynaklanabilir (Arrindell ve ark., 2003, 2004; Hofstede, 2001). Ayrıca, belirsizlikten kaınmanın, kurallara, dzene, forma dayalı ritellere duyulan ihtiyaı pekiřtirebileceęi, bu sayede insanların yařamla bař etmelerinin daha kolay olacaęı ne srlebilir. İřlam dininde her ne kadar gnah ya da sevap kavramı birey bazında tanımlansa da (ukur ve ark. 2004), gndelik yařamı dzenlemeye dair de yansımaları vardır. Bir kiřinin kendi toplumuna ve

ülkesine yaptığı katkı da vurgulanmaktadır (Abu Saad, 1998). Bu nedenle, İslam dininin ritüelistik yapısı olası belirsizlikleri çözme konusunda yardımcı olabilir ve gelişen bir ülke olarak Türkiye gibi ülkelerde toplumculuğu ve ilgili değerleri de destekleyebilir. Öte yandan, Kanada gibi hukuk gibi toplumsal yaşamı düzenleyen kurallar bütünü tam olarak uygulandığı batılı ülkelerde belirsizlikler birer meydan okuma olarak olumlu anlamda değerlendirilebilir ve rahatsızlık uyandırmaz. Ayrıca, Hristiyanlık gibi dinler de bireyciliği destekler görünmektedir (Çukur ve ark., 2004; Shupper ve ark., 2004).

4. KATKILAR, SINIRLILIKLAR VE ÖNERİLER

Bu çalışma ilk defa, çeşitli özgül olmayan ve OKB'ye özgü yorumlama ve kontrol süreçlerini değerlendiren faktörleri ele almış, ve faktörler arası ilişkileri ve OKB semptomlarına yönelik hazırlanan kapsamlı bilişsel modeli Türk ve Kanadalı öğrencileri karşılaştırarak incelemiştir. Yatkınlık faktörlerine dair elde edilen bulgular da kültürler arası tutarlılıklar ve farklar sunmaktadır. Ayrıca, OKB'deki yorumlama ve kontrol süreçlerine ve dindarlığa yönelik Türkçe'ye toplam 4 ölçüm aracı sunmaktadır. Sonuç olarak, uyarlanan bu araçlarla uluslar arası literatüre ülkemizden yapılabilecek katkılara ve ilgili literatürü takip etmeye olanak sağlanmıştır. Daha da önemlisi, yatkınlık faktörlerindeki kültürler arası benzerlik ve farklılıklar, OKB'ye yönelik hazırlanacak psiko-eğitim ve müdahale programlarında ve OKB semptomlarının değerlendirilmesi ve terapisinde kullanılmak üzere önemli ipuçları sunmuştur. OKB'deki yorumlama ve kontrol faktörlerindeki kültürel tutarlılıklar, bu süreçlerde genel olarak kültürel farkların olmadığını gösterirken, ahlak boyutundaki düşünce-davranış karmaşası, dindarlık gibi kavramlardaki Türk örnekleminin hassasiyeti, bu konularda ülkemizde yapılacak

çalıřmalarda dikkate alınması gerektiđi izlenimini vermektedir. Ayrıca, lkemizdeki istem dıřı dřnceleri olumsuz yorumlama ve dolayısıyla kontrol eđilimi, daha dolaylı yollarla OKB semptomlarını kontrol etme abaları, uygulanacak programlarda gz nne alınmalıdır.

te yandan, bu alıřmanın da bazı sınırlılıkları mevcuttur. Ynteme dair sınırlılıkların bařında, alıřmada niversite đrencilerinden bir seferde toplanan verilerin kullanılması, pratik sebeplerden de olsa diđer bazı yatkınlık faktrlerinin dahil edilmemesi, literatrde baskın bir yaklařım olmasına ve alıřmada yatkınlık faktrlerini ele alınmasına rađmen hasta grubu yerine tanısı olmayan đrenci grubunun kullanılması, veri toplamada z-bildirim araları kullanılmıř olması sayılabilir. Dolayısıyla, bu alıřma amalarının, zaman aısından tekrarlayan biimde veri toplanan uzun dnemli, OKB tanısı olan hastaların da dahil edildiđi, alternatif yatkınlık faktrlerini de gz nne alındıđı ve deneysel ya da mlakat yntemi gibi farklı veri toplama srelerinin kullanıldıđı alıřmalarla tekrarlanmasında fayda olacaktır. Dindarlık kavramı da normal đrenci grubu ve tek lek yerine, dini okullardaki/ilahiyat faklteleri gibi u gruplar dahil edilerek, ok boyutlu lm araları ile incelenebilir. Ayrıca, ilerideki alıřmalarda OKB'deki farklı semptom alt tipleri ya da farklı trdeki istem dıřı dřncelerde de yorumlama ve kontrol sreleri ele alınabilir. Son olarak, kltr etkisini deđerlendirmek iin, farklı kltrel zelliklerin de deđerlendirildiđi, birka zellikte birbirinden farklı (iki uta ve bir tane ortada gibi) lkeler analize dahil edilebilir.

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