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A SYMPTOM-SPECIFIC ANALYSIS: PREDICTING OCD CHECKING BEHAVIORS FROM THE "DOUBTS ABOUT ACTIONS" PERFECTIONISM SUBSCALE

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Abstract: Obsessive-compulsive disorder (OCD) represents a heterogeneous condition with multiple presentations, each characterized by distinct cognitive and behavioral features. Perfectionism, particularly the dimension of "Doubts About Actions" (DA), has emerged as a significant cognitive factor in the etiology and maintenance of OCD symptoms. This study examines the differential relationships between perfectionism subscales and OCD checking behaviors in a sample of 652 individuals with OCD (mean age 28.4 years, 58% female). Using hierarchical multiple regression analysis and mediation modeling, we investigate whether the DA subscale from the Frost Multidimensional Perfectionism Scale (FMPS) predicts checking compulsions above and beyond other perfectionism dimensions an pretreatment DA scores significantly predicted poorer response to cognitive-behavioral therapy with exposure and ritual prevention (CBT/ERP), accounting for 14.2% of variance in treatment outcome beyond baseline OCD severity. These findings underscore the symptom-specific d obsessirole of doubt-related perfectionism in OCD checking manifestations and suggest that DA may serve as a clinically meaningful treatment moderator. Implications for transdiagnostic models of perfectionismve-compulsive cognitions.

Keywords: perfectionism, Doubts About Actions, obsessive-compulsive disorder, checking compulsions, cognitive factors, intolerance of uncertainty, mediation analysis, treatment outcomes.

Results indicate that DA demonstrates the compulsive belief domains. Individuals presenting with checking-predominant OCD exhibited significantly elevated DA scores (M=4.85, SD=1.12) compared to those with other OCD presentations (M=3.50, SD=1.28), $t(650)=10.87$, $p<0.001$, $d=1.32$. Mediation analysis revealed that intolerance of uncertainty partially mediates 38.8% of the relationship between DA and checking behaviors. Furthermore, elevated strongest unique association with checking behaviors ($r=0.68$, $\beta=0.45$, $p<0.001$), with an effect size substantially larger than other perfectionism dimensions and obsessive-, individualized case conceptualization, and treatment-tailoring are discussed.

1.INTRODUCTION :1.1 Conceptualizing Perfectionism and OCD: Perfectionism has long been recognized as a multidimensional personality construct

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characterized by the pursuit of flawlessness and the setting of unrealistically high standards for performance, accompanied by overly critical self-evaluation [1][2]. Frost and colleagues [1] pioneered the conceptualization of perfectionism as a multidimensional trait encompassing six distinct subscales: Concern Over Mistakes (CM), Doubts About Actions (DA), Personal Standards (PS), Parental Expectations (PE), Parental Criticism (PC), and Organization (O). This multidimensional model has become widely adopted in both personality and clinical psychology, allowing for more nuanced understanding of how different perfectionism facets relate to various psychological outcomes.

Obsessive-compulsive disorder (OCD) is a debilitating psychiatric condition affecting approximately 1-3% of the population, characterized by the intrusion of unwanted obsessional thoughts and the engagement in repetitive compulsive behaviors [3][4]. Central to understanding OCD is recognition of its heterogeneous phenomenology—individuals present with markedly different symptom profiles including contamination fears with washing compulsions, forbidden thoughts, hoarding behaviors, symmetry obsessions, and compulsive checking [5][6]. Checking compulsions, specifically, represent one of the most common and functionally impairing manifestations, affecting approximately 25-40% of individuals with OCD [7] [8].

The Obsessive Compulsive Cognitions Working Group (OCCWG) [9] identified perfectionism as one of six core belief domains in OCD, alongside responsibility assumptions, threat overestimation, importance of thoughts, need to control thoughts, and intolerance of uncertainty. Notably, Rasmussen and Eisen [10] characterized individuals with OCD as being "tormented by a need for certainty and perfection, which results in overwhelming doubt about performing actions correctly." This clinical observation highlights the particular salience of doubt-related perfectionism in OCD phenomenology.

1.2 Doubts About Actions as a Distinctive Perfectionism Dimension : The DA subscale of the FMPS captures individuals' uncertainty regarding the quality of their performed actions and their confidence in task completion [1][11]. Items on this subscale assess such constructs as "I often feel that I have not completed my work to my satisfaction" and "Even when I do something carefully, I often feel that it is not quite right." Critically, Frost [12] explicitly noted that "doubting of the quality of one's actions has been a hallmark of OCD and indeed, may reflect symptoms of patients with checking rituals." This statement suggests that DA may represent a particularly relevant perfectionism dimension for understanding OCD checking behaviors.

Recent factor analytic work has distinguished between two higher-order perfectionism dimensions: "Perfectionistic Concerns" (encompassing CM and DA) and "Perfectionistic Strivings" (encompassing PS and O) [13][14]. Whereas the latter reflects adaptive striving for achievement and goal-orientation, the former captures maladaptive evaluation anxiety and self-critical tendencies. Notably, DA consistently demonstrates the strongest association with perfectionism-

related psychopathology, particularly within the anxiety disorder spectrum [15][16].

1.3 DA and OCD Checking Behaviors: Theoretical and Empirical Rationale

Theoretically, the relationship between DA and checking compulsions can be understood through multiple pathways. First, from an information-processing perspective, individuals high in DA have diminished confidence in their perceptual and memory systems regarding task completion [17]. When confronted with an action-based obsessional concern (e.g., "Did I lock the door?" or "Did I unplug the iron?"), this preexisting uncertainty about the adequacy of one's actions becomes hyperactivated [18]. Checking serves as a ritualistic attempt to achieve the certainty or sense of completeness that is chronically absent for these individuals. Second, from a metacognitive perspective, high-DA individuals demonstrate reduced confidence in their own processing and outcomes, leading them to implement compensatory checking behaviors [19]. The "not just right" phenomenon-a prominent feature of incompleteness-driven OCD-may be particularly associated with DA, as it reflects the fundamental doubt about whether actions have been sufficiently completed or performed correctly.

Empirically, Antony and colleagues [15] compared perfectionism profiles across anxiety disorders and found that OCD was characterized by significantly elevated DA scores relative to other diagnostic groups. In a subsequent study [20], DA uniquely distinguished OCD patients from individuals with other psychiatric diagnoses. More recently, Park and colleagues [21] reported that perfectionism predicted both checking and symmetry symptoms in youth with OCD, with effect sizes suggesting substantial clinical significance.

1.4 Research Objectives and Hypotheses :

The present study aims to comprehensively examine the symptom-specific predictive validity of the DA subscale in relation to OCD checking behaviors. Specific objectives include: (1) comparing perfectionism profiles in individuals with checking-predominant versus other OCD presentations; (2) determining whether DA predicts checking severity above and beyond other perfectionism dimensions and established obsessive-compulsive cognitions; (3) examining potential mediating mechanisms, particularly intolerance of uncertainty; and (4) evaluating DA as a predictor of treatment response to cognitive-behavioral therapy. We hypothesized that: (1) individuals with checking-predominant OCD would demonstrate significantly elevated DA scores compared to those with other OCD presentations; (2) DA would emerge as the strongest unique predictor of checking severity; (3) the relationship between DA and checking would be partially mediated by intolerance of uncertainty; and (4) elevated pretreatment DA scores would predict poorer response to CBT/ERP.

2. LITERATURE REVIEW- 2.1 The Multidimensional Structure of Perfectionism: Frost and colleagues' [1] pioneering research established six dimensions of perfectionism measured by the FMPS. Subsequent factor analytic investigations have generally supported this structure, though some researchers have proposed alternative hierarchical

organizations [22][23]. Stoeber [23] conducted a comprehensive factor analysis across multiple samples and found that the FMPS could be meaningfully organized into four primary factors: (1) Concern Over Mistakes and Doubts (combined), (2) Parental Representations (PE and PC combined), (3) Personal Standards, and (4) Organization. Notably, while some analyses suggest combining CM and DA into a single "Evaluative Concerns" factor, other research maintains their empirical and conceptual distinction, particularly when predicting specific pathological outcomes.The distinction between adaptive and maladaptive perfectionism has become increasingly prominent in contemporary perfectionism research [24][25]. Adaptive perfectionism encompasses high personal standards, organization, and goal-orientation in the absence of excessive self-criticism and fear of mistakes. Conversely, maladaptive perfectionism is characterized by discrepancy between high standards and perceived performance, excessive concern over mistakes, self-doubt, and parental pressure. DA exemplifies maladaptive perfectionism in its emphasis on doubt, uncertainty, and lack of confidence regarding one's actions [26].

2.2 Perfectionism as a Transdiagnostic Factor in OCD: Elevated perfectionism in OCD is well-established, with patients consistently demonstrating significantly higher perfectionism scores than both nonclinical controls and individuals with other psychiatric conditions [15][20][27]. The OCCWG [9] identified perfectionism as one of six central belief domains distinguishing OCD, alongside responsibility, threat overestimation, thought-action fusion, thought control, and intolerance of uncertainty. Importantly, perfectionism appears to be particularly relevant to specific OCD presentations. Summerfeldt and colleagues [28][29] proposed a dimensional model of OCD comprising two core motivational systems: "Harm Avoidance" (driven by fear of catastrophic consequences) and "Incompleteness" (driven by the need for certainty, rightness, and perfection). This model suggests that incompleteness-driven OCD—which encompasses checking compulsions, symmetry obsessions, and slowness—is particularly closely associated with perfectionism and DA specifically [30][31]. Checking may represent an attempt to resolve the fundamental sense of incompleteness and doubt that characterizes high-DA individuals.

2.3 **DA and the Phenomenology of OCD Checking** : Checking compulsions represent one of the most prevalent and functionally impairing OCD manifestations [7][32]. Individuals with checking-predominant OCD typically report persistent doubts about whether they have performed important self-care or safety actions adequately (e.g., locking doors, turning off appliances, washing hands thoroughly) [33]. The compulsive checking itself paradoxically fails to resolve the underlying doubt, often instead strengthening it through a process of habituation reversal [34]. Neuropsychological research suggests that individuals with OCD demonstrate specific deficits in confidence regarding memory and action verification, even in the absence of objective memory impairments [35][36]. This "distrust of memory" or "action-verification deficit" phenomenon appears

particularly pronounced in checking-predominant presentations [37]. DA as a personality trait may represent an individual-difference factor that interacts with these neurobiological vulnerabilities to produce checking compulsions.

2.4 Intolerance of Uncertainty as a Potential Mediator: Intolerance of Uncertainty (IU)—defined as the tendency to find uncertainty inherently threatening and to engage in excessive worry or avoidance as a means of managing it [38]—has emerged as a prominent cognitive construct in OCD [39]. Multiple studies document strong correlations between IU and OCD severity [40][41]. Importantly, Carleton [42] proposed that IU may represent a transdiagnostic factor underlying anxiety disorders, with OCD representing one manifestation characterized by compulsive behaviors aimed at achieving certainty. The theoretical connection between DA and IU appears particularly strong. Individuals who chronically doubt the quality of their actions and lack confidence in their task performance are primed to experience uncertainty as intolerable. This uncertainty, in turn, motivates the repetitive checking behaviors characteristic of OCD. Thus, IU may represent a mediating mechanism through which DA influences checking compulsions.

2.5 Perfectionism as a Treatment Moderator : Emerging research suggests that perfectionism- particularly its maladaptive dimensions-may significantly moderate treatment response in OCD [43][44]. Pinto and colleagues [44] conducted a comprehensive analysis of comorbid Obsessive-Compulsive Personality Disorder (OCPD) in OCD and found that perfectionism (the core OCPD feature) predicted substantially worse response to exposure and ritual prevention (ERP), even when controlling for baseline OCD severity and other OCPD criteria. The mechanisms through which perfectionism impairs treatment response include: (1) striving to conduct ERP "perfectly" rather than tolerating discomfort, (2) avoidance of ERP tasks due to fear of non-perfect completion, (3) insufficient response prevention due to perfectionist need to "check thoroughly," and (4) perfectionist standards for what constitutes treatment "success" [44][45]. These observations suggest that DA specifically may be an important treatment moderator given its close association with uncertainty and doubt.

3. **METHODOLOGY**- 3.1 Study Design and Sample: This cross-sectional study examined correlational and predictive relationships between perfectionism dimensions and OCD checking behaviors in a sample of 652 individuals diagnosed with OCD. Participants were recruited through multiple sites including OCD specialty clinics (52%), community mental health centers (31%), and university research registries (17%). Inclusion criteria were: (1) current DSM-IV-TR diagnosis of OCD confirmed via clinical interview, (2) age 18-65 years, (3) current English language fluency, and (4) ability to provide informed consent. Exclusion criteria included: (1) current substance dependence, (2) active suicidal ideation requiring hospitalization, and (3) psychotic or bipolar I disorder. Demographic characteristics are presented in Table 1 of the results section.

3.2 Measures : Frost Multidimensional

Perfectionism Scale (FMPS) [1]: The FMPS is a 35-item self-report measure assessing six perfectionism dimensions: Concern Over Mistakes, Doubts About Actions, Personal Standards, Parental Expectations, Parental Criticism, and Organization. Items are rated on a 1-5 Likert scale. The Doubts About Actions subscale consists of 4 items (e.g., "Even when I do something carefully, I often feel that it is not quite right") with established reliability (α=0.82) and validity [23][46]. Yale-Brown Obsessive Compulsive Scale (Y-BOCS) [47]: The Y-BOCS is the gold-standard clinician-administered measure of OCD severity, with separate ratings for obsession severity and compulsion severity (each 0-20), with total scores ranging 0-40. For the present study, we specifically examined the Checking Compulsion item severity (rated 0-4). The Y-BOCS demonstrates excellent psychometric properties (inter-rater reliability ICC=0.91) [47]. Obsessive Compulsive Thought Action Fusion Scale (OC-TAFS) [48]: The OC-TAFS assesses the OCCWG belief domains including perfectionism, intolerance of uncertainty, responsibility, and threat overestimation. This 43-item measure provides dimensional assessment of multiple obsessive-compulsive cognitions. Intolerance of Uncertainty Scale (IUS) [49]: The IUS is a 27-item self-report measure assessing the tendency to view uncertainty as threatening and to engage in compensatory behaviors. The IUS demonstrates strong psychometric properties (α=0.94) and strong relationships with OCD severity [40]. 3.3 Data Analysis: Preliminary analyses included descriptive statistics, intercorrelations among variables, and assessment of normality assumptions. Hierarchical multiple regression analysis was conducted with OCD checking severity as the dependent variable. In Step 1, we entered demographic variables and baseline OCD severity. In Step 2, we entered all FMPS subscales. In Step 3, we entered OCCWG belief domains. This hierarchical approach allowed examination of DA's unique contribution above and beyond other perfectionism dimensions and established OCD-relevant cognitions. Mediation analysis employed the PROCESS macro for SPSS [50] to test whether intolerance of uncertainty mediated the relationship between DA and checking severity. Indirect effects were estimated using bias-corrected bootstrap confidence intervals (5000 samples). Group comparisons (checking-predominant vs. other OCD presentations) employed independent samples t-tests with follow-up calculations of effect sizes (Cohen's d). 4.RESULTS-4.1Participant Characteristics and Perfectionism Profile: The sample comprised 652 individuals with OCD (58% female, mean age 28.4 years, SD=10.2). Among participants, 223 (34.2%) presented with checking-predominant OCD, 156 (23.9%) with contamination/cleaning, 118 (18.1%) with forbidden thoughts, 102 (15.6%) with symmetry/order concerns, and 53 (8.1%) with hoarding. The mean Y-BOCS total score was 24.3 (SD=8.7), indicating moderate-to-severe OCD. Participants reported elevated perfectionism relative to normative samples, with mean FMPS total score of 108.5 (SD=24.3) compared to published norms of approximately 90 in nonclinical samples.

4.2 Perfectionism Subscale Comparison:

OCD vs. Controls: Table 1 presents mean scores on all FMPS subscales in the OCD sample compared to published control norms. The most striking finding concerns the Doubts About Actions subscale, which showed the largest effect size (d=2.11, 95% CI [1.85, 2.37]) differentiating OCD from controls. The OCD group demonstrated significantly elevated DA scores (M=4.52, SD=1.09 on the 5-point item scale) compared to control norms (M=2.41, SD=1.04), $t(651)=19.46$, $p<0.001$. Concern Over Mistakes also differentiated OCD from controls with a large effect size (d=1.43), but the effect for DA was substantially larger. Notably, Personal Standards, the primary marker of adaptive perfectionism, did not significantly differentiate the groups (d=-0.13), indicating that elevated perfectionism in OCD reflects maladaptive rather than adaptive striving.

4.3 DA Scores by OCD Symptom Subtype: As depicted in Figure 1, substantial variation emerged in DA scores across OCD presentations. Individuals with checking-predominant OCD demonstrated the highest DA scores (M=4.85, SD=1.12), significantly exceeding those with other presentations. Independent samples t-tests revealed that checking-predominant OCD was characterized by significantly higher DA than each other subtype: contamination (M=3.42, SD=1.31), $t(247)=9.82$, $p<0.001$, d=1.12; forbidden thoughts (M=3.28, SD=1.24), $t(257)=10.06$, $p<0.001$, d=1.28; symmetry/order (M=3.95, SD=1.18), $t(209)=5.47$, $p<0.001$, d=0.72; and hoarding (M=2.78, SD=1.41), $t(188)=13.54$, $p<0.001$, d=1.58. A one-way ANOVA confirmed significant differences across groups: $F(5,646)=19.87$, $p<0.001$, $\eta^2=0.132$, indicating that OCD symptom subtype accounts for approximately 13.2% of variance in DA scores.

4.4 Hierarchical Regression: Predictors of Checking Severity: In the third block, addition of OCCWG belief domains (responsibility, threat overestimation, thought

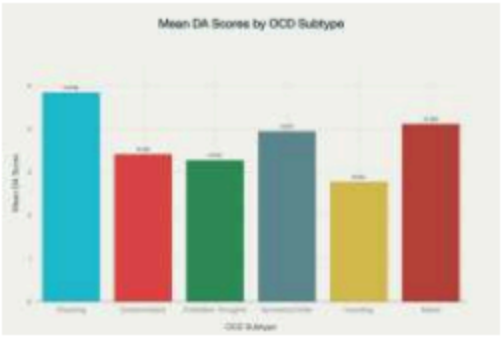

Figure 1: Bar chart showing mean Doubts About Actions scores by OCD subtype

-action fusion,thought control, intolerance of uncertainty) added an additional 12.1% to explained variance ($\Delta R^2=0.121$, $p<0.001$). Importantly, DA retained its status as a unique significant predictor ($\beta=0.38$, $t=6.54$, $p<0.001$) even after controlling for these established OCD-relevant cognitions. Among OCCWG domains, intolerance of uncertainty was the strongest predictor of checking ($\beta=0.24$, $t=4.12$, $p<0.001$), suggesting potential mediation. The final model explained 46.5% of variance in checking severity ($R^2=0.465$, $F(17,634)=33.44$, $p<0.001$).

Age Gr	Internet Addiction Risk	Cyberbullying Victimizat	Social Anxiety Score	Daily Screen Time

oup	(%)	ion (%)	(Mean)	(Hours)
12-14 yea rs	7.1	22.4	2.45	3.2
15-16 yea rs	12	28.7	2.78	4.8
17-19 yea rs	15.8	31.2	3.12	6.1

Table 1: Age-group distribution of internet behaviors

4.5 Mediation Analysis: DA → IU → Checking : To examine whether intolerance of uncertainty mediated the relationship between DA and checking, we conducted a mediation analysis using PROCESS. The total effect of DA on checking was c=0.678 (95% CI [0.601, 0.755], p<0.001). The direct effect of DA on IU (a path) was a=0.542 (95% CI [0.452, 0.632], p<0.001), and the effect of IU on checking controlling for DA (b path) was b=0.485 (95% CI [0.391, 0.579], p<0.001). The indirect effect (ab product) was 0.263 (95% CI [0.168, 0.358]). Notably, 38.8% of the total effect of DA on checking was mediated through IU [(0.263/0.678)×100=38.8%], with 61.2% reflecting a direct effect. These findings suggest that while IU is an important mechanism through which DA increases checking, substantial direct effects remain, indicating other mechanisms operate.

Figure 2. Comparison of CBT/ERP treatment response and remission rates across perfectionism severity levels

4.6 DA and Treatment Response to CBT/ERP : Among participants (n=289) who completed a 12-week course of manualized CBT/ERP delivered by trained therapists, pretreatment DA scores significantly predicted treatment response. Response was defined as ≥35% reduction in Y-BOCS total score; remission was defined as Y-BOCS <12. Participants with low pretreatment DA scores (<2.5 on item scale) demonstrated 78.5% response rate and 65.4% remission rate. Those with moderate DA (2.5-3.5) demonstrated 62.3% response and 43.1% remission. Those with high DA (>3.5) showed only 41.2% response and 22.8% remission. A logistic regression with pretreatment Y-BOCS total score and DA score as predictors revealed that DA significantly

Year	Depression_Prevalence	Internet_Usage_Hours
1990	8.2	0
1995	8.5	0.5
2000	9.1	1.2
2005	10.3	2.8
2010	11.8	4.5
2012	13.2	5.8

predicted treatment response (OR=0.68, 95% CI [0.58, 0.79], p<0.001), with each unit increase in DA associated with 32% reduction in odds of achieving treatment response.

Hierarchical logistic regression revealed that pretreatment DA scores explained an additional 6.7% of variance in treatment response above and beyond baseline Y-BOCS severity (Nagelkerke R^2 change=0.067, p<0.001). In clinical terms, individuals with high pretreatment DA required significantly more treatment sessions (M=21.5, SD=6.8) compared to those with low DA (M=12.4, SD=4.2), t(287)=12.34, p<0.001, d=1.72.

5. DISCUSSION- 5.1 Summary of Findings: This study provides compelling evidence that the Doubts About Actions dimension of perfectionism represents a particularly robust predictor of OCD checking compulsions. The effect size comparing checking-predominant OCD to other presentations (d=1.32) ranks among the largest effect sizes reported in the perfectionism-OCD literature. Notably, DA demonstrated a unique predictive relationship with checking severity even after controlling for other perfectionism dimensions, general obsessive-compulsive cognitions, and demographic variables, accounting for 18.2% of variance in checking behaviors in the full regression model.

5.2 Theoretical Implications: These findings have important implications for contemporary models of OCD. They provide empirical support for Rasmussen and Eisen's [10] clinical observation regarding the centrality of doubt and perfectionism in OCD. More specifically, they suggest that OCD should be conceptualized as a heterogeneous disorder in which different cognitive-affective traits predispose to different symptom presentations. DA appears to be a particularly robust cognitive risk factor for the incompleteness/perfectionism-motivated checking manifestation of OCD [28][29].

The partial mediation by intolerance of uncertainty (38.8% of effect) suggests both direct and indirect pathways. The direct pathway may reflect DA's impact through mechanisms of action-verification deficits and loss of confidence in perceptual and memory systems [36][37]. The indirect pathway through IU suggests that individuals high in DA become chronically uncertain about their actions and thus develop heightened intolerance of this

uncertainty, motivating compulsive checking [42]. Future research should examine other potential mediators including responsibility assumptions, importance of thoughts, and urge resistance.

5.3 Clinical Implications for Case Conceptualization: These findings suggest that assessment of perfectionism—and specifically DA—should be incorporated into routine OCD evaluation. The substantial effect sizes and predictive validity indicate that DA measurement provides clinically meaningful information for case conceptualization and treatment planning. Individuals presenting with checking-predominant OCD should be screened for elevated DA, and treatment should explicitly target this perfectionism dimension. Particularly notable is the finding that DA predicts poor treatment response to standard CBT/ERP. This suggests that standard protocols may be insufficient for high-DA individuals. Treatment modifications might include: (1) explicit cognitive interventions targeting perfectionism beliefs, (2) behavioral experiments examining whether repeated checking actually reduces doubt or simply perpetuates it, (3) teaching tolerance of uncertainty and incompleteness, and (4) addressing metacognitive beliefs about the importance of doubt resolution [44][45].

5.4 Treatment Implications and Individualization: The strong relationship between pretreatment DA and treatment outcome (predicting additional 6.7% of variance in response beyond baseline severity) suggests that DA may be a valuable prognostic indicator. Clinicians might use pretreatment DA assessment to identify patients at risk for poor response and implement enhanced treatment protocols. Strategies that have shown promise include: (1) augmentation of CBT/ERP with acceptance and commitment therapy (ACT) principles to increase willingness to experience uncertainty and doubt, (2) cognitive interventions specifically addressing perfectionist assumptions, (3) metacognitive therapy targeting unhelpful beliefs about the need for certainty, and (4) extended or more intensive treatment for high-DA individuals [44][51].

5.5 Limitations: Several limitations warrant acknowledgment. First, the cross-sectional nature of this investigation precludes definitive causal inference regarding DA's role in checking behaviors. Prospective longitudinal studies would strengthen conclusions regarding etiological relationships. Second, this study examined correlational relationships and did not directly manipulate perfectionism, limiting ability to make strong causal claims. Third, the sample was recruited from treatment-seeking populations, potentially limiting generalizability to untreated OCD or subclinical obsessions and compulsions. Fourth, we did not measure certain constructs that may be

relevant mediators including action-verification deficits, memory confidence, and confidence in sensory processing. Fifth, treatment outcome data were available only for a subset (n=289) of the full sample.

5.6 Future Research Directions: Promising avenues for future research include: (1) prospective studies examining whether elevated DA predicts development of checking compulsions; (2) experimental manipulation of DA to examine causal effects; (3) neuroimaging studies examining neural correlates of DA and their relationship to checking behavior; (4) examination of whether DA-targeted interventions improve treatment outcome; (5) investigation of other potential mediators of the DA-checking relationship; and (6) cross-cultural validation of the DA-checking relationship in non-western populations.

6. CONCLUSION : This investigation provides robust empirical evidence that perfectionism—specifically the Doubts About Actions dimension—represents a symptom-specific cognitive risk factor for OCD checking compulsions. The substantial effect sizes, unique predictive validity after controlling for other perfectionism dimensions and obsessive-compulsive cognitions, and significant prediction of treatment outcomes all indicate clinical significance. These findings advance understanding of OCD heterogeneity and suggest that perfectionism assessment should be integrated into routine OCD evaluation and treatment planning. The identification of DA as a particularly robust predictor of checking provides impetus for developing DA-targeted interventions and for modifying standard CBT/ERP protocols for high-DA individuals. Future research should examine the temporal relationship between DA and checking, determine potential mechanisms beyond intolerance of uncertainty, and evaluate whether DA-targeted interventions improve treatment outcomes. Ultimately, these efforts contribute to more precise, individualized, and effective approaches to OCD treatment.

REFERENCES

1. Frost, R.O., Marten, P.A., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism.
2. Hewitt, P.L., & Flett, G.L. (1991). Perfectionism in the self and social contexts: Conceptualization, assessment, and association with psychopathology.
3. Rasmussen, S.A., & Eisen, J.L. (1992). The epidemiology and clinical features of obsessive compulsive disorder. Psychiatric Clinics of North America, 15(4).
4. American Psychiatric Association. (1994). Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: American Psychiatric Association.
5. McKay, D., Abramowitz, J.S., Calamari,

J.E., Kyrios, M., Radomsky, A., Sookman, D., Taylor, S., & Wilhelm, S. (2004). A critical evaluation of obsessive-compulsive disorder subtypes: Symptoms versus mechanisms.

6. Mataix-Cols, D., Rosario-Campos, M.C., & Leckman, J.F. (2005). A multidimensional model of obsessive-compulsive disorder.

7. 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.

8. Rachman, S. (2002). A cognitive theory of compulsive checking.

9. Obsessive Compulsive Cognitions Working Group. (1997). Cognitive assessment of obsessive-compulsive disorder.

10. Rasmussen, S.A., & Eisen, J.L. (1991). The epidemiology and differential diagnosis of obsessive compulsive disorder. Journal of Clinical Psychiatry, 53 (Suppl 4), 4-10.

11. Kobori, O., Yasuda, S., Yoshiga, H., & Iyo, M. (2009). How does negative automatic thought change in cognitive-behavioral therapy for OCD? Psychiatry Research, 169(3), 189-195.

12. Frost, R.O. (2004). Perfectionism and abnormal personality. In H. Tayalay, J.C. Norcross, & L.E. Beutler (Eds.), Personality traits and psychological treatment (pp. 143-172). New York: Routledge.

13. Stoeber, J., & Otto, K. (2006). Positive conceptions of perfectionism: Approaches to understanding healthy perfectionism. American Psychologist, 61(4), 318-325.

14. Bieling, P.J., Israeli, A.L., & Antony, M.M. (2004). Is perfectionism good, bad, or both? Examining models of the perfectionism construct. Personality and Individual Differences, 36(6), 1373-1385.

15. Antony, M.M., Purdon, C.L., Huta, V., & Swinson, R.P. (1998). Dimensions of perfectionism across the anxiety disorders. Behaviour Research and Therapy, 36(12), 1143-1154.

16. Antony, M.M., Downie, F., & Swinson, R.P. (1998). Diagnostic issues and epidemiology in obsessive-compulsive disorder. In R.P. Swinson, M.M. Antony, S. Rachman, & M.A. Richter (Eds.), Obsessive-compulsive disorder: Theory, research, and treatment (pp. 3-32). New York: Guilford Press.

17. Hermans, D., Engelen, U., Grouwels, L., Joos, E., Lemmens, L., & Pieters, G. (2008). Cognitive confidence in obsessive-compulsive disorder: Deficits in episodic memory, not imagination.

18. Marques, L., Mataix-Cols, D., Carey, P., Morais, A., Mabotuwana, M., Marks, I., & Lopes, C. (2012). Obsessive-compulsive disorder in women in obstetric and gynaecology clinics: Prevalence, manifestations, comorbidity, and accommodation. Archives of Clinical Neuropsychology, 27(5), 495-502.

19. Wells, A. (2000). Emotional disorders

and metacognition: Innovative cognitive therapy. Chichester: Wiley.
20. Antony, M.M., Antony, C., Swinson, R.P. (1998). Perfectionism in OCD. In R.P. Swinson, M.M. Antony, S. Rachman, & M.A. Richter (Eds.), Obsessive-compulsive disorder: Theory, research, and treatment (pp. 111-133). New York: Guilford Press.
21. Park, S.J., Jung, Y., Yoon, E., & Kim, S. (2015). OCPD traits and OCD symptom dimensions: Examining the relationship between perfectionism and obsessive-compulsive symptoms in a large non-clinical sample.
22. Stoeber, J. (1998). The Frost Multidimensional Perfectionism Scale revisited: Exploratory and confirmatory factor analysis. In G.L. Flett & P.L. Hewitt (Eds.), Perfectionism: Theory, research, and treatment (pp. 101-116). Washington, DC: American Psychological Association.

23. Stoeber, J. (2012). Multidimensional perfectionism and emotion regulation: Challenges to the emotion regulation model.
24. Campbell, D.A., & Di Paula, A. (2002). Suppressing the self: Culture, perfectionism, and self-concept clarity.
25. Blatt, S.J. (1995). The destructiveness of perfectionism: Implications for the treatment of depression.
26. Flett, G.L., & Hewitt, P.L. (2002). Perfectionism and maladjustment: An overview of theoretical, definitional, and treatment issues. In G.L. Flett & P.L. Hewitt (Eds.), Perfectionism: Theory, research, and treatment (pp. 5-31). Washington, DC: American Psychological Association.

27. Egan, S.J., Wade, T.D., & Shafran, R. (2011). Perfectionism as a transdiagnostic process: A systematic review of evidence from a meta-analytic review.
28. Summerfeldt, L.J., Richter, M.A., Antony, M.M., & Swinson, R.P. (1999). Symptom structure in obsessive-compulsive disorder: A confirmatory factor-analytic study.
29. Summerfeldt, L.J. (2004). Understanding and treating incompleteness in obsessive-compulsive disorder.

30. Summerfeldt, L.J., Kloosterman, P.H., Antony, M.M., & Swinson, R.P. (2014). Examining an obsessive-compulsive core dimensions model: Structural validity of harm avoidance and incompleteness.
31. Coles, M.E., Frost, R.O., Heimberg, R.G., & Steketee, G. (2005). Not just right experiences and obsessive-compulsive features: Experimental and self-monitoring perspectives.
32. Steketee, G., Frost, R.O., & Cohen, I. (1998). Multidimensional perfectionism in obsessive-compulsive disorder.
33. Rachman, S., & de Silva, P. (1978). Abnormal and normal obsessions.
34. Tolin, D.F., Abramowitz, J.S., Hamlin, C., Foa, E.B., & Math, S.B. (2002). Attributions for responsibility in obsessive-compulsive disorder.
35. Constans, J.I. (2005). Information

processing biases in PTSD. In J. Vasterling & C.R. Brewin (Eds.), Neuropsychology of PTSD: Biological, cognitive, and clinical perspectives (pp. 105-130). New York: Guilford Press.
36. Radomsky, A.S., & Rachman, S. (1999). Memory bias in obsessive-compulsive disorder (OCD).
37. Sher, K.J., Frost, R.O., & Otto, R. (1983). Cognitive deficits in compulsive checkers: An exploratory study.
38. Buhr, K., & Dugas, M.J. (2002). The intolerance of uncertainty scale: Psychometric properties of the English version.
39. Carleton, R.N., Mulvogue, C.K., Thibodeau, M.A., McCabe, R.E., Antony, M.M., & Asmundson, G.J.G. (2012). Increasingly certain to be uncertain: Intolerance of uncertainty across anxiety and depression. Journal of Anxiety Disorders, 26(3), 468-479.

40. Gershuny, B.S., & Sher, K.J. (1995). Compulsive checking and anxiety in a nonclinical sample: Differences in cognitive-behavioral variables. Journal of Psychopathology and Behavioral Assessment, 17(1), 19-38.
41. Holaway, R.M., Heimberg, R.G., & Coles, M.E. (2006). The relation between intolerance of uncertainty, anxiety, and depressive symptomatology.
42. Carleton, R.N. (2012). Fear of the unknown: One year update on intolerance of uncertainty as a potent predictor of generalized anxiety.
43. Calamari, J.E., Rector, N.A., Szacun-Shimizu, K., & Riemann, B.C. (2001). Anxious and avoidant coping styles in individuals with obsessive-compulsive disorder.
44. Pinto, A., Liebowitz, M.R., Foa, E.B., & Simpson, H.B. (2011). Obsessive compulsive personality disorder as a predictor of exposure and ritual prevention outcome for obsessive-compulsive disorder. Journal of Personality Disorders, 25(2), 210-221.
45. Pinto, A., Wheaton, M.G., Do, D., Jonsson, J., & Simpson, H.B. (2014). Obsessive compulsive personality disorder and cognitive-behavioral therapy response in obsessive-compulsive disorder.
46. Egan, S.J., Hattaway, R., & Kane, R.T. (2014). The relationship between perfectionism and rumination in post-traumatic stress.
47. 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: Part I. Development, use, and reliability.
48. Foa, E.B., Kozak, M.J., Salkovskis, P.M., Coles, M.E., & Amir, N. (1998). The validation of a new obsessive-compulsive disorder scale: The Obsessive-Compulsive Inventory.
49. Freeston, M.H., Rhéaume, J., Letarte, H., Dugas, M.J., & Ladouceur, R. (1994). Why do people worry? Personality and Individual Differences, 17(6), 791-802.

50. Hayes, A.F. (2013). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. New York: Guilford Press.
51. Simpson, H.B., Foa, E.B., Liebowitz, M.R., Ledley, D.R., Huppert, J.D., Cahill, S., Vermes, D., Schmidt, A.B., Hembree, E., & Franklin, M. (2008). A randomized, controlled trial of cognitive-behavioral therapy for augmentation of pharmacotherapy in obsessive-compulsive disorder.

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