

**INVESTIGATION OF THE RELATIONSHIP BETWEEN OBSESSIVE
COMPULSIVE SYMPTOMS AND LOCUS OF CONTROL: THE
MEDIATING EFFECT OF EMOTION REGULATION STRATEGIES**



ARDA TOKSOY

JUNE, 2022

**THE INVESTIGATION OF THE RELATIONSHIP BETWEEN
OBSESSIVE COMPULSIVE SYMPTOMS AND LOCUS OF
CONTROL: THE MEDIATING EFFECT OF THE EMOTION
REGULATION STRATEGIES**

**A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF SOCIAL SCIENCES
OF
BAHÇEŞEHİR UNIVERSITY**

**BY
ARDA TOKSOY**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF ARTS
IN THE DEPARTMENT OF CLINICAL PSYCHOLOGY**

JUNE, 2022



T.C.
BAHÇESEHIR UNIVERSITY
GRADUATE SCHOOL

18/07/2022

MASTER THESIS APPROVAL FORM

Program Name:	Clinical Psychology
Student's Name and Surname:	Arda Toksoy
Name Of The Thesis:	INVESTIGATION OF THE RELATIONSHIP BETWEEN OBSESSIVE COMPULSIVE SYMPTOMS AND LOCUS OF CONTROL: THE MEDIATING EFFECT OF EMOTION REGULATION STRATEGIES
Thesis Defense Date:	29.06.2022

This thesis has been approved by the Graduate School which has fulfilled the necessary conditions as Master thesis.

Prof. Dr. Ahmet ÖNCÜ
Institute Director

This thesis was read by us, quality and content as a Master's thesis has been seen and accepted as sufficient.

	Title/Name	Signature
Thesis Advisor's	Assist. Prof. Zeynep Maçkallı	
Member's	Assist. Prof. Bahar Tanyaş	
Member's	Assist. Prof. Gizem Ateş	



“I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and ethical conduct, I have fully cited and referenced all material and results that are not original to this work.”

Name Surname: Arda Toksoy

Signature

ABSTRACT

THE INVESTIGATION OF THE RELATIONSHIP BETWEEN OBSESSIVE COMPULSIVE SYMPTOMS AND LOCUS OF CONTROL: THE MEDIATING EFFECT OF THE EMOTION REGULATION STRATEGIES

Toksoy, Arda

M.A., Clinical Psychology,

Supervisor: Assist. Prof. Zeynep Maçkalı

June 2022, 89 Pages

The aim of this study is to investigate the mediating effect of emotion regulation strategies on the relationship between locus of control and obsessive-compulsive symptoms among the non-clinical population. 290 individuals (216 female, 74 male) aged 18-65 years old were participated in the study. Four different forms including, Socio-Demographic Information Form, Locus of Control Scale, Emotion Regulation Questionnaire and Dimensional Obsessive-Compulsive Scale were filled out by the participants. The relationship between variables was analyzed via the Statistics Package for Social Science (SPSS) program (Green, Salkind, & Akey, 2000). The mediation analysis indicated that cognitive reappraisal as an emotion regulation strategy partially mediated the relationship between locus of control and obsessive-compulsive symptoms as hypothesized. However, due to the insignificant relationship between suppression and obsessive-compulsive symptoms, only the mediation considering the cognitive reappraisal was evaluated. Also, it was found that participants who have external locus of control were more likely to have

obsessive-compulsive symptoms such as contamination obsessions, inflated responsibility, and unacceptable thoughts.

Keywords: Obsessive-Compulsive Symptoms, Locus of Control, Emotion Regulation Strategies, Cognitive Reappraisal, Suppression.



ÖZ

KONTROL ODAĞI VE OBSESİF KOMPÜLSİF SEMPTOMLAR ARASINDAKİ İLİŞKİDE, DUYGU DÜZENLEME STRATEJİLERİNİN ARACI DEĞİŞKEN ETKİSİ

Toksoy, Arda

Klinik Psikoloji, Yüksek Lisans

Tez Yöneticisi Dr. Öğretim Üyesi Zeynep Maçkalı


Haziran, 2022, 89 Sayfa

Bu çalışmanın amacı, duygu düzenleme stratejilerinin, kontrol odağı ve obsesif kompulsif semptomlarının arasındaki ilişkiye aracılık rolünü, klinik olmayan popülasyonda incelemektir. Çalışma, 18-65 yaş aralığındaki 290 katılımcı (216 kadın, 74 erkek) ile gerçekleştirilmiştir. Çalışma kapsamında katılımcılardan dört farklı ölçeği doldurmaları istenmiştir. Bunlar, Demografik Form, Kontrol Odağı Ölçeği, Duygu Düzenleme Ölçeği, Boyutsal Obsesif Kompulsif Ölçeği'dir. Değişkenler arasındaki ilişki Statistical Package for Social Science (SPSS) program (Green, Salkind, & Akey, 2000) ile analiz edilmiştir. Ortaya konan hipotezde de öne sürüldüğü gibi aracılık analizi, bir duygu düzenleme stratejisi olan bilişsel yeniden değerlendirme, kontrol odağı ve obsesif kompulsif semptomlar arasındaki ilişkiye kısmi aracılık ettiğini göstermiştir. Bunun yanı sıra, çalışmadaki bir diğer duygu düzenleme stratejisi olan bastırmanın, obsesif kompulsif semptomlar değişkeni ile arasında herhangi bir ilişki bulunamamasından dolayı aracılık analizi sadece bilişsel yeniden değerlendirme stratejisi için yapılmıştır. Ayrıca, dış kontrol

odağının daha belirgin olduğu katılımcılarda, kirlenme obsesyonları, şişirilmiş sorumluluk ve kabul görmeyen düşünceler gibi obsesif kompulsif semptomların daha fazla eşlik ettiği gözlemlenmiştir.

Anahtar Kelimeler: Obsesif Kompulsif Semptomlar, Kontrol Odağı, Duygu Düzenleme Stratejileri, Bilişsel Yeniden Değerlendirme, Bastırma.





*To My Lovely Mom, Dad, Grandmother, Brother
and My Beloved Wife...*

ACKNOWLEDGEMENTS

First, I would like to thank my thesis supervisor Assistant Prof. Zeynep Maçkalı to encourage me to do my best and make me realize the different point of views. Her support was very precious for me to continue my research, even I felt tired at some times. Also, her contributions and critics about my work and the process of research improved my skills and gave me confidence about what I was trying to do. I am grateful for her help.

I would also thank my undergraduate and graduate professors for gaining me insight and vision for my life, career and relationships. They always give us a chance to express ourselves even we are not on the same page. They always shed light on my life path and I appreciate that.

Following, I have a great group of peers that I spend time with. We always bear the physical and psychological burden of this grueling journey. I appreciate their support and I hope the cooperation and the unity we have strengthen throughout the years.

Besides, I am very grateful to my mother, father, and brother for making my life meaningful. They always support me and give opportunities to fulfill myself. Especially, my parents gave their all to provide us better future. They gave so much of themselves to make us self-sustaining individuals. But the more important thing is that they always believe in me. I owe them a lot. Also, I would like to give special thanks to my brother who is not only a real good brother for me but also my best friend. Thank you for your continuous caring and love.

Moreover, I would also be thankful to my lovely Gizem for standing by me at all the times. She does not hesitate to encourage me to keep going on my way. Also, she has always an effort to give me hope during all of my life challenges. I am very lucky be with you for seven years. Thank you for being affectionate, loving and cheerful.

Lastly, I am thankful to my best friends for making my life funnier and adventurous. Their friendship teaches me a lot and together we have many

opportunities to experience the novelty and enthusiasm. Their solidarity and fraternity are always inspiring for me to go further.



TABLE OF CONTENTS

ETHICAL CONDUCT	iii
ABSTRACT	iv
ÖZ	vi
DEDICATION	viii
ACKNOWLEDGEMENTS	ix
TABLE OF CONTENTS	xi
LIST OF TABLES	xiv
LIST OF FIGURES	xv
CHAPTER	
1. INTRODUCTION	1
1.1. General Introduction	1
1.2. Obsessive-compulsive Symptoms	3
1.2.1. Dimensions of Obsessive-compulsive Symptoms	4
1.3. Emotion Regulation	7
1.3.1. Processes of Emotion Regulation	9
1.3.2. Emotion Regulation Strategies	10
1.3.3. Cognitive Reappraisal and Suppression as Emotion Regulation Strategies	11
1.3.4. Emotion Regulation and Psychopathology	12
1.3.4.1. Emotion Regulation Strategies and Obsessive-compulsive Symptoms	14
1.4. Locus of Control	16
1.4.1. Locus of Control and Other Concepts Related with Control	17
1.4.2. Locus of Control and Psychopathology	19
1.4.3. Locus of Control and Obsessive-compulsive Symptoms	22

1.5. Aim and Hypotheses	23
2. METHOD	25
2.1. Participants	25
2.2. Instruments	25
2.2.1. Socio-Demographic Information Form	25
2.2.2. Dimensional Obsessive-compulsive Scale (DOCS)	26
2.2.3. Emotion Regulation Questionnaire (ERQ)	27
2.2.4. Rotter's Locus of Control Scale (RLOCS) & Locus of Control Scale (LCS)	28
2.3. Procedure	29
3. RESULTS	31
3.1. Data Screening	31
3.2. Descriptive Statistics	31
3.3. Correlation and Regression Analyses for the Sample	35
4. DISCUSSION	38
4.1. General Evaluation of the Findings	38
4.1.1. Evaluation of the Demographical Variables	38
4.1.2. Evaluation of the Relationship Between Independent and Dependent Variables	39
4.1.3. Evaluation of the Mediating Role of Emotion Regulation Strategies on the Relationship	41
4.2. Limitations	42
4.3. Clinical Implications	44
4.4. Recommendations for the Future Studies	45
4.5. Conclusion	46
REFERENCES	47
APPENDICES	
A. Socio-demographic Information Form	68

B. Boyutsal Obsesyon Kompülsiyon Ölçeđi (BOKÖ) / Dimensional Obsession Compulsion Scale	69
C. Duygu Düzenleme Ölçeđi (DDÖ) / Emotion Regulation Questionnaire (ERQ)	78
D. Kontrol Odađı Ölçeđi (KOÖ) / Locus of Control Scale (LCS)	80
E. Ethical Committee Approval	86
F. Informed Consent of the Study	87



LIST OF TABLES

TABLES

Table 1 Socio-demographic Characteristic Of The Sample	31-32
Table 2 Socio-demographic Differences In Obsessive-compulsive Symptoms.....	33-34
Table 3 Pearson Correlation Coefficients For The Sample	35



LIST OF FIGURES

FIGURES

Figure 1 Mediation Model Of The Current Study. Mediating Effect Of Emotion Regulation Strategies On The Relationship Between Locus Of Control And Obsessive-compulsive Symptoms.....	24
Figure 2 Correlations Among Variables According To The Parallel Mediation Model.	36



Chapter 1

Introduction

1.1. General Introduction

The current study investigates the non-clinical population regarding the relationship between obsessive compulsive symptoms, locus of control and emotion regulation strategies. Mediating effect of the emotion regulation strategies on the relationship between obsessive compulsive symptoms and locus of control will be researched. Each variable has its own concepts and will be discussed in the following sections.

Before starting the explanation of variables, it would be useful to make a clear definition what non-clinical population is. It represents the participants who are not assigned from the mental institutions, clinics or centers (Gibbs, 1996). Also, they are known as the population that their symptomatology does not match with the DSM criteria (Gibbs, 1996). Although studies conducted with clinical populations give insights about the nature and implications of disorders and also symptoms, conducting a study with non-clinical population could be efficient for preventing and protective for individuals from the risk factors.

Obsessions are characterized by recurrent, intrusive and unwanted thoughts, images, urges which disturb individuals and cause anxiety and distress (American Psychiatric Association, 2013). These disturbing thoughts or images are suppressed via performing compulsions which are defined as repetitive behaviors or mental acts in order to neutralize the effect of the obsessions and decrease the anxiety, distress (American Psychiatric Association, 2013). These dysfunctional beliefs or thoughts and accompanying compulsions are tiring for individuals and they have highly time-consuming nature. The effect of obsessions to increase the distress and the compulsions to compensate it, is the characteristic for all OCD subtypes (Rickelt et al., 2019).

Individuals with obsessive compulsive symptoms may tend to show some specific features such as inflated responsibility, overestimating the threats, perfectionistic point of view and desire to control the thoughts and actions. However, any individual who shows these symptoms could not be diagnosed as obsessive-compulsive disorder (OCD) because it is more important to assess the

individuals in the presence of continuum. So, the degree of the symptoms may be the determinant for the results.

Emotion regulation is defined as the processes which are related where and when we express the specific emotions across situations and how we experience them (Gross,1998). Therefore, it is related with all the aspects of individual's lives. We do not express the same emotions when we receive bad news or having an acceptance letter from the dream college. We modify our emotions and feelings according to the experiences we have. Thus, emotion regulation has a huge impact on individual's behavior and physiological reactions to the environment. That's why one of the primary goals of emotion regulation is to adjust the emotion responding through various circumstances (Gross, 2002).

According to Gross (2002), there are three important features of emotion regulation that are needed to be mentioned. First one is that the individuals can increase and decrease both the positive and negative emotions (Parrott, 1993). The second one is that the emotion regulation strategies could be consciously detected however, it can also be unconsciously motivated (Cole, 1986). Emotion regulation strategies are the ways that individuals use in everyday life while regulating their emotional reactions. Although there are many emotion regulation strategies existed in the literature, the most two common strategies – suppression and cognitive reappraisal- were taken for the analysis of the current study.

Locus of control is the third variable of our study which is related to the individual's attributions to their control over their personal actions (Rotter, 1966). It has two dimensions called internal and external locus of control. Individuals with internal locus of control think that they have control over their own lives, actions and experiences. On the other hand, individuals who are predominantly occupied by external locus of control, feel that they are controlled by external forces such as God, other people, spiritual concepts, fate and so on (Rotter, 1966; İnözü, Yorulmaz & Terzi, 2012).

Individuals who perform compulsions to reduce the anxiety of obsessive thoughts or urges show that emotion regulation and appraisal of emotionally relevant stimuli may be modified in obsessive compulsive disorder (Paul, Simon, Endrass & Kathmann, 2016).

1.2. Obsessive Compulsive Symptoms

We recognize that some people are more “meticulous” than others while doing the regular tasks in daily life. They cannot easily make a decision even that particular one has not an important impact on their lives. Sometimes they are called as perfectionists (Frost & Steketee, 1997) or sometimes others think that they are occupied in details more than anybody else. In the clinical practice, we may suggest that some of these people have obsessive compulsive patterns. Although there are millions of severe cases all around the world which suffer from obsessive compulsive disorder, much more people live with obsessions and ruminations without being diagnosed by mental health officials. Besides that, disturbing intrusive cognitions experienced by the %80-90 of the non-clinical population have the same theme with clinical obsessions (Rachman & de Silva, 1978; Purdon & Clark, 1993). Thus, we can say that it is not right to categorize people as obsessive individuals and non-obsessive individuals because there is a continuum, and the level of the pathology determines the severity of symptoms.

Obsessive compulsive symptoms were explained by Sigmund Freud in his various writings and books. He named these symptoms as “obsessional neurosis” and put them in a category, called transference neuroses. Freud (1917) also discussed the obsessional neurosis in his lectures and described this concept by explaining his own observation with patients. He stated that people who are suffering from obsessional neurosis, spend a bunch of time with unwanted thoughts and feel strange urges to them. He also contented that these indications are showed up in rituals that patients feel obliged to perform without any desire which is later called as “compulsions” by modern psychiatry. According to him, patients know that their unwanted, intrusive thoughts or feelings are ridiculous however it is not easy to resist the feeling of guilt. These urges and thoughts also disturb patients because of their ego-dystonic nature.

Shapiro (1965) argued that obsessive compulsive individuals are characterized by their rigidity as a distinctive feature while thinking, acting and so on. He indicated that there are three important features of these people namely rigidity, impairment in autonomy experience and loss of reality (Shapiro, 1965).

Freud emphasized the fear emotion while explaining the patient’s motivation regarding the fight against repeating obsessive thoughts and compulsions. He stated that whenever the patient has a desire to give up the compulsions or rituals, he/she feels excessive fear (Freud, 1917). Thus,

they perform the compulsions or ceremonial rituals in order to eliminate the discomfort of fear emotion.

According to the DSM-V (American Psychiatric Association, 2013), there are some criteria about diagnosing individuals as obsessive-compulsive disorder (OCD). First of all, individual has to experience repetitive thoughts, urges or images called obsessions that cause significant distress and impairment and performs rituals called compulsions that function as a neutralizer for these obsessions. Also, these obsessions and compulsions should be time-consuming (at least 1 hour in a day) and cause impairment in social, relational, and vocational life. Thirdly, obsessive-compulsive symptoms should not be attributed to another medical condition or any substance. It must exist at least 5 of these criteria to diagnose an individual as obsessive-compulsive disorder. However, there are many people who experience obsessive-compulsive symptoms yet do not fulfill these criteria at all. Although the prevalence of the OCD is only 1-2 percent in the general population, OC symptoms are experienced more often than expected (Ruscio et al., 2008). Thus, individuals who show some specific OC symptoms but remain below the threshold, could not be labelled as OCD patients. Their symptoms could be observed in the nonclinical context.

1.2.1 Dimensions of obsessive-compulsive symptoms

Obsessive-compulsive disorder (OCD) is considered to be a heterogeneous disorder with multidimensional symptoms (Mataix-Cols, Conceicao do Rosario Campos, Leckman, 2005). Thus, it is possible to meet individuals who have completely different kinds of OC symptoms than each other. Fullana et al. (2010) suggested that there were various OC symptoms and that made two different OCD patients were seemed completely different regarding the clinical indications. Therefore, it is needed to generate different dimensions in order to make effective assessments of these symptoms. Otherwise, there would be no standards of examining and conceptualizing the OC symptoms. Foa et al. (2001) stated that the most popular way to assess the obsessions and compulsions is to generate inventories that involve specific items for each type of them. In this context, many researchers have tried to create classifications. According to the Deacon and Abramowitz (2005), obsessions and compulsions are divided into four dimensions as contamination; responsibility, harm and control; symmetry, sequencing and organizing; sexual, religious and harm related unwanted thoughts. Also, in another study, it is found that there are four dimensions of OC symptoms, namely, forbidden thoughts/checking, hoarding, symmetry/ordering

and contamination/cleaning (Bloch, Landeros-Weisenberger, Rosario, Pittenger & Leckman, 2008).

Salkovskis (1985) stated that obsessional pathology is derived from the negative automatic thoughts and schemas which is associated with the perception of inflated responsibility. It is also found that when the responsibility was decreased, OCD patients' distress and urges to accomplish the compulsions reduced (Lopatka & Rachman, 1995). Shafran (1997) claimed that obsessive-compulsive patients with high responsibility report greater distress than others who has low responsibility. It is also important to mention that thoughts of harming others are one of the main elements of responsibility subtopic of OC symptoms.

In parallel with previous articles, Pozza and Dettore (2014) conducted a meta-analysis and found that there is a statistically significant association between OCD and responsibility. The concept of responsibility in OCD is mainly related with the individual's perception of causing harm (Wilson & Chambless, 1999). These individuals feel responsible for the possible consequences of their unwanted thoughts and urges (Foa et al., 2001). For example, a mother who recently gave a birth, has plenty of obsessional thoughts about harming her new-born and feels responsible for her unacceptable recurrent thinking. Thus, she checks everything about her baby in order to prevent the possible problems that could be occurred and reduce her distress and feeling of guilt. In the light of this case, Rachman and Hodgson (1980) suggested that responsibility concept is much more related to some specific obsessive-compulsive symptoms such as checking. In addition to all these studies, Altın & Karancı (2008) found that higher levels of responsibility attitudes were significantly related with higher levels of obsessive-compulsive patterns.

Another important aspect of OC symptoms is fear of contamination. In the clinical practice, it is not surprising to meet the patients who have excessive fear and anxiety when they think they are contaminated by the objects. Rachman (2004) supported that statement and suggested that contamination fear is the most prevalent symptom of the OCD. Contamination fear is characterized by the contact with the person or object that is perceived to cause harm (Rachman, 2006) and the compulsive responses such as washing or cleaning to neutralize the possible effects (Mathes et al, 2019). Beyond that, Rachman (2004) also asserted that there is also another type of contamination fear, called mental contamination which is observed in the absence of physical stimuli. Individuals who show mental contamination symptoms may be triggered just by thinking about the unclean,

contaminated or unpleasant people, things or situations and all these can provoke the compulsions of excessive washing, cleaning (Mathes et al., 2019). It can be made a long list of these objects and there are no specific objects that creates the same sense of contamination among the obsessive-compulsive individuals.

The contamination fear has to do with threat overestimation which is overvaluing the beliefs and the possibility of the situations (Taylor et al., 2010). Consequently, people who have that type of obsessions, tend to develop avoidance behavior which helps to decrease the anxiety and distress of the feared objects (Abramowitz et al., 2010). For instance, someone with obsessions about touching banknotes, could avoid using them or involve in excessive hand washing after the shopping. Therefore, it can lead serious impairment in daily functioning.

Desire for control is another crucial dimension for OC symptoms. Moulding and Kyrios (2007) suggested a hypothesis about desire for control and sense of control and they claimed that OC symptoms are related to higher desire for control while having less sense of control over the individual's self and its environment (Moulding & Kyrios, 2007). Sense of uncontrollability over possible threats and upcoming events is very important element of anxiety which is the motivating factor of compulsions (Barlow, Chorpita & Turovsky, 1996). Also, Skinner (1996) have stated that the sense of control is to determine to what extent an individual has control over the specific situation and whether the actions will end up in a favorable way.

1.3 Emotion Regulation

Before understanding the emotion regulation, the concept of “emotion” is needed to be clarified in order to conceptualize the emotion regulation and its functions. Emotions are the natural elements of human psyche and involved in all the aspects in individual's life. They allow people to adjust themselves in different circumstances, in which they must regulate their reactions and behavior (Cole, Hall & Hajal, 2017). Because of their existence in everyday life of individuals, they have widely investigated throughout the history. Even in the Ancient Greek, Aristotle mentioned the emotions as “affectations of the soul” (De Anima, ca. 359 B.C.E.).

Emotions elicit responses for the circumstances that we experience (Lazarus, 1991). They provide reliable source for continuous adaptive problems (Gross, 2002). Also, they are adaptive to detect the possible threats and to maintain the well-being of an individual (Cole, Hall & Hajal,

2017). They provide information about the background of individual's behaviors (Ekman, Friesen, & Ellsworth, 1972). In addition, they help us to make an inference about what is good or what is bad (Walden, 1991). They are consisted of two distinct mechanisms working together called appraisal and action preparation which activate the psychological radar system (Frijda, 1986; Lazarus 1991).

As can be seen, emotions have an evolutionary role for the survival via enabling the response readiness to the perceived circumstances. Gross (2002) stated that our emotion regulation capacity is important, hence the well-being of individual is inevitably linked to its emotions. In addition to that, emotion regulation plays the key-role for normal development (Izard, Youngstrom, Fine, Mostow, & Trentacosta, 2015).

Emotion regulation has various definitions from different perspectives. It is an integrated mechanism of external and internal processes which aims to manage the goal achievement and organize the emotions through circumstances (Eldeleklioglu & Eroglu, 2015). It can be understood as a mechanism that organize the emotions in a conscious or nonconscious way (Rottenberg & Gross, 2003). It is also defined as alterations in the primary emotional response (Cole et al., 2004). Furthermore, emotion regulation can be evaluated from the perspective of the adaptiveness of behavior (Cole, Hall & Hajal, 2017). Cicchetti, Ackerman and Izard (1995) claimed that emotion regulation plays important role in initiating, maintaining and regulating the adaptive behavior and also it is related to the inhibition of the negative emotions. Emotion regulation can also be conceptualized as the capacity to restrain the emotional arousal while dealing with the environment (Thompson, 1994). In addition to that, Cole, Michel and Teti (1994) stated that the capacity to manage the socially acceptable reaction, to show flexibility and spontaneity is related to the concept of emotion regulation. According to Gross (2002), the primary goal of emotion regulation is the modification of emotional reactions.

Psychoanalytic approach provides the basis for emotion regulation. Especially, anxiety regulation is a crucial concept for psychoanalytic theories (Gross, 1999). Emotion regulation theories stemmed from the psychoanalytical background and stress and coping traditions, subsequently they spread through the subdisciplines of psychology such as personality, developmental psychology and so on (Campos, Campos, & Barrett, 1989). Freud claimed that neurotic anxiety is caused by the conflict between the intrapsychic structures. Unconscious desires

stimulated by the id and superego functions have an ongoing clash to dominate the ego. Throughout these efforts, ego develops vital functions called defense mechanisms to deal with the unconscious elements of the id or could be called as libidinal impulses. Freud stated that the anxiety is the reaction to the libidinal impulses which cannot be expressed (Freud, 1950). As can be seen from the works of the Freud, primary interest of the psychoanalytic approach was the anxiety regulation (Gross, 1999). While doing this, defense mechanisms involve in which are responsible for reality distortion, cognitive impairment, excessive energy consumption (Fenichel, 1945). In contrast to the earlier studies, contemporary researches investigate not only the anxiety regulation, but also diminishing the negative emotion experience via cognitive and behavioral efforts (Gross, 1999).

1.3.1. Processes of emotion regulation

Gross (1998) proposed his process model of emotion regulation which indicates that the emotion regulation occurs in five different stages. These emotion generating processes are called situation selection, situation modification, attentional deployment, cognitive change, and response modulation (Gross, 2002). The first four processes are counted as antecedent-focused strategies, however the last is response-focused strategy.

First of all, situation selection is referred for the selecting or avoiding the situations according to their predicted emotional outcomes and adopting the ones that may elicit more desirable emotions (Aka, 2011). Also, this avoidance may be applied for the certain people and places as well (Gross, 2002). A college student who chooses to go out with his/her friends instead of writing his/her dissertation thesis which increases his/her anxiety, could be given as an example of situation selection. Nevertheless, this selection imposes an agreement between long-term and short-term outcomes of emotions (Gross 2002). A student who does not attend to any discussion during the lectures because of his/her anxiety regarding talking in front of other people, could not have a reference letter from the professor and provides the requirements for the graduate school.

Secondly, situation modification comes after the situation selection. After the situation selection, it can also be modified in order to regulate the emotions and their impacts (Gross, 2001). A student who goes out with his/her friends may avoid talking about master's education and thesis, immediately may ask questions about the current political debates. However, the most important

aspect of the situation modification is that the external situations are modified instead of internal modifications (Gross, 2007).

Thirdly, Gross (2001) stated that every situation has multiple aspects that individual may focus on. Thus, attentional deployment is selecting the specific aspect of a situation. For instance, while watching an exciting basketball game in the arena, a spectator may focus on the sneakers of the players. Wadlinger und Isaacowitz (2011) stated that attentional deployment may provide a basic underlying component for other emotion regulation strategies, hence it has an importance among others. Kruschwitz et al. (2018) also gave an example of attentional deployment as experiencing a cognitive shift from negative emotions towards positive ones.

Fourth emotion regulation process is the cognitive change. In this process, different aspects of the situations contain different meanings and cognitive change may be defined as selecting one of them (Gross, 2001). The selected meaning of the situation is very important for the individual, since it has implications on physiological, experiential, and behavioral tendencies (Gross, 2001). Reappraisal could be given as an example of cognitive change.

The last emotion regulation process is response modulation. It is different than the previous processes which are antecedent-focused strategies. Response modulation is response-focused emotion regulation strategy and is defined as trying to have an impact on emotion response tendencies after they have already elicited (Gross, 2001). For instance, a pianist who has a concert at the Carnegie Hall may have a tremendous performance anxiety but still trying to look chill in front the audience. Thus, suppression which is a defense mechanism, is a response modulation strategy.

1.3.2. Emotion regulation strategies

Gross (1999) argued that emotion regulation is consisted of both conscious and unconscious strategies to organize or alter the elements of emotional responses which are the feelings, behaviors and physiological reactions (Gross, 2001). There are limitless number of these strategies, however in the more general sense, Gross (2001) divided emotion regulation strategies into two categories, namely, antecedent-focused strategies and response-focused strategies. Former strategies pertain to the things that we perform before the response mechanisms are stimulated and alter our behavior and physiological reactions (Gross, 2001). For instance, seeing coronavirus pandemic as a chance

for the earth to recover itself rather having an anxiety about the casualties is an antecedent-focused strategy. On the other hand, response-focused strategies mention the things we do once emotions that are already elicited after the response reactions are generated (Gross, 2001). A college student who has to do a presentation in the classroom may have a great anxiety about being ashamed of, however at the same time he/she seems to be very happy and cheerful during the performance, could be given an example of response-focused strategies. Suppression, like in the previous example, is one of the most important response-focused emotion regulation strategies. On the contrary, acceptance, reappraisal and problem-solving and mindfulness are the main strategies that could be classified as antecedent-focused strategies. According to the John and Gross (2007), antecedent- focused emotion regulation strategies were found to be more adaptive than response-focused strategies.

1.3.3. Cognitive reappraisal and suppression as emotion regulation strategies

In order to make a comprehensive comparison between the antecedent-focused emotion regulation strategies and response-focused emotion regulation strategies, two specific strategies called Cognitive Reappraisal and Suppression were chosen in the literature (Gross, 2002). Cognitive reappraisal is an example of cognitive change which alters the emotional impact of the emotion eliciting circumstances (Gross, Richards & Jones, 2006). It is a cognitive change and could be conceptualized as interpreting the emotional experiences as non-emotional phenomena.

Suppression is a response modulation which plays a role in inhibition of emotion expressive behavior (Gross & Levenson, 1993). It is and self-corrected and self-controlled process during an emotional experience. Through suppression, continuous cognitive effort is needed to achieve the goal. On the other hand, reappraisal is triggered at the beginning of the emotion generative process. Eysenck (2000) argued that individuals who use repressive coping mechanisms, have a tendency to organize the negative emotions by construing the environment, behaviors, cognitive elements and physiological response as the way that diminishes the possible threats. Wegner and Gold (1995) also suggested that suppression could be interchangeably used with the other concepts such as denial, repression, and blocking in the literature however they referred the same meaning which was attempting to avoid the negative emotions experienced.

In the light of previous information, Gross (2002) conducted series of experiments to investigate the effects and differences of cognitive reappraisal and suppression. According to the

process model of emotion regulation, individuals who use cognitive reappraisal should experience the lesser physiological, behavioral, and experiential reactions (Gross, 2002). On the contrary, suppression leads to reduce the expressive behavior however, it even increases the physiological reactions because of the continuous struggle to suppress the emotion-generating behaviors (Gross, 2002). These findings are compatible with the results of the other studies which stated that emotionally inexpressive individuals have greater physiological reactivity than individuals with expressive nature (Buck, 1979; Notarius & Levenson, 1979). On the other hand, Bush, Barr, McHugo, and Lanzetta (1989) found that individuals who were told to suppress their expressive behavior, have the same levels of heart rate with the participants who were not given any instruction. Affective consequences of reappraisal and suppression were also investigated and found that individuals using reappraisal experience less negative emotions but more positive emotions however, individuals adopting suppression experience less positive emotions. Hofmann, Heering, Sawyer and Asnaani (2009) suggested that reappraising anxiety was found more effective while altering the physiological reactions than suppressing it.

1.3.4. Emotion regulation and psychopathology

Emotions and emotion regulation capacity is very important for understanding the psychiatric disorders and psychopathology of individuals in general. Also, they may give an insight about the prognosis of pathology. Fergus and Bardeen (2014) suggested that poor understanding of the emotions increases the distress which is tried to be neutralized by compulsions. Poor emotion regulation diminishes the adaptive functions of emotions (Stern, Nota, Heimberg, Holaway, & Coles, 2014), and it has a significant relationship with worse cognitive functioning (Mayer, Salovey, Caruso, & Sitarenios, 2001). Negatively affected decision making (Bechara, 2004) and difficulties in terms of the adaptation to the necessities of life (Lyons & Schneider, 2005) is also related to poor emotion regulation. In the light of these studies, there is found an evidence that poor emotion regulation may has a significant effect on emergence and progression of psychopathology (Mennin, Heimberg, Turk, & Fresco, 2005). Abnormal emotion regulation is a risk factor for individuals to develop psychopathology (Kret & Ploeger, 2015). Also, Gross and Munoz (1995) argued that emotion regulation patterns play central role for psychopathology. In addition to that, problems with emotion regulation were found related to the psychiatric disorders (Berenbaum et al., 2003). Yap et al. (2017) found that OCD group experienced more problems with effectively

using the emotion regulation strategies when they were distressed. On the other hand, higher emotion regulation ability is associated with the healthier relationships, better academic and work achievements (Brackett & Salovey, 2004).

Specific emotion regulation strategies that are mentioned before, are related to the different kinds or levels of psychopathology. Maladaptive defense mechanisms are supposed to be developed when the individual matches up libidinal impulses or experiences with anxiety and get used to adopt problematic anxiety regulation strategies to soothe himself/herself (Schwartz, 1987). More adaptive strategies such as acceptance, reappraisal or problem-solving are less associated with the pathology than the less adaptive ones (Aldao, Nolen-Hoeksema, & Schweizer, 2010). However, it is not necessarily to use only one emotion regulation strategy. Individuals who may adopt plenty of emotion regulation strategies at the same, have the flexibility of using them across the situations (Bonanno, Papa, Lalande, Westphal, & Coifman, 2004).

Gross and Jazaieri (2014) indicated that disorders are linked to various emotion-related problems. Higher levels of negative emotions are related to the later symptoms or disorders which convince us that the emotion regulation is the risk factor for healthy functioning (McLaughlin, Hatzenbuehler, Mennin, & Nolen-Hoeksema, 2011). Within this context, emotional intensity is also another concept which is worth to mention. It refers to the responding to variety of stimuli as high or low (Gross & Jazaieri, 2014). Also, the emotional intensity is observed in different ways in different disorders, for example in social anxiety disorder, hyperactivity of negative emotions is clearly apparent, however people who have antisocial personality disorder show hypoactivity of positive emotions (Gross & Jazaieri, 2014).

As it is mentioned before, emotion regulation and psychopathology have a significant relationship and this relationship has implications for various disorders. First of all, emotion regulation problems are at the center of the bipolar disorder (BD). Individuals, suffering from this disorder experience severe mood swings that they do not have control over. They experience difficulties regulating their emotions, especially modulating the emotional intensity (Gruber, Hay & Gross, 2014). Furthermore, BD patients show increased positive emotion reactivity in different situations (Gruber, 2011). Also, negative emotion reactivity could be seen in severe depression that they suffer time to time in their lives (Judd et al., 2003). Studies about neural activity of BD patients suggest that these individuals exhibit increased levels of activation in specific brain areas which

are related to emotional salience for example amygdala, ventral striatal regions and so on (Hassel et al., 2008). In addition to that, another neuroimaging study found that there is abnormal decrease in left-sided orbitofrontal cortex activity while employing emotion regulation paradigms in BD patients (Phillips, Ladouceur, & Drevets, 2008). Apart from these findings, Mennin et al. (2007) elucidated that generalized anxiety disorder, major depressive disorder and social anxiety disorder are also associated with the emotion dysregulation. Individuals suffering from anxiety and depression show emotion regulation difficulties (Campbell – Sills & Barlow, 2007) and have more severe and longitudinal symptoms over the time (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008).

1.3.4.1. Emotion regulation strategies and obsessive-compulsive symptoms

Obsessive Compulsive Disorder has also similar associations with emotion regulation like other disorders do. Obsessive-compulsive symptoms are associated with the negative reactivity to emotions (Stern, Nota, Heimberg, Holaway, & Coles, 2014). Also, they suggested that these symptoms are related to poor understanding of emotions as well. Yap et al. (2017) found that emotion regulation difficulties were positively correlated with the OCD severity of the participants. It is also stated that OCD was associated with the emotion regulation problems which were adopting more maladaptive strategies such as suppression and less reappraisal strategies (Ferreira et al., 2021). Apart from these, Stern et al. (2014) stated that OC symptoms may be linked to the avoiding emotions. In the parallel of previous statement, psychoanalytical approach suggested that obsessions and compulsions are the components of defense mechanisms to suppress the unconscious conflicts accompanied by specific emotions (Moritz, Kempke, Luyten, Randjbar, & Jelinek, 2011).

Compulsions seen in OCD creates a vicious cycle that aims to decrease the distress that unwanted thoughts or urges do, however they cause maintaining the attention towards these intrusive thoughts and the emotions accompanied to them which deteriorate the emotion regulation ability and promotes the continuity of compulsions (Calkins, Berman, & Wilhelm, 2013). For example, an individual who is occupied with recurrent obsessive thoughts about losing his/her children and parents, experience extreme anxiety and fear and has great trouble down-regulating these feelings. Disturbing thoughts evoke negative emotions as in the previous example and cause the maintenance of the obsessions and compulsions which can be seen as a motivation of emotion regulation. Especially, checking rituals was found significantly associated with inability of emotion

regulation and negative reactivity to emotions (Coleman, Pietrefesa, Holaway, Coles & Heimberg, 2011). Emotion regulation ability is also significantly related with the OCD severity and it was found that higher emotion regulation ability diminishes the OCD severity (Allen & Barlow, 2009). It is found that emotion regulation avoidance strategies are associated with the obsessive-compulsive symptoms (Fergus & Bardeen, 2014).

Suppression, an emotion regulation strategy prevents individuals from understanding that the perceived threat is not the real threat for them (Cisler, Olatunji, Feldner, & Forsyth, 2010). Because of that, the compulsions are maintained to be performed in order to diminish the anxiety and distress. As a result, individuals focus more on unwanted and disturbing thoughts and accompanying emotion than ever before (Fergus & Bardeen, 2014). In consistent with the previous findings, Najmi, Riemann and Wegner (2009) also found that suppression which was used to decrease the stress and anxiety that obsessions emerge, increased the distress experienced by participants instead of alleviating it.

Lastly, thought suppression efforts was found significantly associated with the thought-action fusion (TAF) seen in OCD which later have an elevating effects on OC symptoms (Altın & Gençöz, 2011).

1.4. Locus of Control

Locus of control which is also known as internal versus external control of reinforcement, is used to explain whether the outcome or reinforcement of the behavior is contingent on one's own characteristics or behavior or depend on the external sources such as fate, god, chance and so on (Rotter, 1990). It is one of most important personality dimensions whom effects can be seen easily in daily life. For instance, some individuals tend to attribute the failures to themselves and take precautions next time, work harder to fix the things, or try to gain insight about possible causes of the outcome however, other type of people always find excuses for their own mistakes or blame external factors, spiritual motives, or bad luck. The former type of people has internal locus of control. On the other hand, the latter has external locus of control. Individuals who rely on their internal expectancies, are more likely to take responsibilities for their actions than the individuals relying on external expectancies (Phares, Wilson & Klyver. 1971). Also, individuals with internal locus of control take more effective actions to problem-solving (DuCette & Wolk, 1972) and become more intervening and careful on performance-oriented tasks (Lefcourt, Gronnerud &

McDonald, 1973). Crisson and Keefe (1988) suggested that there is a cause-and-effect relationship between acts of individuals and the experiences they have in their lives. In addition to that, individuals who think that events around them depend on their own behavior rather than external factors, are more likely to struggle to change the undesirable life events (Levenson & Miller, 1976). For instance, religious individuals who believe in God or other spiritual forces tend to pray or do rituals to obtain the desirable outcomes however, individuals who believe that the only force to change the things is their internal motivation and capability try to take steps rather than waiting in a passive way. In parallel with these examples, Msetfi, Kornbrot, Matute and Murphy (2015) found that individuals with internal locus of control is found to be more adaptive. In addition to that, locus of control functions as a mediator between the negative life events and psychopathological symptoms by changing the impact of negative life events on such symptoms of it has an impact on the power of relationship (Moreira et al., 2020). Similar to that, Gilman, Kawachi, Fitzmaurice and Buka (2003) stated that negative life events could affect individual's attributions towards control and that has an impact on psychiatric symptoms.

Learning theories have a prominent role for the development of the concept of locus of control. Operant conditioning, which is also known as instrumental conditioning, refers to the type of learning adopting the methods of punishment and reward, has implications on internal and external control of reinforcement. After the various attempts to learn the source of behavior and the situations, people develop expectancies. These expectancies shape our perception about the behaviors and the situations. Strickland (1978) stated that internal-external control dimension is a generalized expectancy which is became involved during events which is contingent on their behavior or not.

Social Learning Theory provided the theoretical background for the concept of reinforcement and its effects on nature of individuals (Rotter, 1954). According to that theory, reinforcement plays an important role regarding the expectancy for specific behaviors that could be held in the future (Rotter, 1966). If the reinforcement of the behaviors is not well- structured, the expectancy will be lowered.

Expectancy which is the precursor of the locus of control concept which one of important dimensions of the personality (Rotter, 1966). In that context, the concepts of reinforcement,

gratification and reward are considered to be highly related to the change of human behavior (Rotter, 1966).

1.4.1. Locus of control and other concepts related with “control”

The concept of control has been widely investigated throughout decades. However, the interest of investigating the personal control had widely started again at the beginning of 1960's (Shapiro, Schwarz & Astin, 1996). In the 1970s and 1980s, it was one of the most popular concepts in the literature (Kennedy, Lynch & Schwab, 1998). There are many distinctive definitions of control which are the outcomes of handling the control concept from various perspectives. On the other hand, although there are many concepts Thompson (1981) stated that more generally the concept of control could be defined by having a dominant reaction that has an impact on the aversiveness of the event.

It was thought that “control” could have significant associations with human behavior, personality factors and psychopathology. Thus, it is possible to see the need of control in daily life. Bandura (1990) stated that control is one of the basic needs of humans and there is a common powerful effort to control one's life. Through political, social, and relational motives, construct of control could be examined from different point of views. For instance, totalitarian regimes always want to maintain the power and have an effort to control all the parts of society and organizations, or a mother has an absolute control over the needs of the newborn. Averill (1973) argued that individuals demand more personal control in the presence of control of others, for example students wants more control over political circumstances or individuals coming from low socioeconomic status want to gain more control over economic policies and so on. It is possible that control has been already discussed as a concept for centuries but especially after Rotter's locus of control studies had been published in 1960's, researchers were having much more focus on control and related concepts. Wortman & Brehm (1975) stated that individuals have a drive to control their environment which is thought to be useful to maintain. Also, when individuals have control over daily events, it was found to be positive for psychological functioning (Langer & Rodin, 1976).

As mentioned before, locus of control is not the only concept which is used to explain the “control”. There are many other concepts in the literature although they have nuances, namely, attributional style, locus of control, self-efficacy, perceived control and so on (Keeton, Perry-Jenkins, & Sayer, 2008). Although they used in different areas and contexts, some of these concepts

could be assigned to mean the same as well. Perceived control is one of them. It is defined as the belief that an individual has an attempt to control her/his life experiences and conditions (Ly, Wang, Bhanji & Delgado, 2019). The concept of “attributional style” was put forward to refer one’s attributions to the causes of the events that could be both positive or negative which has an impact on the ongoing process of depression (Abramson, Seligman & Teasdale, 1978). To sum up, although there are several concepts defining the control, their common effort was to show how control issues dealt by the individuals.

1.4.2. Locus of control and psychopathology

There are numerous studies that have been trying to find a significant relationship between locus of control and psychopathology. Benassi, Sweeney and Dufour (1988) claimed that more externality was significantly related with the more depressive symptoms. Tobin and Raymundo (2010) suggested that external locus of control is associated with depression. They also found that externality is associated with the higher levels of depression risk in adolescents. In their clinical study, Martin, Abramson, and Alloy (1984) found that depressed participants tend to state that they have limited control over experimental results, however non-depressed participants attribute more control towards results. Also, Crisson and Keefe (1988) found that individuals who had chance (external) locus of control was more likely to describe depressive symptoms, anxiety and OC symptoms. Similar to these findings, İnözü et al. (2012) found that higher external locus of control is associated with the higher levels of depressive symptoms. In addition, Wong and Anitescu (2017) stated that individuals with internal locus of control were found less depressed than the group who had fatalistic thoughts about their health. On the other hand, Abramson and Sackeim (1977) propounded a paradox about relationship between depression and control concept. Although there is a significant association between depressive symptoms and external locus of control, they emphasize on the self-blame concept of the Beck’s (1967) cognitive model of depression and discussed that how come individuals with external locus of control could blame themselves for the events that they do not have control over.

Culpin, Stapinski, Miles, Araya and Joinson (2015) suggested that external locus of control mediates the relationship between the socioeconomic adversity and depression in adolescent which supports the findings of previous study. Although there is an association between external LOC and psychopathological symptoms, power of this relationship differs across countries (Cheng,

Cheung, Chio & Chan, 2013). They found that the level of association is much lower in collectivistic cultures than individualistic cultures.

Besides these, research studies which is conducted with psychotic individuals show that there is an association between LOC and psychotic symptoms. Also, it was found that external locus of control (LOC) is linked to the psychotic symptoms in children (Sullivan, Thompson, Kounali, Lewis & Zammit, 2017). Varkey and Sathyavathi (1984) suggested that individuals suffering from schizophrenia seems to have external LOC. Also, paranoid individuals have similar type of LOC (Kaney & Bentall, 1989). Experiment carried out with adolescents, shows that external LOC is related to the grater risk for adolescents to develop schizophrenia in following years in their lives (Frenkel, Kugelmass, Nathan, & Ingraham, 1995). Similarly, it is found that paranoid schizophrenia patients seem to have externalized attribution style (Bentall et al., 2001), especially their delusions are based upon the stimuli coming from the external world.

In the study conducted with the individuals who were exposed to sexual assault and developed posttraumatic stress disorder, was found that increased perceived control is related to the lower levels of distress in longer periods (Frazier, 2003). In addition, the relationship between post-traumatic distress and perceived control were examined by suggesting a “temporal model” which investigate the control in three levels: past, present and future (Frazier, Berman & Steward, 2001). According to the results, present and future control was found to be more adaptive and associated with less PTSD symptoms.

Abramson et al. (1978) stated that individuals are more vulnerable to depression if they have limited access or loss over their actions or environment. According to the model of vulnerability for anxiety and depression, Chorpita and Barlow (1998) suggested that individuals with low perceived control tend to misconceive the environmental stimuli as uncontrollable and that leads negative affects and in turn, HPA axis is triggered which plays role in anxiety and depression. Results supporting previous findings by Cohen, Sade, Benarroch, Pollak and Gross-Tsur (2008) also suggested that LOC is associated with the severity of anxiety and depression in children with Tourette syndrome. Also, they found that symptoms of anxiety and depression is associated with external LOC. Gallagher, Bentley, and Barlow (2014) suggested that decreased perceived control is associated with various anxiety disorders. They also claimed that increasing the perceived control may lower the stress levels of the individuals. Also, Wardle et al. (2004)

found that perceived control is associated with depression and life satisfaction among college students. Furthermore, perceived control over the circumstances was found to have an antidepressant effect on individuals (Ledrich & Gana, 2013).

Sanderson, Rapee and Barlow (1989) suggested that participants who think that they have control over experimental situation which was having access to adjust the carbon dioxide amount they inhale, experiences less panic attack symptoms and less subjective anxiety. Also, they describe less catastrophic cognitions and panic attack symptoms they perceived were less severe than the participants who could not control the carbon dioxide amount. Cloutre, Heimberg, Liebowitz and Gitow (1992) found that panic disorder and social phobia patients exhibit lower levels of internal control than the control group. The remarkable difference between these two patient groups were their attributions towards the source of events. While panic disorder patients attribute life events to the random situations, social phobics attribute to "powerful others".

Apart from the relationship between locus of control and psychopathology, it is also useful to mention the various implications of locus of control in other areas as well. Skinner (2007) stated that ongoing researchs have revealed that perception of control is associated with the general well-being of an individual and has many implications for further life experiences and general health. Ravaja, Keltinangas-Jarvinen & Viikari (1996) found that locus of control moderates the relation of life changes and metabolic parameters like body mass index, serum insulin, systolic blood pressure, lipoprotein cholesterol and so on. According to their findings, for participants with external locus of control, life changes predict less somatic risks than the ones with internal locus of control. Apart from health issues, perceived control was also found to be associated with better performance at work and better expectation for the future career (Stillman et al., 2010). Also, Suarez-Alvarez, Campillo-Alvarez, Fonseca-Pedrero, Garcia-Cueto and Muniz (2013) found that achievement motivation was positively correlated with the higher scores of internal locus of control. Optimism was also found positively related with the internal locus of control (Urbig & Monsen, 2012). Lastly, there were found internal locus of control was significantly related with the achievement of learning in distant education (Severino, Aiello, Cascio, Ficarra & Messina, 2011). In addition to that obtained result, they showed that self-efficacy had significant relation with locus of control. Suarez-Alvarez. Pedrosa, Garcia-Cueto and Muniz (2016) research about locus of control and found that internal locus of control had positive relation with self-efficacy, optimism

and achievement motivation however, external locus of control had totally opposite relation with these three concepts.

1.4.3. Locus of control and obsessive-compulsive symptoms

Like any other psychopathological phenomena, obsessive-compulsive symptoms could be investigated in the scope of control concept. Earlier studies in obsessive-compulsive related literature do not specifically focus on locus of control but mention the control issues in clinical cases. Carr (1974) stated that patients suffering from the obsession and compulsions have a problem of losing control over their own behavior. Rachman (2002) stated that the most prevalent dimension of the OC symptoms was compulsive checking. It is performed to gain control over the threatening situations. Also (Moulding, Kyrios & Doron, 2007) found that individuals with OCD had increased sense of responsibility for preventing harm and that made them control over the situations which could be possible threat. While discussing these to concepts, locus of control is also worth to be mentioned in order to comprehend the control issues from the various perspectives.

There is not broad literature about LOC and OC symptoms. These two concepts were barely discussed than other concepts about. Altın and Karancı (2008) found that LOC had a significant relationship with the obsessive thinking symptoms. They suggested that individuals who had higher LOC score are more likely to have higher obsessive thinking symptoms. Also, they contented that OC symptoms were seen higher if the individuals with inflated responsibility had external LOC rather than internal LOC. İnözü, Yorulmaz and Terzi (2012) suggested that although LOC did not show any relationship with OC symptom severity or dimensions, combined effect of external LOC and high desire for control could be related to compulsive behaviors such as checking or cleaning. Also, they found that the interaction of importance and control beliefs and LOC significantly associated with the general OC symptom severity.

Moulding and Kyrios (2006) stated that low levels of sense of control was associated with OC symptoms. Also in their another study, they have suggested that higher desire for control and lower sense of control were associated with OC symptoms especially with compulsive features (Moulding & Kyrios, 2007). Desire for control was found in higher levels in individuals with OCD than the non-clinical and anxiety disordered groups (Clark, Purdon & Wang, 2003). Higher levels of desire for control in the individuals with OCD could be the indication of external LOC. Moulding et al. (2007) also explained the relationship between control and OC symptoms via suggesting that

thoughts of having control in the stressful and fearful situations functions as a triggering factor to act out compulsive behaviors.

1.5. Aim and Hypotheses

The aim of this research is to investigate the mediating effect of the emotion regulation strategies on the relationship between locus of control and obsessive-compulsive symptoms. The purpose is to find out whether two different emotion regulation strategies -cognitive reappraisal and suppression- as processes that has an impact on relationship between these two concepts or not. Although there are many studies which investigate the relationship between OC symptoms and emotion regulation strategies, it was not examined with the presence of locus of control variable which is very useful to understand the attitudes of individuals and its effects on behaviors and symptoms. Also, investigating the effect of locus of control could be important to enhance the clinical practices. Apart from these, also demographical variables were investigated before starting to main analyses although they were not suggested as hypotheses.

In our study, there are four main hypotheses;

- 1- Locus of control is correlated with the obsessive-compulsive symptoms.
- 2- Cognitive reappraisal is negatively correlated with obsessive-compulsive symptoms.
- 3- Suppression is positively related with the obsessive-compulsive symptoms.
- 4- Suppression and cognitive reappraisal as emotion regulation strategies mediates the relationship between the locus of control and the obsessive-compulsive symptoms.

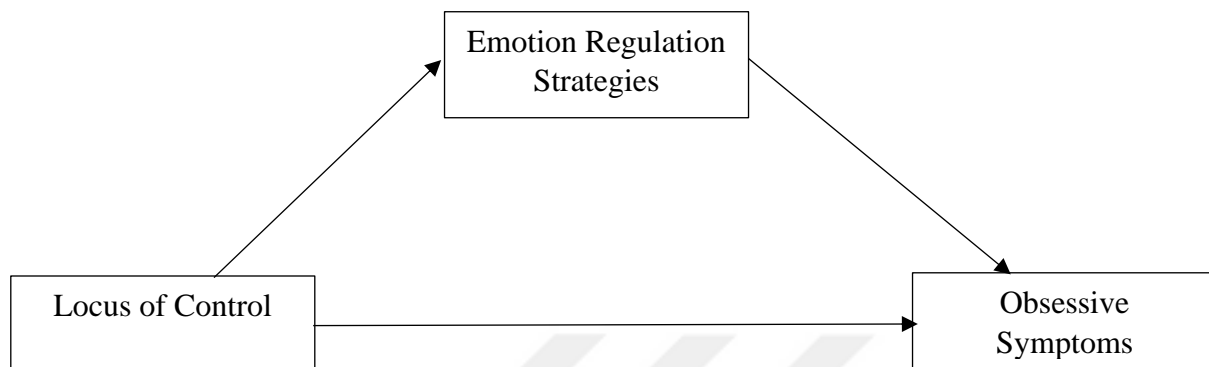


Figure 1. Mediation model of the current study. Mediating effect of emotion regulation strategies on the relationship between locus of control and obsessive-compulsive symptoms.

Chapter 2

Method

2.1. Participants

The current study has comprised 337 individuals. During the data screening, it was realized that 10 participants were registered twice on the excel. So, the second copy of their data were omitted. Also, only one participant did not agree with the terms and conditions although she/he have completed the whole scales. Anyway, her/his data were also omitted from the whole data. 87% ($N=302$) of the sample did not have a psychiatric diagnosis while 13% ($N=34$) had a psychiatric diagnosis including anxiety disorder, major depressive disorder, obsessive-compulsive disorder, panic disorder, agoraphobia, and body dysmorphic disorder. And 93 percent of them did not use any psychotropic medication while 7 percent of them were using psychotropic medications including antidepressants, anxiolytics, and antipsychotics. Hence the study was conducted with the non-clinical population, participants who have already had any diagnosis were excluded from the sample. Thus, the analysis was run with the data of remaining 290 participants. Only the participants whose ages were in between 18-65 years, were accepted for the study.

2.2. Instruments

Participants completed socio-demographic form to give their personal information, Dimensional Obsessive-Compulsive Scale to identify their level and type of psychopathology, Emotion Regulation Questionnaire to show their emotion regulation capacity and usage of emotion regulation strategies and Locus of Control Scale to assess whether the control of their actions are attributed to internal or external sources. All of these scales were converted to the online form to be distributed easily.

2.2.1. Socio-demographic information form

Participants were requested to answer the questions about their age, gender, educational level, vocational information, average monthly income and marital status. Also, they were asked whether they have children or not. Hence, we did not accept the individuals under 18 and above 65 years old, our age groups were consisted of four different levels: 18-24, 25-35, 35-45, 45-65. Exclusion criteria of the study were individuals having psychiatric disorders, ages above 65 because of the probable distortions of cognitive abilities and ages below 18 because of the legal consent problem. Education level question had five dimensions namely primary school, middle school, high school, undergraduate and graduate.

2.2.2. Dimensional obsessive-compulsive scale (DOCS; Abramowitz et al., 2010)

Dimensional Obsessive-Compulsive Scale was developed by Jonathan Abramowitz and his colleagues in 2010. It is 20-item scale and has four subscales which correspond to the existing symptom dimensions. These subscales are namely, contamination, responsibility, unacceptable obsessive thoughts and symmetry, completeness, and exactness. For each subscale, there are 5 questions. Before starting to each subscale, there is an explanation part and example of symptoms that are related to the dimension. Participants are requested to respond questions considering the obsessive-compulsive symptoms that are experienced within the last month. In the contamination subscale, participants are requested to respond the items which is related to washing, cleaning compulsion. In the responsibility subscale, there are questions about responsibility regarding harm, injury, and misfortune. Third subscale examines the unwanted, intrusive thoughts which cause distress and neutralizing practices.

It is a 5-point Likert-type scale in which respondents may choose the statements between “0” and “5” for each question. “0” refers that respondent has no symptom however, 5 refers that the respondent experiences extreme symptoms.

They proposed many limitations regarding the previous measures thus, they tried to improve the understanding of the obsessive-compulsive symptoms and assessment efficiency (Abramowitz et al., 2010). The aim of the scale was indicated that handling the common points of the obsessions, compulsions and avoidance behavior for each symptom dimension and determine the symptom severity free from the type and frequency of the symptoms (Abramowitz et al., 2010). For instance, they put the OC symptoms into groups rather than selecting specific obsessions or rituals.

It is a self-report scale which participants are told to complete the questions by themselves. So, instructions should be given carefully to prevent the confounding variables and measurement error.

Turkish standardization was completed by Şafak, Öcal, Özdel, Kuru, and Örsel in 2017. The study was conducted with 96 participants who had previously diagnosed as OCD. Cronbach's alpha value for the entire DOCS scale was found $r=.87$. Apart from that, it was also found different Cronbach's alpha values for four subscales. For contamination subscale $r=.93$, for responsibility subscale $r=.93$, for unacceptable thoughts subscale $r=.94$ and for symmetry subscale $r=.92$ were found. The Cronbach's alpha value of the scale of the current study was $r=.82$.

2.2.3. Emotion Regulation Questionnaire (ERQ; Gross & John, 2003)

Emotion Regulation Questionnaire was developed by James Gross and Oliver John in 2003. It is a 10-item scale that measures the individual's tendency of selecting which type of the emotion regulation strategies namely, cognitive reappraisal and expressive suppression. Statements are rated by respondent in a 7-point Likert-type scale in which 1 refers to "strongly disagree" and 7 refers to "strongly agree".

ERQ is an also self-report that participants rate the statement by themselves. Participants are requested to rate the statements from 1 (strongly disagree) to 7 (strongly agree). Item 1, item 3, item 5, item 7, item 8, and item 10 are the reappraisal items. On the other hand, item 2, item 4, item 6, and item 9 are the components whom sum of scores generates the suppression score of the participants.

The Turkish translation of ERQ was conducted by Yurtsever (2008) but the revised version, whose items were reevaluated by Aka and Gençöz (2014), was adopted in this study. In the standardization study, Yurtsever (2008) checked the Cronbach alpha to measure the internal consistency and reliability of the subscales. The values have been found as $r=.85$ for Cognitive Reappraisal and $r=.78$ for Suppression. Also, to compute the test-retest correlation, the same participants were taken into study in the four-week interval and was found that test-retest reliability was computed and found $r=.88$ for Cognitive Reappraisal, $r=.82$ for Suppression. Apart from these, 10 items were examined to check the construct validity by the seven judges who are academics teaching courses at the college. In addition to that, peer evaluation was conducted to check validity.

The rationale behind this method is that the emotion regulation strategies were assumed to be seen by others whom we share the same environments (Yurtsever, 2008). Regarding that, students were given a form consisted of five questions to share their thoughts about their friends who has known each other for 4-5 years. Results indicated that the correlation between Peer Rating Index and Cognitive Reappraisal was $r=.75$ ($p<.01$) and the correlation between Peer Rating Index and Suppression was $r=.85$ ($p<.01$).

The revised version of Turkish standardization of ERQ which we used in current study, was conducted by Aka and Gençöz in 2014. They developed the new forms of the existed items and found the Cronbach alpha values $r=.85$ for Cognitive Reappraisal and $r=.78$ for Suppression. The Cronbach's alpha value of the scale of the current study was $r=.76$ for Cognitive Reappraisal and $r=.84$ for Suppression.

2.2.4. Rotter's Locus of Control Scale (RLOC; Rotter, 1966) & Locus of Control Scale (LCS)

Rotter's Locus of Control Scale (RLOC) was developed by Rotter in 1966. It consists of 29 questions, each with two options and participants are requested to choose one of them. Six questions were deliberately put into the questionnaire to conceal the aim of the study. For the external locus of control statement of each question is given 1 point and the total score of the participants may change between 0 and 23 points. The higher score that participant get, higher tendency to have been dominated by external locus of control.

However, in this study Locus of Control Scale (LCS) which was developed by İhsan Dağ in 2002, was used instead of Rotter's Locus of Control Scale. The scale is 5-point Likert-type scale in which 1 refers to "completely inappropriate", 2 refers to "not much appropriate", 3 refers to "appropriate", 4 refers to "much appropriate" and 5 refers to completely appropriate. Apart from this, scale has 47 items. Unlike Rotter's Scale, LCS has much more control areas including, believing the luck, fate, unfair world belief, powerful others belief, control belief in interpersonal relationships, control belief in success situations, control belief in health (Dağ, 2002).

While developing the scale, Dağ had created an item pool which contains 80 items derived from various measures. 42 of 80 items were taken from the RLOC. The rest of the items were taken from 8 different scales. 16 items were adopted from the Nowicki - Strickland Scale (Nowicki &

Strickland, 1973), 8 items were taken from the Brown Scale (Brown, 1990), 8 items from two different health scales (Lau & Ware, 1981; Wallston et al., 1976), 2 item from Reid – Ware Scale (Reid & Ware, 1974), 1 from Levenson’s Scale (Levenson, 1974) and 1 from the Dieting Beliefs Scale (Stotland & Zuroff, 1990). After item analyses, items whose item-total correlation under .30 were excluded from the scale. Also, the items which cannot be differentiated across the subgroups were not included the measure. The remaining 47 items has an internal consistency $\alpha = .91$ while at the beginning 80 items had $\alpha = .88$ (Dağ, 2002). After the first item analysis, the scale was applied to the new sample and Cronbach’s alpha value was found $r = .92$. Also, item total correlation was found variance between .20 and .70. After a month, second test was conducted, and test-retest reliability Pearson correlation coefficient was found $r=.88$. The 22 of scale items were calculated by reverse scoring. Like RLOC, higher points indicated that a participant has an external locus of control tendency and the range of the scores that a participant could get was in between 47 and 235. Lastly, the Cronbach’s alpha value of the scale of the current study was $r=.89$.

It is important to note that there is only one total locus of control score for each participant and the highness of scores is going to be determinant for participants to differentiate as external LOC or internal LOC.

2.3. Procedure

Before collecting the data, it was taken a permission from the ethical committee of the university. After having the approval, participants were asked to complete the online surveys of the scales. First, all the scales were transformed into online forms and combined in the one single Google form. Before starting to complete the scales, all participants were given the consent form and were asked to agree with the terms and conditions of the study. After that, they started to fill out the demographic form. After filling out the demographic form, they were asked to complete the Dimensional Obsessive-Compulsive Scale, Emotion Regulation Questionnaire and Locus of Control Scale in given order. They were not allowed to skip any questions or pages, so they had to mark all the questions and statements before sending the answers.

CHAPTER 3

Results

3.1. Data Screening

Data screening was performed to examine the accuracy in data entry, the fit between the distributions of continuous variables, missing values, and the requirements for the univariate analyses. No missing values were detected. Data from the participants with a psychiatric diagnosis was deleted thus the total N of 346 was reduced to 297. To test the assumption for normality, the skewness and kurtosis statistics were used. The results showed that the scores on ERQ, DOCS, and LCS were normally distributed since all statistics were ranged from -1.00 to 1.00. With the use of a $p < .01$ criterion for Mahalanobis distance, seven multivariate outliers were found. Thus, the total N of 297 was reduced to 290 with the deletion of the cases with multivariate outliers. Scatterplots for the residuals were checked to the test of other requirements including linearity and homogeneity of variances for the univariate analyses. The results indicated that the assumptions of linearity and homogeneity were also met.

3.2. Descriptive Statistics

Initially, sociodemographic characteristics of the sample were compared to each other. The results showed that except children status, the subgroups were homogenous in terms of the distribution of the sample (Table 1).

Table 1

Sociodemographic characteristics of sample

		$N=290$	%	p
Gender	Female	216	75	
Table1(continued)				
	Male	74	25	.00**

Age Group	18-24	44	15	.00**
	25-35	107	37	
	36-45	13	5	
	46-65	126	43	
Marital Status	Single	134	46	.00**
	Married	147	51	
	Separated	6	2	
	Widowed	3	1	
Children status	Yes	138	48	.05
	No	152	52	
Education Status	High School	10	3	.00**
	University	138	48	
	Master's degree or higher	142	49	
Working Status	Working	199	69	.00**
	Not working	91	31	
Income	0-2000 TL	56	19	.00**
	2001-4000 TL	38	13	
	4001-6000 TL	52	18	
	6001 TL and more	144	50	

** $p < .01$

The gender differences in total obsession scores were analyzed by using independent sample t-test, the results showed that there were no gender differences, $t(152) = 1.05$, $p > .05$ (Table 2). Age-group differences in overall obsessive symptoms were analyzed by using one-way ANOVA, the results revealed that there were age-group in total obsession scores, $F(3,29) = 11.86$, $p < .01$. Post-hoc Tukey test showed that people between the age of 18 and 24 were more likely to have obsessive symptoms compared to all other age groups (Table 2). And, marital status differences in obsessive symptoms were examined by using one-way Anova, the results showed

that there were marital status differences in overall obsessive symptoms, $F(3,29)= 6.43, p<.01$. Tukey Post-hoc test revealed that single people were more likely to have obsessive symptoms compared to married people (Table 2). Independent sample t-test was used to analyze child status differences in overall obsessive symptoms, the results indicated that people without children were more likely to have obsessive symptoms compared to people with children, $t(288)= 3.68, p<.01$ (Table 2). Educational status differences in obsessive symptoms were analyzed by using one-way ANOVA, the results showed that the degree of obsessive symptoms were significantly different in people with different educational level were had significantly, $F(2,29)= 4.60, p<.05$. Post-hoc Tukey test showed that people who graduated from university had more obsessive symptoms compared to people had master's degree or higher (Table 2). Independent sample t-test was done to examine working status differences in overall obsessive symptoms, the results indicated that working people were less likely to have obsessive symptoms compared to people without work, $t(288)= 3.30, p<.01$ (Table 2). One-way ANOVA was used to examine income differences in obsessive symptoms, the results indicated that people with different income ranges had significant degree of obsessive symptoms, $F(3,29)= 6.85, p<.01$. Tukey post-hoc test revealed that people with income ranged between 0 and 2000 were more likely to have obsessive symptoms compared to people with income ranged between 4001 and 6000 as well as 6001 or more. Also, people with income ranged between 2001 and 4000 had more obsessive symptoms compared to people with income range of 6001 or more (Table 2).

Table 2

Sociodemographic differences in obsessive-compulsive symptoms

		Obsessive Symptoms	<i>p</i>
		Mean (SD)	
Gender	Female	18.67 (10.73)	.30
	Male	17.35 (8.82)	
Age Group	18-24	25.93 (9.98)	.00**
	25-35	18.37 (9.84)	
	36-45	16.92 (9.96)	
	46-65	15.79 (9.54)	
Marital Status	Single	20.73 (10.38)	.00**
	Married	16.00 (9.43)	
	Separated	16.67 (12.42)	
	Widowed	29.00 (15.59)	
Child status	Yes	16.05 (9.48)	.00**
	No	20.41 (10.56)	
Education Status	High School	23.20 (8.31)	.01*
	University	19.77 (10.09)	
	Master's degree or higher	16.60 (10.31)	
Working Status	Working	17.01 (10.14)	.00**
	Not working	21.23 (10.03)	
Income	0-2000 TL	22.70 (9.82)	.00**
	2001-4000 TL	21.29 (10.35)	
	4001-6000 TL	16.50 (9.67)	
	6001 TL and more	16.52 (10.04)	

* $p < .05$, ** $p < .01$

3.3. Correlation and Regression Analyses for the Sample

The first hypothesis that locus of control would be correlated with obsessive-compulsive symptoms was analyzed by using Pearson correlation test. The correlation coefficients were shown in Table 3. Specifically, people with a stronger external locus of control were more likely to have contamination obsessions ($r=.22, p<.00$), an inflated responsibility ($r=.22, p<.00$), unacceptable thoughts ($r=.25, p<.00$), and overall more obsessive symptoms ($r=.26, p<.00$) (Table 3). Likewise, people with a stronger internal locus of control were less likely to have contamination, inflated responsibility, unacceptable thoughts, and obsessive symptoms in general (Table 3). Additionally, people with stronger external locus of control were more likely to use suppression ($r=.13, p<.05$) and less likely to use cognitive reappraisal ($r=-.25, p<.00$) as an emotion regulation strategy (Table 3).

The second hypothesis that cognitive reappraisal would be negatively correlated with obsessive-compulsive symptoms was analyzed by using Pearson correlation test. People who had higher use of cognitive reappraisal strategy as a way of regulating emotions were less likely to have an inflated responsibility ($r=-.19, p<.00$), unacceptable thoughts ($r=-.17, p<.00$), and overall less obsessive-compulsive symptoms ($r=-.15, p<.00$) (Table 3). Similarly, third hypothesis that suppression would be positively correlated with obsessive-compulsive symptoms was tested by using Pearson correlation test. The results demonstrated that people who had higher use of suppression as an emotion regulation strategy were more likely to have only symmetry obsessions ($r=.13, p<.05$) (Table 3).

Table 3

Pearson correlation coefficients for the sample

	1	2	3	4	5	6	7	8
1. Locus of Control	1.00	.26**	-.25**	.13*	.22**	.22**	.25**	.10
Table 3 (continued)		1.00	-.15**	.10	.81**	.84**	.80**	.66*
2. Obsessive Symptoms			1.00	.06	-.09	-.19**	-.17**	-.00
3. Reappraisal				1.00	.07	.09	.04	.13*
4. Suppression					1.00	.57**	.45**	.48**
5. Contamination						1.00	.64**	.37**
6. Responsibility							1.00	.33**
7. Unacceptable thoughts								1.00
8. Symmetry								

* $p < .05$, ** $p < .01$

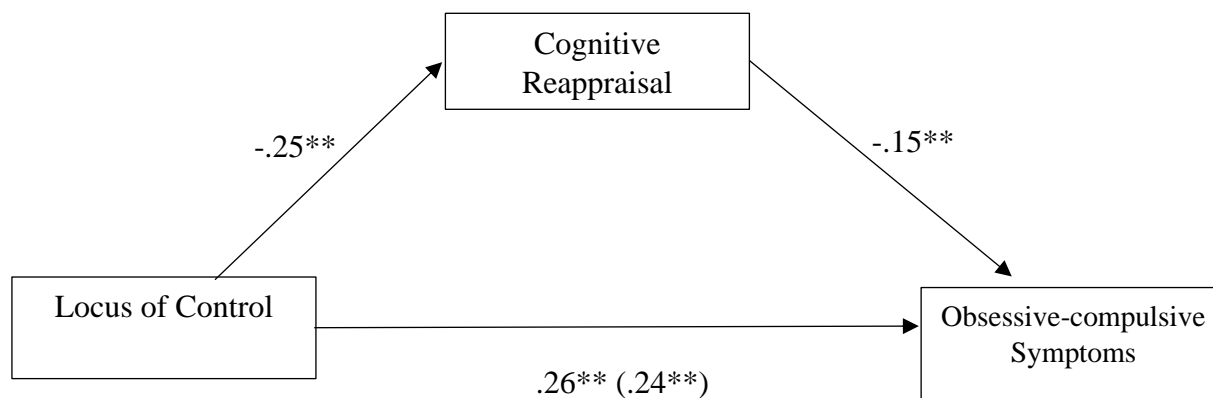


Figure 2. Parallel mediation model ($N=336$). Indirect effects of locus of control on obsessive symptoms through cognitive reappraisal. Standardized effects are presented. The effects on the direct path from locus of control to overall obsessive symptoms indicate the direct effect and the (total effect). * $p<0.05$, ** $p<0.01$.

Since there was no significant relationship between suppression, and overall obsessive symptoms, one model was produced to evaluate whether cognitive reappraisal would mediate the relationship between locus of control, and obsessive symptoms. Thus, to test the fourth hypothesis that the relationship between locus of control, and overall obsessive symptoms would be mediated by emotion regulation strategies, locus of control was taken as the predictor variable, cognitive reappraisal as the mediator variable, and overall obsessive symptoms as the predicted variable. Step 1 showed that direct effect of locus of control on overall obsessive symptoms, ignoring cognitive reappraisal, was significant, $b= .26$, $t(290)= 4.59$, $p<.01$ (Figure 1). In step 2 of the model, there was an indirect effect of locus of control on cognitive reappraisal, $b= -.25$, $t(290)= -4.30$, $p<.01$. Third step of the model revealed that the effect of cognitive reappraisal on overall obsessive symptoms, controlling for locus of control, was significant, $b= -.15$, $t(290)= -2.64$, $p<.01$. And, last step of the mediation model showed that controlling for the mediator (cognitive reappraisal), the effect of locus of control on overall obsessive symptoms was significant, $b= .24$, $t(290)= 4.06$, $p<.01$. A Sobel test was done, and it revealed that after including cognitive reappraisal as a mediator in the model, the reduction in the indirect effect was significant, $z=2.29$, $p<.05$. This statistic suggested that cognitive reappraisal significantly mediated the relationship between locus of control, and overall obsessive symptoms.

CHAPTER 4

Discussion

The current study aimed to examine the mediating effect of emotion regulation strategies on the relationship between the obsessive-compulsive symptoms and locus of control.

In the discussion part, findings of the study will be evaluating in the light of contributions of previous studies. Also, limitations will be propounded and recommendations for future studies will be suggested. Moreover, clinical implications and conclusion remarks will be discussed.

The findings of analysis supported the first hypothesis which suggested that locus of control is correlated with the obsessive-compulsive symptoms. Also, the second hypothesis which stated that the cognitive reappraisal is negatively correlated with the obsessive-compulsive symptoms was found significant. According to the third hypothesis of the current study, suppression was correlated with the overall obsession scores however it was not found significant. Lastly, the fourth hypothesis contended that suppression and cognitive reappraisal as emotion regulation strategies mediates the relationship between the locus of control and obsessive-compulsive symptoms. Nonetheless, only cognitive reappraisal was taken into account while conducting analysis due to the insignificant relationship between suppression and OC symptoms.

4.1. General Evaluation of the Findings

In this sub-section, the relationship between demographical variables will be put forward according to the statistical analysis. Apart from that, relationship between independent and dependent variables will be evaluated. Subsequently, mediation analysis will be discussed.

4.1.1. Evaluation of the demographical findings

Demographical variables were also analyzed in the current study. There was found no gender difference regarding the total obsession scores. However, further studies might examine the gender differences on particular OC symptom dimensions. Tripathi et al. (2018) also found that there were no gender differences between the total obsession scores and the severity ratings.

Age groups were also analyzed regarding the total obsession scores. The participants aged in between 18 and 24 were found to have higher scores of total obsessions. Yoldaşcan, Özenli, Kutlu, Topal and Bozkurt (2009) also found similar results that OCD prevalence in Turkish college students was higher than the population prevalence. The COVID-19 pandemic could affect their scores because they have had to attend the online classes and experience various problems with socializing with their peers. This difference might also be resulted from the economic and political instability of Turkey in the recent years. Rate of unemployment increases day by day because of economic crisis and the pandemic. Especially for the younger generations, effects of external problems might be perceived much more serious than the entire population because upcoming years after graduation, they face with hopelessness and uncertainty about their future. Apart from that, their expectations could be differentiated from the older generations. There can also be other variables that have an impact on this difference so further studies could examine them in more detailed way.

4.1.2 Evaluation of the relationship between independent (predictor) and dependent variables (outcome)

In the current study, our predictor variable (IV) was locus of control (LOC) and outcome variable was obsessive compulsive (OC) symptoms. The first hypothesis was presented as LOC was correlated with the OC symptoms. Before starting the mediation analysis, the relationship between IV (predictor) and DV (outcome) was investigated. It was found that locus of control was significantly associated with obsession scores. Having higher LOC scores meant that a participant had a tendency to have external LOC. According to the results of the current study, external LOC was significantly correlated with having contamination obsessions, inflated responsibility and unacceptable thoughts. Also, participants who had stronger external LOC was more likely to have higher overall obsession symptoms.

The results regarding the relationship between LOC and OC symptoms was supported by the evidence from the previous studies (Moulding & Kyrios, 2006; Moulding et al., 2007, Altın & Karancı, 2008; İnözü, Yorulmaz & Terzi, 2012). Moulding and Kyrios (2006) found that low levels of sense of control which could be taken as external LOC, was associated with OC symptoms. Their results supported the findings of the current study. Also, Moulding et al. (2007) suggested that higher desire for control and lower sense of control were related with OC symptoms, especially

with compulsions. Altın and Karancı (2008) found that LOC had main effect on obsessive thinking symptoms. They also stated that external LOC –which means higher levels of LOC– was significantly associated with obsessive thinking symptoms. Apart from these, they suggested another remarkable finding. Although LOC was associated the obsessive thinking symptoms, there were no any relation between the LOC and cleaning, checking compulsions. That was explained via trying to gain control over perceived threat coming from external world where individual had no control over, even though these compulsions were seen dysfunctional while experiencing the daily life.

Also, the current study was suggested that individuals with the stronger internal LOC - which means having less scores on LOC- were less likely to have inflated responsibility. The findings of Altın & Karancı (2008) have also supported this finding. They asserted that individuals who have external LOC experience more severe OC symptoms if they have higher responsibility. In other words, external LOC is considered to have a significant effect on levels of OC symptoms of high responsibility individuals.

İnözü, Yorulmaz and Terzi (2012) also supported the findings of the current study. They suggested that the combination of external LOC and high control of thoughts was significantly associated with the compulsive symptoms such as cleaning and checking. Also, interaction with LOC and control beliefs were significantly predicted the general OC symptoms severity.

4.1.3 Evaluation of the mediating role of emotion regulation strategies on the relationship

The role of emotion regulations strategies on the relationship between locus of control and OC symptoms was analyzed. While evaluating the mediating role of the emotion regulation, two distinct emotion regulation strategies that we adopted for our study had to be analyzed separately. Thus, two different mediation models were presented. However, according to findings of our study, suppression scores were not significantly correlated with the OC symptoms, so mediation analysis was conducted only with the cognitive reappraisal.

Before collecting the data, it was hypothesized that suppression is positively correlated with the OC symptoms. When having had literature review, there was found significant results. Altın and Gençöz (2011) found that thought-action fusion (TAF) had a significant relationship with

thought suppression efforts which then elevates the OC symptoms. Fergus and Aberdeen (2014) stated that emotion regulation strategies related to avoidance had significant relationship with the OC symptoms. Suppression was one of these avoidance strategies. Najmi, Riemann and Wegner (2009) suggested that suppression had negative effects on OCD. They stated that suppressing the intrusive thoughts enhanced the stress that participants experienced, instead of diminishing it. However, in our study results showed that there was no correlation between suppression OC symptoms. The existing literature puts forward similar findings with the current study. For instance, Ferreira et. al (2021) have stated that suppression use was not observed with the OCD patients. They stated that ongoing medical treatment of the participants could have an effect on the suppression scores. Hence our study has been conducted with the non-clinical population, medication was not an option for us to affect the relationship. Thus, alternative explanations should be discussed.

Hence current study was conducted with non-clinical population, the relationship between suppression and OC symptom scores might have been found as insignificant.

Lastly, COVID-19 pandemic could have an effect on the suppression scores. Lorant, Smith, Van den Broeck and Nicaise (2021) suggested that psychological distress was significantly associated with the results of COVID-19 pandemic and suppression measures. They also stated that reduction of social support and social activities, ongoing lockdowns and exposure to the COVID-19 pandemic were related to that distress. With regard to these findings, suppression scores of participants of current study could be affected by those changes in the social environment.

According to the findings of the current study, cognitive reappraisal mediated the relationship between the OC symptoms and LOC. In the scope of the topic of the current study, Hope, Wakefield, Northey and Chapman (2018) suggested that emotion regulation difficulties partially mediated the relationship between borderline personality disorder features and external LOC. They emphasized the role of external LOC on emotion regulation problems. Apart from that, Pace et al. (2015) found that pathological gamblers had low levels of cognitive reappraisal and lower levels of internal LOC. Also, Barlow (2004) stated that emotion dysregulation was significantly related with the individual's unawareness of its own control of its behaviors and thoughts which could be considered as external LOC.

Results of the current study suggested that cognitive reappraisal as an emotion regulation strategy could impact the relationship between the personality factors and psychopathology. Thus, implementing cognitive reappraisal strategies into the therapeutical interventions might bring out significant outcomes.

4.2. Limitations

This study was conducted during the times of Covid-19 pandemic. The first outbreak of pandemic dated at the beginning of the February. The first official case in Turkey was seen on the March 11. After that time, the life has changed completely. In many countries, government restricted the social life and declared long periods of lockdowns. People had to alter their daily routines, and this has many psychological outcomes as well. Not only the individuals who are suffering from psychological problems have been affected from that situation, but also the non-clinical population did because of the drastic change of daily life. Rosa-Alcazar et al. (2021) suggested that uncertainty and unknown features of Covid-19 caused remarkable stress among the general population. Also, World Health Organization (2020) indicated that quarantine has restrictive impacts on individual's routines and regular activities and those entail depression, anxiety, excessive alcohol consumption, insomnia and so on.

After that coronavirus outbreak, there have been published many studies about mental health and covid-19. It was found that that psychological effects of pandemic could be seen both in clinical and non-clinical populations especially anxiety, depression, post-traumatic stress and so on (Brailovskaia & Margraf, 2020; Bueno-Novitol et al., 2021; Pfefferbaum & North, 2020). It is also found that psychological burden of the pandemic was positively correlated with the depression symptoms (Brailovskaia et al., 2021). According to the other study conducted during the pandemic, Prestia et al. (2020) indicated that contamination symptoms and compulsions of OCD patients significantly increased during the quarantine period. Also, Benatti et al. (2020) suggested that individuals suffering from OCD showed worsening regarding the clinical indications and almost 33 percent of the sample reported new obsessions and compulsions. Therefore, these unusual times of pandemic could have an influence on the obsessive-compulsive scores of participants. So, after that pandemic scourge, it might be appropriate to repeat this study to eliminate the pandemic effect.

Furthermore, the study could be conducted with more participants. However, the covid-19 pandemic situation that we were in, have had a huge impact on collecting the data. It prevented

researchers to reach more individuals to enlarge their data collections. Thus, it would be beneficial to repeat the study with more participants to gain better results.

When the demographical information was analyzed, it was realized that most of our sample was well-educated. 48 percent of our sample had college degree and 49 percent had master's or higher degrees. This means 97 percent of the sample was highly educated. Hence this study was conducted during the times of Covid-19 pandemic, data were collected through the online survey platforms. Thus, online forms were distributed without controlling the education status of participants. This could be limitation for our study to be able to generalize the findings. According to the data of Turkish Statistical Institution (TÜİK), only 15,7 percent of the general population of Turkey has a college or higher degrees. This means our sample constitutes approximately six times more well-educated participants than the general population. Further studies might replicate the study with well-distributed sample regarding the education levels. According to the Araya, Lewis, Rojas and Fritsch (2003) there was a prevalence of common mental disorders regarding the socially underprivileged groups which could be considered less educated. However, Steele, Dewa, Lin and Lin (2007) also suggested that lower levels of insight might lead less educated people to attribute less significance to their symptoms than highly educated people and this may make detection of problems more difficult by the professionals.

In this study, it was investigated the relationship between the OC symptoms, locus of control and emotion regulation strategies. However, statistical analysis was run with the general score of OC symptoms instead of investigating the relationship of specific sub-levels of OC symptoms. Thus, it may be useful to examine the relationship between the sub-levels of OC symptoms for the future studies.

Another limitation could be the gender distribution for our study. Statistical analysis showed that 75 percent of the participants was female. The over-representation of females in the study could not be controlled due to the method of data collection. This could influence the results as well. In the future studies, these variables could be researched in the way that gender distribution is equal.

Lastly, although correlations between variables were found significant, their have small effect sizes.

4.3. Clinical Implications

This study was conducted with the non-clinical population. However, participants who showed some characteristics of current study's variables may be considered as subthreshold for the time that data was collected. In the future, it is possible that some of them may develop psychopathology due to the environmental factors or negative life events. For instance, although participant's OC symptoms were not sufficient for them to be diagnosed as OCD, results of the current study may give an idea for the researchers who are willing to replicate this study with the clinical sample. The prognosis of the individuals might be evaluated through the scores of pre-test and post-tests. Also, results may contribute to the psychotherapeutic interventions while working with the patients. It is quite important to determine the locus of control tendencies of the patients to reassess the existing negative automatic thoughts affecting their emotions and behaviors. Because it was found that individuals who have internal locus of control show less depressive symptoms (Crisson & Keefe, 1988; İnözü et al., 2012; Wong & Anitescu, 2017).

Also, determining the emotion regulation strategies that individuals adopt might be important to formulate the cases and their needs. Emotion regulation strategies could also be changed via intervention such as various therapy models. For instance, Hofmann and Asmundson (2008) stated that cognitive behavioral therapy encourages individuals to use more adaptive way of regulation of emotions such as cognitive reappraisal when encountering the emotion generating situations. Therefore, effective treatment could be planned through detailed assessments. To sum up, with an effective preventing implementations, individuals who may develop psychopathology can be determined and relevant processes can be initiated.

4.4. Recommendation for the Future Studies

The current study was conducted with three different scales that have been used in the various research. However, there are also other scales that have been preferred to investigate OC symptoms, locus of control and emotion regulation strategies. These could be respectively Yale Brown Obsessive Compulsive Scale (YBOCS) (Goodman et al., 1989) and Rotter's Locus of Control Scale (Rotter, 1966). So, it would be beneficial to repeat the study with other instruments.

While investigating the relationship between locus of control and OC symptoms, this study adopted the emotion regulation strategies as mediator variable. Suppression could not be taken into

account because of its insignificant relationship with OC symptoms. On the other hand, cognitive reappraisal partially mediated the relationship between locus of control and OC symptoms. However, there could be other variables that can predict the relationship in a more powerful way as well. Especially variables that fully mediated the relationship could be examined in the further studies. For example, parental attitudes and practices could be investigated to find out more powerful mediating effect to the relationship. From the psychoanalytical point of view, Winnicott (1960) indicated the importance of parenting skills of mother – holding, handling and object representing- on psyche of the child. He discussed the possible psychological phenomena and problems of children that could be experienced on the later periods of the life. Doron and Kyrios (2005) suggested that parental practices would be accurate to understand how parental practices are associated with the existence of OC symptoms. Also, they stated that parenting skills may have an impact on the OC symptoms by changing the one's perception about self and others.

Socio-economic status of family while individuals are growing up might be taken into account. Reiss (2013) stated that mental health issues was associated with the socioeconomic deprivation of the children and adolescents.

4.5 Conclusion

OC symptoms, locus of control and emotion regulation strategies have been commonly used in the literature while explaining the human behavior and psychopathology. Also, the relationship between them can provide us many implications to enrich the scientific knowledge. The results of the current study revealed that cognitive reappraisal as an emotion regulation strategy mediates the relationship between OC symptoms and locus of control. However, suppression was not found associated with the overall OC scores, therefore was not examined in the mediation analysis.

With respect to the results of the study, current study may contribute to the existing literature trying to understand the OC symptoms and locus of control and also the effect of the emotion regulation strategies on their relationship as well. Also, it might shed a light on future studies.

REFERENCES

- Abramowitz, J. S., Deacon, B. J., Olatunji, B. O., Wheaton, M. G., Berman, N. C., Losardo, D., Timpano, K. R., McGrath, P. B., Riemann, B. C., Adams, T., Björgvinsson, T., Storch, E. A., & Hale, L. R. (2010). Assessment of obsessive-compulsive symptom dimensions: development and evaluation of the Dimensional Obsessive-Compulsive Scale. *Psychological assessment*, 22(1), 180–198.
- Abramson, L. Y., & Sackheim, H. A. (1977). A paradox in depression: Uncontrollability and self-blame. *Psychological Bulletin*, 84(5), 838–851.
- Abramson, L. Y., Seligman, M. E., & Teasdale, J. D. (1978). Learned helplessness in humans: critique and reformulation. *Journal of abnormal psychology*, 87(1), 49.
- Aka, B. T. (2011). *Perceived parenting styles, emotion recognition and emotion regulation in relation to psychological wellbeing: symptoms of depression, obsessive-compulsive disorder and social anxiety*. (Unpublished PhD Dissertation.) Middle-East Technical University, Ankara, Turkey.
- Aka, B. T., & Gencoz, T. (2014). Perceived parenting styles, emotion recognition and regulation in relation to psychological well-being. *Procedia-Social and Behavioral Sciences*, 159(23), 529-533.
- Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical psychology review*, 30(2), 217-237.
- Allen, L. B., & Barlow, D. H. (2009). Relationship of exposure to clinically irrelevant emotion cues and obsessive-compulsive symptoms. *Behavior Modification*, 33(6), 743-762.
- Altın, M., & Gençöz, T. (2011). How does thought-action fusion relate to responsibility attitudes and thought suppression to aggravate the obsessive-compulsive symptoms?. *Behavioural and Cognitive psychotherapy*, 39(1), 99-114.

- Altın, M., & Karanci, A. N. (2008). How does locus of control and inflated sense of responsibility relate to obsessive-compulsive symptoms in Turkish adolescents?. *Journal of Anxiety Disorders*, 22(8), 1303-1315.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5®)*. American Psychiatric Pub.
- Amstadter, A. B., & Vernon, L. L. (2008). A preliminary examination of thought suppression, emotion regulation, and coping in a trauma-exposed sample. *Journal of aggression, maltreatment & trauma*, 17(3), 279-295.
- Araya, R., Lewis, G., Rojas, G., & Fritsch, R. (2003). Education and income: which is more important for mental health?. *Journal of Epidemiology & Community Health*, 57(7), 501-505.
- Averill, J. R. (1973). Personal control over aversive stimuli and its relationship to stress. *Psychological bulletin*, 80(4), 286.
- Bandura, A. (1990). Perceived self-efficacy in the exercise of personal agency. *Journal of applied sport psychology*, 2(2), 128-163.
- Barlow, D. H., Chorpita, B. F., & Turovsky, J. (1996). *Fear, panic, anxiety, and disorders of emotion*. In D. A. Hope (Ed.), *Current theory and research in motivation, Vol. 43. Nebraska Symposium on Motivation, 1995: Perspectives on anxiety, panic, and fear* (p. 251–328). University of Nebraska Press.
- Barlow, D. H. (2004). *Anxiety and its disorders: The nature and treatment of anxiety and panic*. Guilford press.
- Bechara A. (2004). The role of emotion in decision-making: evidence from neurological patients with orbitofrontal damage. *Brain and cognition*, 55(1), 30–40.
- Beck, A.T. (1967). *Depression*. Harper and Row: New York.
- Benassi, V. A., Sweeney, P. D., & Dufour, C. L. (1988). Is there a relation between locus of control orientation and depression?. *Journal of abnormal psychology*, 97(3), 357.

- Benatti, B., Albert, U., Maina, G., Fiorillo, A., Celebre, L., Girone, N., ... & Dell'Osso, B. (2020). What happened to patients with obsessive compulsive disorder during the COVID-19 pandemic? A multicentre report from tertiary clinics in northern Italy. *Frontiers in Psychiatry, 11*, 720.
- Bentall, R. P., Corcoran, R., Howard, R., Blackwood, N., & Kinderman, P. (2001). Persecutory delusions: a review and theoretical integration. *Clinical psychology review, 21*(8), 1143-1192.
- Berenbaum, H., Raghavan, C., Le, H. N., Vernon, L. L., & Gomez, J. J. (2003). A taxonomy of emotional disturbances. *Clinical Psychology: Science and Practice, 10*(2), 206-226.
- Bloch, M. H., Landeros-Weisenberger, A., Rosario, M. C., Pittenger, C., & Leckman, J. F. (2008). Meta-analysis of the symptom structure of obsessive-compulsive disorder. *American Journal of Psychiatry, 165*(12), 1532-1542.
- Bonanno, G. A., Papa, A., Lalande, K., Westphal, M., & Coifman, K. (2004). The importance of being flexible: The ability to both enhance and suppress emotional expression predicts long-term adjustment. *Psychological science, 15*(7), 482-487.
- Brackett, M. A., & Salovey, P. (2004). *Measuring emotional intelligence with the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT)*. In G. Geher (Ed.), *Measuring emotional intelligence: Common ground and controversy* (p. 181–196). Nova Science Publishers.
- Brailovskaia, J., Cosci, F., Mansueto, G., Miragall, M., Herrero, R., Baños, R. M., ... & Margraf, J. (2021). The association between depression symptoms, psychological burden caused by Covid-19 and physical activity: An investigation in Germany, Italy, Russia, and Spain. *Psychiatry Research, 295*, 113596.
- Brailovskaia, J., & Margraf, J. (2020). Predicting adaptive and maladaptive responses to the Coronavirus (COVID-19) outbreak: A prospective longitudinal study. *International Journal of Clinical and Health Psychology, 20*(3), 183-191.
- Brown, R. (1990). The construct and concurrent validity of the social dimension of the Brown Locus of Control Scale. *Educational and Psychological Measurement, 50*(2), 377-382.

- Buck, R. (1979). Individual differences in nonverbal sending accuracy and electrodermal responding: The externalizing-internalizing dimension. *Skill in non-verbal communication*, 140-170.
- Bueno-Notivol, J., Gracia-García, P., Olaya, B., Lasheras, I., López-Antón, R., & Santabárbara, J. (2021). Prevalence of depression during the COVID-19 outbreak: A meta-analysis of community-based studies. *International journal of clinical and health psychology*, 21(1), 100196.
- Bush, L. K., Barr, C. L., McHugo, G. J., & Lanzetta, J. T. (1989). The effects of facial control and facial mimicry on subjective reactions to comedy routines. *Motivation and emotion*, 13(1), 31-52.
- Calkins, A. W., Berman, N. C., & Wilhelm, S. (2013). Recent advances in research on cognition and emotion in OCD: a review. *Current psychiatry reports*, 15(5), 357.
- Campbell-Sills, L., & Barlow, D. H. (2007). Incorporating emotion regulation into conceptualizations and treatments of anxiety and mood disorders. *Handbook of emotion regulation*, 2.
- Campos, J. J., Campos, R. G., & Barrett, K. C. (1989). Emergent themes in the study of emotional development and emotion regulation. *Developmental psychology*, 25(3), 394.
- Carr, A. T. (1974). Compulsive neurosis: A review of the literature. *Psychological Bulletin*, 81(5), 311–318.
- Cheng, C., Cheung, S. F., Chio, J. H. M., & Chan, M. P. S. (2013). Cultural meaning of perceived control: A meta-analysis of locus of control and psychological symptoms across 18 cultural regions. *Psychological bulletin*, 139(1), 152.
- Chorpita, B. F., & Barlow, D. H. (1998). The development of anxiety: the role of control in the early environment. *Psychological bulletin*, 124(1), 3.
- Cicchetti, D., Ackerman, B. P., & Izard, C. E. (1995). Emotions and emotion regulation in developmental psychopathology. *Development and psychopathology*, 7(1), 1-10.

- Cisler, J. M., Olatunji, B. O., Feldner, M. T., & Forsyth, J. P. (2010). Emotion regulation and the anxiety disorders: An integrative review. *Journal of psychopathology and behavioral assessment*, 32(1), 68-82.
- Clark, D. A., & Purdon, C. (1993). New perspectives for a cognitive theory of obsessions. *Australian Psychologist*, 28(3), 161-167.
- Clark, D. A., Purdon, C., & Wang, A. (2003). The Meta-Cognitive Beliefs Questionnaire: development of a measure of obsessional beliefs. *Behaviour Research and Therapy*, 41(6), 655-669.
- Cloitre, M., Heimberg, R. G., Liebowitz, M. R., & Gitow, A. (1992). Perceptions of control in panic disorder and social phobia. *Cognitive Therapy and Research*, 16(5), 569-577.
- Cohen, E., Sade, M., Benarroch, F., Pollak, Y., & Gross-Tsur, V. (2008). Locus of control, perceived parenting style, and symptoms of anxiety and depression in children with Tourette's syndrome. *European child & adolescent psychiatry*, 17(5), 299-305.
- Cole, P. M., Hall, S. E., Hajal, N. J. (2017). Emotion dysregulation as a vulnerability to psychopathology. In T. P. Beauchaine & S. P. Hinshaw (Eds.), *Child and adolescent psychopathology*, (3rd ed., pp. 346-386) Hoboken, NJ: Wiley.
- Cole, P. M., Michel, M. K., & Teti, L. O. (1994). The development of emotion regulation and dysregulation: A clinical perspective. *Monographs of the Society for Research in Child Development*, 59(2-3), 73-100, 250-283.
- Coleman, S. L., Pietrefesa, A. S., Holaway, R. M., Coles, M. E., & Heimberg, R. G. (2011). Content and correlates of checking related to symptoms of obsessive-compulsive disorder and generalized anxiety disorder. *Journal of anxiety disorders*, 25(2), 293-301.
- Crisson, J. E., & Keefe, F. J. (1988). The relationship of locus of control to pain coping strategies and psychological distress in chronic pain patients. *Pain*, 35(2), 147-154.
- Culpin, I., Stapinski, L., Miles, Ö. B., Araya, R., & Joinson, C. (2015). Exposure to socioeconomic adversity in early life and risk of depression at 18 years: The mediating role of locus of control. *Journal of Affective Disorders*, 183, 269-278.

- Dağ, İ. (1991). Rotter'in İç-Dış Kontrol Odağı Ölçeği (RİDKOÖ)'nin üniversite öğrencileri için güvenilirliği ve geçerliği. *Psikoloji dergisi*, 7(26), 10-16.
- Dağ, İ. (2002). Kontrol odağı ölçeği (KOÖ): Ölçek geliştirme, güvenilirlik ve geçerlik çalışması. *Türk Psikoloji Dergisi*, 17(49), 77-90.
- De Wit, S. J., Van Der Werf, Y. D., Mataix-Cols, D., Trujillo, J. P., Van Oppen, P., Veltman, D. J., & Van Den Heuvel, O. A. (2015). Emotion regulation before and after transcranial magnetic stimulation in obsessive compulsive disorder. *Psychological Medicine*, 45(14), 3059-3073.
- Deacon, B. J., & Abramowitz, J. S. (2005). The Yale-Brown Obsessive Compulsive Scale: factor analysis, construct validity, and suggestions for refinement. *Journal of anxiety disorders*, 19(5), 573-585.
- Doron, G., & Kyrios, M. (2005). Obsessive compulsive disorder: A review of possible specific internal representations within a broader cognitive theory. *Clinical psychology review*, 25(4), 415-432.
- DuCette, J., & Wolk, S. (1972). Locus of control and extreme behavior. *Journal of Consulting and Clinical Psychology*, 39(2), 253.
- Eftekhari, A., Zoellner, L. A., & Vigil, S. A. (2009). Patterns of emotion regulation and psychopathology. *Anxiety, Stress, & Coping*, 22(5), 571-586.
- Ekman, P., Friesen, W. V., & Ellsworth, P. (1972). *Emotion in the Human Face: Guide-lines for Research and an Integration of Findings: Guidelines for Research and an Integration of Findings*. Pergamon
- Eldeleklioğlu, J., & Eroğlu, Y. (2015). A Turkish adaptation of the Emotion Regulation Questionnaire. *Journal of Human Sciences*, 12(1), 1157-1168.
- Eysenck, M. W. (2000). A cognitive approach to trait anxiety. *European Journal of Personality*, 14(5), 463-476.
- Fenichel, O. (1945). *The psychoanalytic theory of neurosis*. W W Norton & Co.

- Fergus, T. A., & Bardeen, J. R. (2014). Emotion regulation and obsessive–compulsive symptoms: A further examination of associations. *Journal of Obsessive-Compulsive and Related Disorders*, 3(3), 243-248.
- Ferreira, S., Couto, B., Sousa, M., Vieira, R., Sousa, N., Picó-Pérez, M., & Morgado, P. (2021). Stress influences the effect of obsessive-compulsive symptoms on emotion regulation. *Frontiers in psychiatry*, 11, 1622.
- Foa, E. B., Amir, N., Bogert, K. V., Molnar, C., & Przeworski, A. (2001). Inflated perception of responsibility for harm in obsessive–compulsive disorder. *Journal of Anxiety Disorders*, 15(4), 259-275.
- Foa, E. B., Huppert, J. D., Leiberg, S., Langner, R., Kichic, R., Hajcak, G., & Salkovskis, P. M. (2002). The Obsessive-Compulsive Inventory: development and validation of a short version. *Psychological assessment*, 14(4), 485.
- Frazier, P. A. (2003). Perceived control and distress following sexual assault: A longitudinal test of a new model. *Journal of Personality and Social Psychology*, 84(6), 1257–1269.
- Frazier, P., Berman, M., & Steward, J. (2001). Perceived control and posttraumatic stress: A temporal model. *Applied and Preventive Psychology*, 10(3), 207-223.
- Frenkel, E., Kugelmass, S., Nathan, M., & Ingraham, L. J. (1995). Locus of control and mental health in adolescence and adulthood. *Schizophrenia Bulletin*, 21(2), 219-226.
- Freud, S. (1917). General theory of the neuroses. *Standard edition*, 16, 243-463.
- Freud, S. (1950). The Interpretation of Dreams. 1913. *Trans. AA Brill. New York: Modern Library*.
- Frijda, N. H. (1986). *Studies in emotion and social interaction. The emotions*. Cambridge University Press; Editions de la Maison des Sciences de l'Homme.
- Frijda, N. H. (1993). The place of appraisal in emotion. *Cognition & Emotion*, 7(3-4), 357-387.
- Frost, R. O., & Steketee, G. (1997). Perfectionism in obsessive-compulsive disorder patients. *Behaviour research and therapy*, 35(4), 291-296.

- Fullana, M. A., Vilagut, G., Rojas-Farreras, S., Mataix-Cols, D., de Graaf, R., Demyttenaere, K., ... & ESEMED/MHEDEA 2000 investigators. (2010). Obsessive-compulsive symptom dimensions in the general population: Results from an epidemiological study in six European countries. *Journal of Affective Disorders*, *124*(3), 291-299.
- Gallagher, M. W., Bentley, K. H., & Barlow, D. H. (2014). Perceived control and vulnerability to anxiety disorders: A meta-analytic review. *Cognitive therapy and research*, *38*(6), 571-584.
- Gibbs, N. A. (1996). Nonclinical populations in research on obsessive-compulsive disorder: A critical review. *Clinical Psychology Review*, *16*(8), 729-773.
- Gilman, S. E., Kawachi, I., Fitzmaurice, G. M., & Buka, S. L. (2003). Socio-economic status, family disruption and residential stability in childhood: relation to onset, recurrence and remission of major depression. *Psychological medicine*, *33*(8), 1341.
- Goodman, W. K., Price, L. H., Rasmussen, S. A., Mazure, C., Fleischmann, R. L., Hill, C. L., ... & Charney, D. S. (1989). The Yale-Brown obsessive compulsive scale: I. Development, use, and reliability. *Archives of general psychiatry*, *46*(11), 1006-1011.
- Green, S. B., Salkind, N. J., & Akey, T. M. (2000). *Using SPSS for Windows: Analyzing and Understanding Data (2nd ed.)*. Upper Saddle River: Prentice-Hall.
- Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of general psychology*, *2*(3), 271-299.
- Gross, J. J. (1999). *Emotion and emotion regulation*. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (p. 525-552). Guilford Press.
- Gross, J. J. (1999). Emotion regulation: Past, present, future. *Cognition & emotion*, *13*(5), 551-573.
- Gross, J. J. (2001). Emotion regulation in adulthood: Timing is everything. *Current directions in psychological science*, *10*(6), 214-219.
- Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology*, *39*(3), 281-291.

- Gross, J. J. (2007). Handbook of emotion regulation (pp. 3-24). *New York: Guilford*.
- Gross, J. J., & Jazaieri, H. (2014). Emotion, Emotion Regulation, and Psychopathology: An Affective Science Perspective. *Clinical Psychological Science, 2*(4), 387–401.
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: implications for affect, relationships, and well-being. *Journal of personality and social psychology, 85*(2), 348.
- Gross, J. J., & Levenson, R. W. (1993). Emotional suppression: physiology, self-report, and expressive behavior. *Journal of personality and social psychology, 64*(6), 970.
- Gross, J. J., & Muñoz, R. F. (1995). Emotion regulation and mental health. *Clinical psychology: Science and practice, 2*(2), 151-164.
- Gross, J. J., Richards, J. M., & John, O. P. (2006). *Emotion Regulation in Everyday Life*. In D. K. Snyder, J. Simpson, & J. N. Hughes (Eds.), *Emotion regulation in couples and families: Pathways to dysfunction and health* (p. 13–35). American Psychological Association.
- Gruber, J. (2011). Can feeling too good be bad? Positive emotion persistence (PEP) in bipolar disorder. *Current Directions in Psychological Science, 20*(4), 217-221.
- Gruber, J., Hay, A. C., & Gross, J. J. (2014). Rethinking emotion: Cognitive reappraisal is an effective positive and negative emotion regulation strategy in bipolar disorder. *Emotion, 14*(2), 388.
- Hassel, S., Almeida, J. R., Kerr, N., Nau, S., Ladouceur, C. D., Fissell, K., Kupfer, D.J., & Phillips, M. L. (2008). Elevated striatal and decreased dorsolateral prefrontal cortical activity in response to emotional stimuli in euthymic bipolar disorder: no associations with psychotropic medication load. *Bipolar disorders, 10*(8), 916-927.
- Hofmann, S. G., & Asmundson, G. J. (2008). Acceptance and mindfulness-based therapy: new wave or old hat?. *Clinical psychology review, 28*(1), 1-16.
- Hofmann, S. G., Heering, S., Sawyer, A. T., & Asnaani, A. (2009). How to handle anxiety: The effects of reappraisal, acceptance, and suppression strategies on anxious arousal. *Behaviour research and therapy, 47*(5), 389-394.

- Hope, N. H., Wakefield, M. A., Northey, L., & Chapman, A. L. (2018). The association between locus of control, emotion regulation and borderline personality disorder features. *Personality and mental health, 12*(3), 241-251.
- Inozu, M., Kahya, Y., & Yorulmaz, O. (2020). Neuroticism and religiosity: The role of obsessive beliefs, thought-control strategies and guilt in scrupulosity and obsessive-compulsive symptoms among Muslim undergraduates. *Journal of religion and health, 59*(3), 1144-1160.
- Inozu, M., Yorulmaz, O., & Terzi, S. (2012). Locus of control in obsessive-compulsive (OC) and depression symptoms: the moderating effect of externality on obsessive-related control beliefs in OC symptoms. *Behaviour Change, 29*(3), 148-163.
- Izard, C. E., Youngstrom, E. A., Fine, S. E., Mostow, A. J., & Trentacosta, C. J. (2015). Emotions and developmental psychopathology. *Developmental Psychopathology: Volume One: Theory and Method, 244-292*.
- John, O. P., & Gross, J. J. (2007). Individual differences in emotion regulation. *Handbook of emotion regulation, 351-372*.
- Judd, L. L., Akiskal, H. S., Schettler, P. J., Coryell, W., Endicott, J., Maser, J. D., Solomon, D. A., Leon, A. C., & Keller, M. B. (2003). A prospective investigation of the natural history of the long-term weekly symptomatic status of bipolar II disorder. *Archives of general psychiatry, 60*(3), 261-269.
- Kaney, S., & Bentall, R. P. (1989). Persecutory delusions and attributional style. *British Journal of Medical Psychology, 62*(2), 191-198.
- Keeton, C. P., Perry-Jenkins, M., & Sayer, A. G. (2008). Sense of control predicts depressive and anxious symptoms across the transition to parenthood. *Journal of Family Psychology, 22*(2), 212-221.
- Kennedy, B. L., Lynch, G. V., & Schwab, J. J. (1998). Assessment of locus of control in patients with anxiety and depressive disorders. *Journal of clinical Psychology, 54*(4), 509-515.

- Kret, M. E., & Ploeger, A. (2015). Emotion processing deficits: a liability spectrum providing insight into comorbidity of mental disorders. *Neuroscience & Biobehavioral Reviews*, *52*, 153-171.
- Kruschwitz, J. D., Waller, L., List, D., Wisniewski, D., Ludwig, V. U., Korb, F., Wolfensteller, U., Goschke, T., & Walter, H. (2018). Anticipating the good and the bad: a study on the neural correlates of bivalent emotion anticipation and their malleability via attentional deployment. *Neuroimage*, *183*, 553-564.
- Langer, E. J., & Rodin, J. (1976). The effects of choice and enhanced personal responsibility for the aged: A field experiment in an institutional setting. *Journal of personality and social psychology*, *34*(2), 191.
- Lau, R. R., & Ware Jr, J. F. (1981). Refinements in the measurement of health-specific locus-of-control beliefs. *Medical care*, 1147-1158.
- Lazarus, R. S., & Lazarus, R. S. (1991). *Emotion and adaptation*. Oxford: Oxford University Press.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer publishing company.
- Ledrich, J., & Gana, K. (2013). Relationship between attributional style, perceived control, self-esteem, and depressive mood in a nonclinical sample: A structural equation-modelling approach. *Psychology and Psychotherapy: Theory, Research and Practice*, *86*(4), 413-430.
- Levenson, H., & Miller, J. (1976). Multidimensional locus of control in sociopolitical activists of conservative and liberal ideologies. *Journal of personality and social psychology*, *33*(2), 199.
- Lewis, M. D. (1996). Self-organising cognitive appraisals. *Cognition & Emotion*, *10*(1), 1-26.
- Levenson, H. (1974). Activism and powerful others: Distinctions within the concept of internal-external control. *Journal of personality assessment*, *38*(4), 377-383.

- Lefcourt, H. M., Gronnerud, P., & McDonald, P. (1973). Cognitive activity and hypothesis formation during a double entendre word association test as a function of locus of control and field dependence. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, 5(2), 161.
- Lopatka, C., & Rachman, S. (1995). Perceived responsibility and compulsive checking: An experimental analysis. *Behaviour Research and Therapy*, 33(6), 673-684.
- Lorant, V., Smith, P., Van den Broeck, K., & Nicaise, P. (2021). Psychological distress associated with the COVID-19 pandemic and suppression measures during the first wave in Belgium. *BMC psychiatry*, 21(1), 1-10.
- Ly, V., Wang, K. S., Bhanji, J., & Delgado, M. R. (2019). A reward-based framework of perceived control. *Frontiers in neuroscience*, 13, 65.
- Lyons, J. B., & Schneider, T. R. (2005). The influence of emotional intelligence on performance. *Personality and Individual Differences*, 39(4), 693–703.
- Martin, D. J., Abramson, L. Y., & Alloy, L. B. (1984). Illusion of control for self and others in depressed and nondepressed college students. *Journal of personality and social psychology*, 46(1), 125.
- Mataix-Cols, D., do Rosario-Campos, M. C., & Leckman, J. F. (2005). A multidimensional model of obsessive-compulsive disorder. *American Journal of Psychiatry*, 162(2), 228-238
- Mathes, B. M., Kennedy, G. A., Wilver, N. L., Carlton, C. N., & Cogle, J. R. (2019). A multi-method analysis of incompleteness in behavioral treatment of contamination-based OCD. *Behaviour research and therapy*, 114, 1-6.
- Mayer, J. D., Salovey, P., Caruso, D. R., & Sitarenios, G. (2001). Emotional intelligence as a standard intelligence. *Emotion*, 1(3), 232–242.
- Mennin, D. S., Heimberg, R. G., Turk, C. L., & Fresco, D. M. (2005). Preliminary evidence for an emotion dysregulation model of generalized anxiety disorder. *Behaviour research and therapy*, 43(10), 1281-1310.

- Mennin, D. S., Holaway, R. M., Fresco, D. M., Moore, M. T., & Heimberg, R. G. (2007). Delineating components of emotion and its dysregulation in anxiety and mood psychopathology. *Behavior therapy*, 38(3), 284-302.
- McLaughlin, K. A., Hatzenbuehler, M. L., Mennin, D. S., & Nolen-Hoeksema, S. (2011). Emotion dysregulation and adolescent psychopathology: a prospective study. *Behaviour research and therapy*, 49(9), 544–554.
- Moreira, P., Vaz, J. M., Stevanovic, D., Atilola, O., Dodig-Ćurković, K., Franic, T., ... & Campos, M. L. A. (2020). Locus of control, negative life events and psychopathological symptoms in collectivist adolescents. *Personality and Individual Differences*, 154, 109601.
- Moritz, S., Kempke, S., Luyten, P., Randjbar, S., & Jelinek, L. (2011). Was Freud partly right on obsessive–compulsive disorder (OCD)? Investigation of latent aggression in OCD. *Psychiatry Research*, 187(1-2), 180-184.
- Moulding, R., & Kyrios, M. (2006). Anxiety disorders and control related beliefs: The exemplar of obsessive–compulsive disorder (OCD). *Clinical Psychology Review*, 26(5), 573-583.
- Moulding, R., & Kyrios, M. (2007). Desire for control, sense of control and obsessive-compulsive symptoms. *Cognitive therapy and research*, 31(6), 759-772.
- Moulding, R., Kyrios, M., & Doron, G. (2007). Obsessive-compulsive behaviours in specific situations: The relative influence of appraisals of control, responsibility and threat. *Behaviour Research and Therapy*, 45(7), 1693-1702.
- Msetfi, R. M., Kornbrot, D. E., Matute, H., & Murphy, R. A. (2015). The relationship between mood state and perceived control in contingency learning: effects of individualist and collectivist values. *Frontiers in psychology*, 6, 1430.
- Najmi, S., Riemann, B. C., & Wegner, D. M. (2009). Managing unwanted intrusive thoughts in obsessive–compulsive disorder: Relative effectiveness of suppression, focused distraction, and acceptance. *Behaviour research and therapy*, 47(6), 494-503.
- Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on psychological science*, 3(5), 400-424.

- Notarius, C. I., & Levenson, R. W. (1979). Expressive tendencies and physiological response to stress. *Journal of Personality and Social Psychology*, *37*(7), 1204.
- Nowicki, S., & Strickland, B. R. (1973). A locus of control scale for children. *Journal of Consulting and Clinical Psychology*, *40*(1), 148–154.
- Pace, U., Zappulla, C., Di Maggio, R., Passanisi, A., & Craparo, G. (2015). Characteristics of regular gamblers in Italy: The role of control and emotion regulation. *Clinical Neuropsychiatry*, *12*(5).
- Parrott, W. G. (1993). *Beyond hedonism: Motives for inhibiting good moods and for maintaining bad moods*. In D. M. Wegner & J. W. Pennebaker (Eds.), *Century psychology series. Handbook of mental control* (p. 278–305). Prentice-Hall, Inc.
- Paul, S., Simon, D., Endrass, T., & Kathmann, N. (2016). Altered emotion regulation in obsessive–compulsive disorder as evidenced by the late positive potential. *Psychological medicine*, *46*(1), 137-147.
- Pfefferbaum, B., & North, C. S. (2020). Mental health and the Covid-19 pandemic. *New England Journal of Medicine*, *383*(6), 510-512.
- Phares, E. J., Wilson, K. G., & Klyver, N. W. (1971). Internal-external control and the attribution of blame under neutral and distractive conditions. *Journal of Personality and Social Psychology*, *18*(3), 285.
- Phillips, M., Ladouceur, C. & Drevets, W. A. (2008). Neural model of voluntary and automatic emotion regulation: implications for understanding the pathophysiology and neurodevelopment of bipolar disorder. *Mol Psychiatry* **13**, 833–857.
- Pozza, A., & Dèttore, D. (2014). The specificity of inflated responsibility beliefs to OCD: a systematic review and meta-analysis of published cross-sectional case-control studies. *Research in Psychology and Behavioral Sciences*, *2*(4), 75-85.
- Prestia D., Pozza, A., Olcese, M., Esclesior, A., Dettore, D., & Amore, M. (2020). The impact of the COVID-19 pandemic on patients with OCD: Effects of contamination symptoms and remission state before the quarantine in a preliminary naturalistic study. *Psychiatry Research*, *291*, 113213.

- Purdon, C., & Clark, D. A. (1993). Obsessive intrusive thoughts in nonclinical subjects. Part I. Content and relation with depressive, anxious and obsessional symptoms. *Behaviour research and therapy*, 31(8), 713-720.
- Rachman, S. (2004). Fear of contamination. *Behaviour research and therapy*, 42(11), 1227-1255.
- Rachman, S. (2006). *Fear of Contamination: Assessment & treatment*. Oxford: Oxford University Press.
- Rachman, S., & de Silva, P. (1978). Abnormal and normal obsessions. *Behaviour research and therapy*, 16(4), 233-248.
- Rachman, S. J., & Hodgson, R. J. (1980). *Obsessions and compulsions*. Prentice Hall.
- Ravaja, N., Keltikangas-Järvinen, L., & Viikari, J. (1996). Life changes, locus of control and metabolic syndrome precursors in adolescents and young adults: a three-year follow-up. *Social science & medicine*, 43(1), 51-61.
- Reid, D., & Ware, E. E. (1974). Multidimensionality of internal versus external control: Addition of a third dimension and non-distinction of self versus others. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, 6(2), 131.
- Reiss, F. (2013). Socioeconomic inequalities and mental health problems in children and adolescents: a systematic review. *Social science & medicine*, 90, 24-31.
- Rickelt, J., de Wit, S. J., van der Werf, Y. D., Schruers, K. R., Marcelis, M., de Vries, F. E., & van den Heuvel, O. A. (2019). Emotional processing and disgust sensitivity in OCD patients with and without contamination-type obsessive-compulsive symptoms—An fMRI study. *Journal of Obsessive-Compulsive and Related Disorders*, 22, 100443.
- Rosa-Alcázar, Á., García-Hernández, M. D., Parada-Navas, J. L., Olivares-Olivares, P. J., Martínez-Murillo, S., & Rosa-Alcázar, A. I. (2021). Coping strategies in obsessive-compulsive patients during Covid-19 lockdown. *International Journal of Clinical and Health Psychology*, 21(2), 100223.
- Rotter, J. B. (1954). *Social learning and clinical psychology*. Johnson Reprint Corporation.

- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological monographs: General and applied*, 80(1), 1.
- Rotter, J. B. (1975). Some problems and misconceptions related to the construct of internal versus external control of reinforcement. *Journal of consulting and clinical psychology*, 43(1), 56.
- Rotter, J. B. (1990). Internal versus external control of reinforcement: A case history of a variable. *American psychologist*, 45(4), 489.
- Rottenberg, J., & Gross, J. J. (2003). When emotion goes wrong: Realizing the promise of affective science. *Clinical Psychology: Science and Practice*, 10(2), 227-232.
- Ruscio, A. M., Stein, D. J., Chiu, W. T., & Kessler, R. C. (2010). The epidemiology of obsessive-compulsive disorder in the National Comorbidity Survey Replication. *Molecular psychiatry*, 15(1), 53-63.
- Safak, Y., Öcal, D. S., Özdel, K., Kuru, E., & Örsel, S. (2018). Obsesif Kompulsif Bozuklukta Boyutsal Yaklaşım: Boyutsal Obsesif Kompulsif Bozukluk Ölçeği Türkçe'nin Psikometrik Özellikleri. *Türk Psikiyatri Dergisi*, 29(2).
- Salkovskis, P. M. (1985). Obsessional-compulsive problems: A cognitive-behavioural analysis. *Behaviour research and therapy*, 23(5), 571-583.
- Salkovskis, P., & Freeston, M. H. (2001). Obsessions, compulsions, motivation, and responsibility for harm. *Australian Journal of Psychology*, 53(1), 1-6.
- Sanderson, W. C., Rapee, R. M., & Barlow, D. H. (1989). The influence of an illusion of control on panic attacks induced via inhalation of 5.5% carbon dioxide-enriched air. *Archives of General psychiatry*, 46(2), 157-162.
- Schwartz, A. (1987). Drives, Affects, Behavior-And Learning: Approaches to A Psychobiology of Emotion and to An Integration of Psychoanalytic and Neurobiology Thought. *Journal of the American Psychoanalytic Association*, 35(2), 467-506.

- Severino, S., Aiello, F., Cascio, M., Ficarra, L., & Messina, R. (2011). Distance education: The role of self-efficacy and locus of control in lifelong learning. *Procedia-Social and Behavioral Sciences*, 28, 705-717.
- Shafran, R. (1997). The manipulation of responsibility in obsessive-compulsive disorder. *British Journal of Clinical Psychology*, 36(3), 397-407.
- Shapiro, D. (1965). *Neurotic styles*. Basic Books.
- Shapiro Jr, D. H., Schwartz, C. E., & Astin, J. A. (1996). Controlling ourselves, controlling our world: Psychology's role in understanding positive and negative consequences of seeking and gaining control. *American psychologist*, 51(12), 1213.
- Skinner, E. A. (1996). A guide to constructs of control. *Journal of personality and social psychology*, 71(3), 549.
- Skinner, E. A. (2007). Secondary control critiqued: Is it secondary? Is it control? Comment on Morling and Evered (2006). *Psychological Bulletin*, 133(6), 911–916.
- Steele, L. S., Dewa, C. S., Lin, E., & Lee, K. L. (2007). Education level, income level and mental health services use in Canada: Associations and policy implications. *Healthcare Policy*, 3(1), 96.
- Stern, M. R., Nota, J. A., Heimberg, R. G., Holaway, R. M., & Coles, M. E. (2014). An initial examination of emotion regulation and obsessive compulsive symptoms. *Journal of Obsessive-Compulsive and Related Disorders*, 3(2), 109-114.
- Stillman, T. F., Baumeister, R. F., Vohs, K. D., Lambert, N. M., Fincham, F. D., & Brewer, L. E. (2010). Personal philosophy and personnel achievement: Belief in free will predicts better job performance. *Social Psychological and Personality Science*, 1(1), 43-50.
- Strickland, B. R. (1978). Internal–external expectancies and health-related behaviors. *Journal of consulting and clinical psychology*, 46(6), 1192.
- Stotland, S., & Zuroff, D. C. (1990). A new measure of weight locus of control: The Dieting Beliefs Scale. *Journal of Personality Assessment*, 54(1-2), 191-203.

- Suarez-Alvarez, J., Campillo-Alvarez, A., Fonseca-Pedrero, E., Garcia-Cueto, E., & Muniz, J. (2013). Professional training in the workplace: The role of achievement motivation and locus of control. *The Spanish Journal of Psychology*, *16*, E35.
- Suárez-Álvarez, J., Pedrosa, I., García-Cueto, E., & Muñiz, J. (2016). Locus of control revisited: development of a new bi-dimensional measure. *Anales de Psicología /Annals of Psychology*, *32*(2), 578-586.
- Sullivan, S. A., Thompson, A., Kounali, D., Lewis, G., & Zammit, S. (2017). The longitudinal association between external locus of control, social cognition and adolescent psychopathology. *Social psychiatry and psychiatric epidemiology*, *52*(6), 643-655.
- Taylor, S., Coles, M. E., Abramowitz, J. S., Wu, K. D., Olatunji, B. O., Timpano, K. R., McKay, D., Kim, S.-K., Carmin, C., & Tolin, D. F. (2010). How are dysfunctional beliefs related to obsessive-compulsive symptoms? *Journal of Cognitive Psychotherapy*, *24*(3), 165–176.
- Tobin, S. J., & Raymundo, M. M. (2010). Causal uncertainty and psychological well-being: The moderating role of accommodation (secondary control). *Personality and Social Psychology Bulletin*, *36*(3), 371-383.
- Thompson, S. C. (1981). Will it hurt less if I can control it? A complex answer to a simple question. *Psychological bulletin*, *90*(1), 89.
- Thompson, R. A. (1994). Emotion regulation: A theme in search of definition. *Monographs of the Society for Research in Child Development*, *59*(2-3), 25–52.
- Thorsen, A. L., de Wit, S. J., de Vries, F. E., Cath, D. C., Veltman, D. J., van der Werf, Y. D., ... & van den Heuvel, O. A. (2018). Emotion regulation in obsessive-compulsive disorder, unaffected siblings, and unrelated healthy control participants. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, *4*(4), 352-360.
- Tripathi, A., Avasthi, A., Grover, S., Sharma, E., Lakdawala, B. M., Thirunavukarasu, M., ... & Reddy, Y. J. (2018). Gender differences in obsessive-compulsive disorder: Findings from a multicentric study from India. *Asian Journal of Psychiatry*, *37*, 3-9.

- Urbig, D., & Monsen, E. (2012). The structure of optimism: “Controllability affects the extent to which efficacy beliefs shape outcome expectancies”. *Journal of Economic Psychology*, 33(4), 854-867.
- Varkey, L., & Sathyavathi, K. (1984). Locus of control and other personality variables in psychotics. *Psychological Studies*, 29(1), 83–87.
- Wadlinger, H. A., & Isaacowitz, D. M. (2011). Fixing our focus: Training attention to regulate emotion. *Personality and Social Psychology Review*, 15(1), 75-102.
- Walden, T. A. (1991). *Infant social referencing*. In J. Garber & K. A. Dodge (Eds.), *Cambridge studies in social and emotional development. The development of emotion regulation and dysregulation* (p. 69–88). Cambridge University Press.
- Wallston, B. S., Wallston, K. A., Kaplan, G. D., & Maides, S. A. (1976). Development and validation of the health locus of control (HLC) scale. *Journal of consulting and clinical psychology*, 44(4), 580.
- Wardle, J., Steptoe, A., Guliš, G., Sartory, G., Sêk, H., Todorova, I., ... & Ziarko, M. (2004). Depression, perceived control, and life satisfaction in university students from Central-Eastern and Western Europe. *International journal of behavioral medicine*, 11(1), 27-36.
- Wegner, D. M., & Gold, D. B. (1995). Fanning old flames: Emotional and cognitive effects of suppressing thoughts of a past relationship. *Journal of Personality and Social Psychology*, 68(5), 782–792.
- Wilson, K. A., & Chambless, D. L. (1999). Inflated perceptions of responsibility and obsessive–compulsive symptoms. *Behaviour Research and Therapy*, 37(4), 325-335.
- Winnicott, D. W. (1960). The theory of the parent-infant relationship. *International Journal of Psycho-Analysis*, 41, 585-595.
- Wong, H. J., & Anitescu, M. (2017). The role of health locus of control in evaluating depression and other comorbidities in patients with chronic pain conditions, a cross-sectional study. *Pain Practice*, 17(1), 52-61.

- Wortman, C. B., & Brehm, J. W. (1975). *Responses to uncontrollable outcomes: An integration of reactance theory and the learned helplessness model*. In *Advances in experimental social psychology* (Vol. 8, pp. 277-336). Academic Press.
- Yap, K., Mogan, C., Moriarty, A., Dowling, N., Blair-West, S., Gelgec, C., & Moulding, R. (2017). Emotion regulation difficulties in obsessive-compulsive disorder. *Journal of clinical psychology, 74*(4), 695-709.
- Yoldascan, E., Ozenli, Y., Kutlu, O., Topal, K., & Bozkurt, A. I. (2009). Prevalence of obsessive-compulsive disorder in Turkish university students and assessment of associated factors. *BMC psychiatry, 9*(1), 1-8.
- Yorulmaz, O., Karancı, A. N., & Tekok-Kılıç, A. (2006). What are the roles of perfectionism and responsibility in checking and cleaning compulsions?. *Journal of anxiety disorders, 20*(3), 312-327.
- Yurtsever, G. (2008). Negotiators' profit predicted by cognitive reappraisal, suppression of emotions, misrepresentation of information, and tolerance of ambiguity. *Perceptual and Motor Skills, 106*(2), 590-608.
- Zebb, B. J., & Moore, M. C. (2003). Superstitiousness and perceived anxiety control as predictors of psychological distress. *Journal of anxiety disorders, 17*(1), 115-130.

