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## How can I know what I'm feeling? Obsessive-compulsive tendencies and induced doubt are related to reduced access to emotional states



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### ABSTRACT

**Background and objective:** People's feelings are not always accessible to them, and this might be especially the case for some individuals and in some situations. Based on our model of obsessive-compulsive disorder, we predicted that obsessive-compulsive (OC) tendencies and situationally induced doubt would be associated with decreased access to one's own emotions.

**Methods:** In the first two studies we examined the relationships between OC tendencies and performance on the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT). In Study 3 we undermined participants' confidence in their ability to accurately assess their own emotions and assessed the effect of this manipulation on MSCEIT performance.

**Results:** As predicted, OC tendencies were associated with lower scores on the Experiential area of the MSCEIT, which relies on access to experienced emotions, but not on the Strategic area, which relies on semantic knowledge about emotions. Similarly, undermining participants' confidence in their own emotions reduced their scores on the Experiential, but not on the Strategic area of the MSCEIT.

**Limitations:** The findings should be replicated with a clinical OCD population and with other measures of emotional experience.

**Conclusion:** These studies suggest that impaired access to emotional states may be caused by doubting those states, that it characterizes people with high OC tendencies, and that it might be a manifestation of a more general difficulty in accessing internal states.

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What do you feel when you look up at the sky on a stormy day? How sure are you about your love for your partner? For some people, answering these questions comes easy. Their own feelings seem to be accessible for introspection clearly, immediately, and effortlessly. For others, these questions pose a challenge. They do not know the answer right away, and might pause in doubt or seek answers in sources external to themselves. For example, they might try to remember the titles of pictures depicting stormy skies, or the role stormy skies typically play in emotional movie scenes. They might try to remember how many times a day they call their partner or whether they remembered his/her birthday to find out about their own feeling of love for them.

The ability to introspect on one's emotions is a stable individual disposition and an important component of Emotional Intelligence (EI; Mayer, Salovey, & Caruso, 2002, 2004). But what may be

personality characteristics of those who lack it, those who cannot tell what they feel? What are situational conditions that might hamper people's ability to answer questions about their own feelings? In the present paper, we examine one possible answer to these questions. Specifically, we present a general social-cognitive theory of Obsessive-Compulsive Disorder (OCD), which connects this condition with impaired ability to access a wide array of internal states, encompassing feelings, preferences, and bodily states. We predicted, based on that theory, that even within a non-clinical population, a lower ability to introspect on one's own emotions would be associated with higher Obsessive-Compulsive (OC) tendencies. Our theory of OCD further suggests that in people with that disorder, poor access to internal states may result from or be exacerbated by doubting those states. We examined the generality of this causal mechanism by testing whether experimentally induced doubt about one's own emotions would compromise access to one's emotions. In what follows, we first describe our theory of the relations between OCD, inability to introspect on internal states, and doubt. We then focus more closely on introspection of

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emotions, and describe how the accuracy of such introspection is conceptualized within Mayer et al.'s (2002, 2004) theory of EI. We proceed to test three major predictions that follow from this line of theorizing, namely, that (1) dispositional OC tendencies, (2) a dispositional tendency to rely on proxies for internal states, and (3) experimentally induced doubt in one's emotions would be associated with lower ability to introspect on one's emotions.

### 1. The SPIS model of OCD

Obsessive Compulsive Disorder (OCD) is characterized by *obsessions*, defined as recurrent persistent thoughts, impulses, or images that are experienced as intrusive and inappropriate and cause marked anxiety or distress; and by *compulsions*, defined as repetitive behaviors or mental acts that the person feels driven to perform in response to an obsession, or according to rules that must be applied rigidly (American Psychiatric Association, 2013).

Recently, we proposed the Seeking Proxies for Internal States model of OCD (SPIS, Lazarov, Dar, Oded, & Liberman, 2010; Liberman & Dar, 2009), according to which impaired access to internal states is a core feature of this condition. We hypothesized that impaired access to internal states drives people with OCD to seek and use more easily discernable substitutes or "proxies" for those states. For example, a person with OCD might find it difficult to know whether he likes his sister, and attempt to answer that question by asking himself whether or not he stopped playing Candy Crush when talking to her on the phone. On vacation, another person with OCD may find it difficult to know whether or not she enjoys the view, and consult a tourist guidebook to find out whether it describes the view as "magnificent".

In the SPIS model, internal states are defined broadly, encompassing not only emotions and preferences but also bodily states and sensations. In a series of studies in our laboratory (Lazarov et al., 2010; Lazarov, Dar, Liberman, & Oded, 2012, 2012), biofeedback served as a proxy for the internal states of relaxation and muscle tension. Participants in these studies were students with high and low scores on a measure of OC symptoms (Obsessive-Compulsive Inventory-Revised, see Measures below). In one of these studies (Lazarov, Dar, Liberman, & Oded, 2012b), for example, we asked participants to achieve different levels of forearm muscle tension with and without the aid of biofeedback. As predicted, high OC participants were less accurate than low OC participants in producing the designated muscle tension levels without biofeedback, but performed equally well when biofeedback was available. In addition, when given the opportunity, and despite a potential cost in performance, high OC participants were more inclined to request access to the biofeedback. Similar results were obtained when relaxation rather than muscle tension was the target internal state (Lazarov et al., 2010).

In another study (Lazarov et al., 2012a, Study 1) we examined whether OC tendencies would predict the extent to which participants would rely on relevant but false feedback in judging their own internal state. High and low OC participants were instructed to relax their forearm muscles while viewing false pre-programmed bio- "feedback" on their muscle tension. Each participant underwent two successive phases of putative feedback, one indicating gradual increase and one indicating gradual decrease in muscle tension. Following each phase, participants rated their perceived muscle tension. As predicted, high OC participants, as compared to low OC participants, were significantly stronger influenced by the false biofeedback in evaluating their own muscle tension, indicating that they relied more on the (false) biofeedback proxy for this particular internal state. The two groups did not differ with regard to their actual muscle tension in the two phases of the experiment. Similar results were obtained with relaxation as the

target internal state (Lazarov et al., 2010).

Importantly, the SPIS model presumes a dimensional view of OC tendencies rather than a view of OCD as a discrete entity. This assumption is strongly supported by results of the studies described above using psychology students varying in their scores on measures of OC symptoms (Lazarov et al., 2010, 2012a, 2012b), and were replicated with clinical samples of OC participants (Lazarov, Liberman, Hermesh, & Dar, 2014; Reuven-Magril, Dar, & Liberman, 2008, Study 2). The view of OC symptoms as dimensional, rather than as categorical and confined to a "disorder," has been endorsed by many other researchers in the field (for a recent review, see Abramowitz et al., 2014) and supported by at least two taxometric studies of OC symptoms (Haslam, Williams, Kyrios, McKay, & Taylor, 2005; Olatunji, Williams, Haslam, Abramowitz, & Tolin, 2008).

A central feature of OCD is pervasive and relentless doubts, which are believed to lead to many of the characteristic symptoms of the disorder and have been the focus of considerable research on OCD (e.g., Aardema & O'Connor, 2007; Dar, Hermesh, Fux, Rish, & Taub, 2000; van den Hout, Engelhard, de Boer, du Bois, & Dek, 2008; Nedeljkovic, Moulding, Kyrios, & Doron, 2009; Szechtman & Woody, 2004; Tolin et al., 2001). People with OCD often distrust their memory ("Did I really remember to lock the door?") "Was the toaster definitely unplugged when I left the house?"), and may be compelled to retrace their steps and recheck or attempt to reconstruct events in their mind. They may question whether they understood something properly or whether they cleaned their hands sufficiently. They may be tormented by doubts in regard to their feelings ("Am I really attracted to my girlfriend?") or core aspects of their own character ("Am I a moral person?") or beliefs ("Do I really believe in God?").

In the SPIS model of OCD, too, doubt plays an important role. Doubting one's own internal states might be seen as both the consequence and the cause of inability to access them. Obviously, if one has diminished access to one's own internal states, one ends up doubting them. For example, a woman cannot directly access her own sense of happiness will probably doubt whether she is happy. It is also likely, however, that doubting one's internal states might further impair access to those states. For example, asking yourself repeatedly whether you love your partner might lead to the feeling of love becoming increasingly difficult to discern (Shapira, Gundar-Goshen, Liberman & Dar, 2013).

To examine the causal role of doubt in reducing access to internal states, we designed experiments in which we undermined participants' confidence in their ability to accurately perceive their own internal states. In the first of these experiments (Lazarov et al., 2012a, Study 2), we replicated the false feedback procedure described above (Lazarov et al., 2012a, Study 1) in two groups of unselected participants. Half of these participants received instructions designed to undermine their confidence in their ability to assess their own level of relaxation whereas the other group received no additional instructions. Specifically, participants in the undermined confidence group were told that "feelings of relaxation can be misleading. People often feel that they are relaxed only to discover later on that they were not, thus realizing that their confidence about their own feeling of relaxation had been false. Therefore, you should ask yourself whether you are really and genuinely relaxed, and whether you are confident about what you are feeling." The results mimicked those of high vs. low OC tendencies: Participants who underwent the confidence-undermining manipulation were more affected by the false biofeedback when judging their own level of relaxation as compared to control participants. Similar results were obtained in another study (Lazarov, Cohen, Liberman, & Dar, 2015) using the muscle tensing procedure described above (Lazarov et al., 2012b). Undermining

participants' confidence in their ability to assess their own muscle tension impaired their performance in the absence of biofeedback and increased their reliance on biofeedback when it was offered, again mimicking the effects previously obtained with high vs. low OC participants (Lazarov et al., 2012b).

Although emotional states are an important category of internal states, until now the predictions of the SPIS model have not been examined for emotions. The studies presented in this paper attempt to close this empirical and theoretical gap. In our first study, we examined the prediction that people high in OC tendencies would have difficulty discerning their own emotions. In the second study, we examined the relationship between OC tendencies, a self-reported general tendency to rely on proxies for internal states, and the ability to accurately discern one's own emotions. In the third study, we examined whether doubting one's ability to accurately perceive one's emotions would have the same effect on experienced emotion as having high OC tendencies.

To examine the accuracy of one's access to one's emotional states, we relied on the construct of emotional intelligence (EI) as conceptualized by Mayer and colleagues (Mayer & Salovey, 1997; Mayer et al., 2002, 2004). This dominant model of EI comprises the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth (Mayer & Salovey, 1997). Following this ability-based conceptualization of EI, Mayer and colleagues developed the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer et al., 2002, 2004), which has become one of the most widely used measures of EI.

The MSCEIT produces performance scores in two domains of EI, "Experiential" and "Strategic", a distinction that is of critical importance to our model. Experiential EI reflects perceiving, generating, and feeling emotions, whereas Strategic EI reflects understanding and managing emotions. Of special relevance to the SPIS framework is the notion that only Experiential EI relies on accurate perception of one's own emotional states. For example, the Experiential area of the MSCEIT includes items that depict an artistic design or landscape and responders are asked to rate how much of a particular emotion is expressed in the picture. In other items in the Experiential area, respondents are asked to imagine a particular emotion in a specific situation, and rate how much this emotion is similar to sensations (e.g., to what extent getting an unexpected promotion feels loud and warm). If OC individuals have attenuated access to their affective states, they should have trouble identifying their own emotional reactions, which is required to perform well in the Experiential area of the MSCEIT.

In contrast to Experiential EI, Strategic EI reflects the ability to understand and manage emotions that are presented as semantic stimuli, rather than being directly experienced. For example, the Strategic area of the MSCEIT includes items that ask whether adding more work to a person who already experiences work-related anxiety and stress would produce in him/her a feeling of being "Overwhelmed", "Depressed", "Ashamed", "Self-Conscious", or "Jittery". The SPIS hypothesis postulates that OC individuals turn to rules and norms (i.e., proxies) to compensate for the attenuation in perceiving their own internal states. In the area of emotion, OC individuals may rely on normative knowledge and rules regarding how one *should* feel in certain situations and operate based on such "theoretical," semantic knowledge about emotional responses as a way to compensate for the attenuated experience of their own feelings. In the item above, one could invoke the semantic knowledge that, for example, shame is experienced when one does something bad and rule out shame as a potential answer. SPIS therefore predicts that OC tendencies would not be related to deficient performance in the Strategic area of the MSCEIT.

The MSCEIT has been widely used in the past decade and a large body of research supports its conceptualization, its reliability (see coefficients below in Measures), and its validity as a test of EI (Mayer et al., 2004). The MSCEIT has been shown to have considerable predictive validity, as evident from its associations with the quality of intimate, family, and social relationships, self-worth in social interactions, perceptions by others, academic performance, leadership and organizational behavior, psychological well-being, and prosocial and deviant behavior (Brackett & Mayer, 2003; Lopes, Brackett, Nezlek, Schütz, & Mayer, 2004; Mayer et al., 2004; Mayer, Roberts, & Barsade, 2008). The MSCEIT has been also used in the realm of psychopathology by Jacobs et al. (2008), who measured EI in patients with Social Anxiety Disorder (SAD). They found that SAD patients did not differ from non-patient controls in EI; however, among the SAD patients, anxiety was negatively correlated with Experiential EI but not with the Strategic EI.

Importantly, the MSCEIT is a *performance* measure, in which participants are tested on items that have right versus wrong answers as determined by consensus and by experts (see next in Measures), similar to measures of IQ such as the Wechsler test (WAIS; Wechsler, 2008). This is in contrast to self-report measures of EI, such as the Emotional Intelligence Scale (Schutte et al., 1998) and the Bar-On Emotional Quotient Inventory (Bar-On, 2002). Self-report measures of ability suffer from a major limitation, namely, that lacking an ability often makes it impossible for people to know of its absence (Dunning, Johnson, Ehrlinger, & Kruger, 2003). For example, people who lack a sense of humor would not know that of themselves, precisely because they would not even know that they missed a joke (Kruger & Dunning, 1999, Study 1). Similarly, people low on EI might not be aware of this deficit, precisely because they lack the ability needed to detect that their emotional reactions and assessments are off-scale. Indeed, self-report measures of EI were found to only weakly correlate with the MSCEIT and, unlike the MSCEIT, to largely index personality traits rather than abilities (Brackett & Mayer, 2003; Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006; MacCann, Matthews, Zeidner, & Roberts, 2003).

The present research comprises three studies. In Study 1, we compared extreme high and low scorers on a measure of OCD. Based on the reasoning outlined above, we predicted that high OC participants, compared to low OC participants, would score lower on the Experiential but not on the Strategic areas of the MSCEIT. In Study 2, we tested a large sample of unselected participants who completed the MSCEIT, a measure of OC tendencies and a newly developed self-report measure of a tendency to rely on proxies for internal states. We predicted that both the OC measure and the tendency to rely on proxies for internal states would be negatively related to Experiential but not Strategic EI. We further predicted that these two measures would account for the same variance in Experiential EI. In Study 3 we examined the effects of undermining unselected participants' confidence in their ability to accurately assess their own emotions. We predicted that the effects of this manipulation would mimic the effects of high vs. low OC tendencies, so that participants who have undergone the confidence-undermining manipulation, compared to control participants, would score lower on the Experiential but not on the Strategic areas of the MSCEIT.

## 2. Study 1

### 2.1. Methods

#### 2.1.1. Participants

221 Psychology students (165 women, 56 men) at Tel-Aviv University completed the Obsessive-Compulsive Inventory-

Revised (OCI-R; Foa et al., 2002) as well as depression and anxiety measures (see Measures below). We invited students who scored at the top and bottom of the distribution of the OCI-R for participation in this study, with a cut-off score of  $\geq 18$  for high OC participants and a cut off score of  $\leq 3$  for low OC participants. The final sample included 60 students ( $M_{age} = 23.17$  years,  $SD = 2.03$ , range = 18–30 years): 30 students (25 women and 5 men) with high OC tendencies ( $M = 24.13$ ,  $SD = 6.94$ ), and 30 (20 women and 10 men) with low OC tendencies ( $M = 1.83$ ,  $SD = 1.02$ ),  $t(58) = -17.42$ ,  $p < 0.001$ . None of the participants had prior experience with the MSCEIT. Participants signed an informed consent and received course credit for participation.

## 2.1.2. Measures

**2.1.2.1. Obsessive-compulsive tendencies.** OC tendencies were measured by the OCI-R. The OCI-R lists 18 characteristic symptoms of OCD, divided among 6 subscales which are based on symptom categories that are commonly found in OCD (washing, obsessing, hoarding, ordering, checking and neutralizing). Each symptom is followed by a five-point Likert scale ranging from 0 (Not at all) to 4 (Extremely), on which participants indicate its prevalence during the last month. The OCI-R has been shown to have good validity, test-retest reliability, and internal consistency in both clinical (Foa et al., 2002) and non-clinical samples (Hajack, Huppert, Simons, & Foa, 2004). Cronbach's alpha of the OCI-R in our sample was 0.88, which is identical to the figure reported in previous studies with college samples (Hajack et al., 2004; Lazarov et al., 2010, 2012a, 2012b; Soref, Dar, Argov, & Meiran, 2008).

**2.1.2.2. Emotional intelligence.** Emotional intelligence was measured by the MSCEIT V2.0 (Mayer et al., 2002, 2004). We used an official Hebrew translation (by Shlomo Hareli & Doron Kliger) of the original English version approved by the test publishers, Multi-Health Systems (MHS). The MSCEIT contains 141 items that are answered in approximately 35–45 min. The items are divided among eight tasks (A through H) measuring the four branches (1 through 4) of EI: (1) Emotional perception in (A) faces and (E) landscapes; (2) Using emotions in (B) synesthesia and in (F) facilitating thought; (3) Understanding (C) emotional changes across time and (G) emotional blends; (4) Managing emotions in (D) oneself and (H) relationships. The different tasks use different item types and different response scales.

The MSCEIT assesses four branches of EI abilities and skills: Perceiving emotions, using emotions, understanding emotions and managing emotions (Mayer & Salovey, 1997; Mayer et al., 2004). Branch 1 reflects the ability to perceive and recognize emotions properly in yourself and others. Branch 2 reflects the ability to create, use, and integrate emotions in order to facilitate thought in various cognitive tasks such as reasoning, decision making, problem solving and creativity. Branch 3 reflects the ability to analyze emotions correctly, to understand their causes, development, and progression over time and their probable outcomes. Finally, Branch 4 reflects the ability to manage emotions adaptively. Adaptive managing of emotions is the ability to create effective strategies that use the individual's emotions to help him/her achieve personal goals, rather than being influenced by emotions in unpredictable ways. These four branches (i.e., Perceiving, Using, Understanding, and Managing emotions) make up the two areas of EI: Experiential EI (Branches 1 and 2 combined) and Strategic EI (Branches 3 and 4 combined). The MSCEIT yields seven scores, one for each of the four branches and two area scores, and a total EI score.

MSCEIT answer sheets are scored by MHS, using two scoring systems for determining the correctness of answers - expert judgment consensus and general consensus, with ratings according to the two scoring systems correlating highly ( $r > 0.90$ ; Mayer,

Salovey, Caruso, & Sitarenios, 2003). The expert judgment scoring system compares an individual's performance to the consensus of 21 international emotion experts and the general scoring system compares it to more than 5000 people in the normative data base of people who have taken the test (Mayer et al., 2002). In accordance with the test publishers' recommendation, we used the general consensus scoring system for the present study. The MSCEIT's overall reliability (Cronbach's alpha) with this scoring method is 0.93 whereas the corresponding coefficient for both the Experiential and Strategic EI area is 0.90. The reliabilities of the four branch scores are between 0.76 and 0.91 (Mayer et al., 2003). The test-retest reliability of the full scale over a three-week interval is 0.86 (Brackett & Mayer, 2003).

**2.1.2.3. Anxiety.** Trait anxiety was measured by the State-Trait Anxiety Inventory-Trait (STAI-T; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). The STAI-T is a 20-item self-report scale that assesses an individual's general tendency to experience anxiety determined by his/her personality make-up. The STAI-T is rated on a 4-point Likert scale ranging from 1 (Never) to 4 (Almost always), with higher scores indicating greater tendency to experience anxiety. The STAI-T has been shown to have good validity, test-retest reliability, and internal consistency (Spielberger et al., 1983).

**2.1.2.4. Depression.** Depression was measured by the Patient Health Questionnaire-9 (PHQ-9; Kroenke, Spitzer, & Williams, 2001; Spitzer, Kroenke, & Williams, 1999). The PHQ-9 is a 9-item self-report measure that evaluates symptoms of major depressive disorder. Each PHQ-9 item corresponds to one of the nine DSM-IV symptoms of depression. The frequency of each symptom over the previous two weeks is assessed. Responses include "Not at all" (scored 0), "Several days" (scored 1), "More than half the days" (scored 2), and "Nearly every day" (scored 3). The PHQ-9 has been shown to have good validity, test-retest reliability and internal consistency (Kroenke et al., 2001).<sup>1</sup>

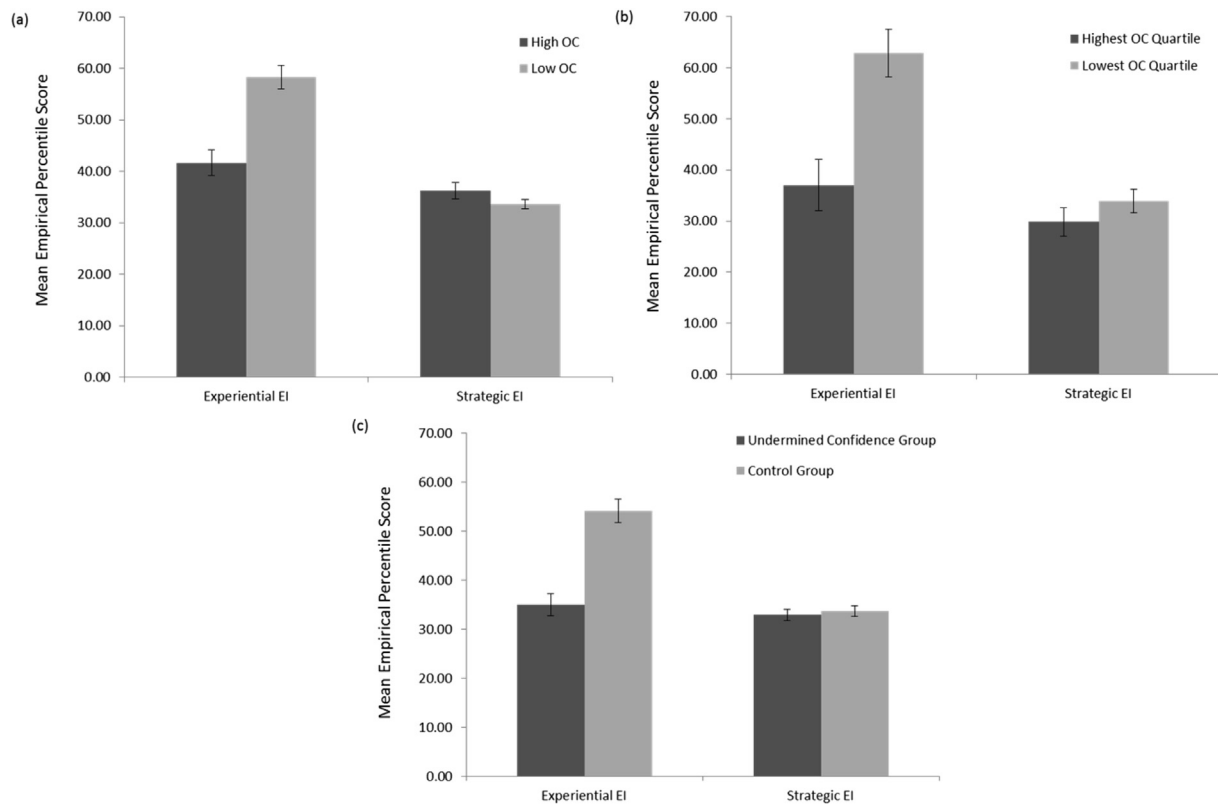
**2.1.2.4.1. Procedure.** Participants were tested individually or in groups of up to four participants in a small and quiet room. Upon arriving, they received a short explanation on the experiment and signed an informed consent. They then completed the MSCEIT followed by the remaining scales.

## 2.2. Results and discussion

Two-tailed independent samples *t*-tests indicated that there was a significant difference between high OC participants ( $M = 49.00$ ,  $SD = 9.15$ ) and low OC participants ( $M = 33.83$ ,  $SD = 8.82$ ),  $t(58) = -6.53$ ,  $p < 0.001$  on the state-STAI. High OC participants also scored higher on the PHQ-9 ( $M = 11.33$ ,  $SD = 5.26$ ) compared to low OC participants ( $M = 4.93$ ,  $SD = 3.37$ ),  $t(58) = -5.61$ ,  $p < 0.001$ . We also compared participants' years of education and found no significant difference between the high OC ( $M = 12.27$ ,  $SD = 0.83$ ) and low OC group ( $M = 12.2$ ,  $SD = 0.81$ ),  $t(58) = 0.32$ ,  $p = 0.75$ . In addition, we compared the two groups on their scores on the Psychometric Entrance Test (PET), which is the Israeli admissions test to academic institutes, equivalent to the American Scholastic Aptitude Test (SAT). Again, there was no significant difference between high OC ( $M = 704.63$ ,  $SD = 27.16$ ) and low OC participants ( $M = 712.07$ ,  $SD = 33.74$ ),  $t(58) = 0.94$ ,  $p = 0.35$ .

Fig. 1(a) displays the empirical percentile scores of the two

<sup>1</sup> We also administered the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) in this study to examine any interactions of the results with mood. As none were found, we eliminated the analyses involving the PANAS from the Results section.



**Fig. 1.** Mean EI Empirical Percentile Scores by EI Area and (a) Extreme high vs. Low scorers on the OCI-R (Study 1); (b) Highest vs. Lowest quartile of scorers on the OCI-R (Study 2); (c) Undermined Confidence vs. Control group (Study 3). Error bars denote standard error. In all three studies groups were significantly different on the Experiential area of the MSCEIT, with no differences on the Strategic area.

groups in the two areas of EI. We tested our hypothesis with a 2 (OC tendencies: high vs. low) X 2 (EI areas: Experiential vs. Strategic) mixed-model analysis of variance (ANOVA) with empirical percentile scores as the dependent measure. Consistent with our prediction, the interaction was significant,  $F(1, 58) = 9.58$ ,  $p = 0.003$ ,  $\eta^2 = 0.10$ , reflecting differential performance of the groups in the two areas. A simple effects analysis showed that as predicted, the high OC group scored significantly lower ( $M = 41.68$ ,  $SD = 25.57$ ) than the low OC group ( $M = 58.28$ ,  $SD = 25.15$ ) on Experiential EI,  $F(1, 58) = 5.94$ ,  $p = 0.02$ ,  $\eta^2 = 0.09$ . There was no significant difference between the high OC group ( $M = 36.28$ ,  $SD = 17.33$ ) and the low OC group ( $M = 33.63$ ,  $SD = 10.32$ ) on the Strategic area,  $F(1, 58) = 0.52$ ,  $p = 0.47$ .

We conducted a series of two-tail independent sample *t*-tests to examine the differences between high and low OC participants in the four branches of the MSCEIT. As shown in Table 1, high OC participants scored lower than low OC participants on the Perceiving and Using Emotions branches but not on the

Understanding and Managing Emotions branches.

In sum, the results of Study 1 were fully in line with our predictions. High OC participants performed poorer than low OC participants the Experiential but not on the Strategic part of a performance-based test of Emotional Intelligence. As accurate perception of emotions is necessary for doing well on a test of Experiential EI, the poorer performance of high OC participants is consistent with a deficiency in perceiving and experiencing affective states.

### 3. Study 2

We had two goals in Study 2. First, we wished to replicate the findings of Study 1 within a full range of OC tendencies. Second, we sought support for the notion that the relation between OC and impaired Experiential EI is specifically related to the tendency of people high in OC to rely on proxies for their internal states. For that purpose, we administered to a large sample of unselected

**Table 1**  
Group differences on the four MSCEIT branches (empirical percentile scores) in the three studies.

	Study 1		Study 2		Study 3	
	High OC group	Low OC group	High OC group	Low OC group	Manipulation group	Control group
Branch 1 – perceiving emotions	41.59 <sup>a</sup>	54.14 <sup>b*</sup>	36.58 <sup>a</sup>	59.25 <sup>b</sup>	36.99 <sup>a</sup>	54.00 <sup>b</sup>
	28.55	23.95	24.93	22.67	25.93	27.93
Branch 2 – using emotions	45.52 <sup>a</sup>	59.82 <sup>b</sup>	44.46 <sup>a</sup>	59.85 <sup>b</sup>	38.43 <sup>a</sup>	54.25 <sup>b</sup>
	23.94	21.92	29.35	25.38	25.70	23.04
Branch 3 – understanding emotions	40.58 <sup>a</sup>	40.02 <sup>a</sup>	30.95 <sup>a</sup>	39.93 <sup>a</sup>	38.47 <sup>a</sup>	34.96 <sup>a</sup>
	19.81	15.83	17.70	17.91	17.44	16.61
Branch 4 – managing emotions	34.90 <sup>a</sup>	30.90 <sup>a</sup>	31.65 <sup>a</sup>	31.80 <sup>a</sup>	31.43 <sup>a</sup>	35.94 <sup>a</sup>
	18.27	14.43	16.11	12.59	13.62	14.04

Note. Different superscripts signify differences between groups at  $p < 0.05$  ( $*p = 0.07$ ) in each study.  $n = 30$  in each group.

participants the OCI-R, the MSCEIT, and a newly-developed self-report measure of a tendency to rely on proxies in assessing a wide range of internal states, including hunger, emotional closeness, mathematical intuition and a sense of understanding.

### 3.1. Methods

#### 3.1.1. Participants

Participants in this study included 100 Psychology students at Tel-Aviv University who received course credit or payment (equivalent to ~\$10) for participating. Twenty additional participants, recruited from outside the university, participated for payment, so that the final sample comprised 120 participants, (92 women,  $M_{age} = 23.63$  years,  $SD = 3.76$ , range = 18–51 years). None of the participants had prior experience with the MSCEIT.

#### 3.1.2. Measures and procedure

In addition to the MCSEIT and the OCI-R, participants completed the following measures:

**3.1.2.1. Depression, anxiety and stress.** Depression, anxiety and stress symptoms were measured using the Depression, Anxiety and Stress Scales-21 (DASS-21; Lovibond & Lovibond, 1995a). The DASS-21 is a 21 item self-report questionnaire yielding three sub-scales of seven items each, assessing dimensional components of depression, anxiety and physiological stress. Each individual statement reflects a negative emotional symptom and is followed by a 4-point scale ranging from 0 (The item does not apply to me at all) to 3 (The item applies to me very much or most of the time), on which participants indicate how much the statement applied to him/her experience over the past week. The DASS-21 has been shown to have high reliability, validity, and internal consistency in both clinical and non-clinical groups (Antony, Bieling, Cox, Enns, & Swinson, 1998; Henry & Crawford, 2005; Lovibond, 1998; Lovibond & Lovibond, 1995b).

**3.1.2.2. Reliance on proxies for internal states.** Participants responded to 15 items that assessed their tendency to rely on proxies for various internal states. These items comprise a scale, now in the process of development, which aims to measure individual differences on these tendencies. Examples of items are “To know if I have understood what I’ve read, I check to see if I remember parts of it by heart;” “I know how close I am to someone by how often we interact;” “Sometimes I need to infer what I am feeling from my actions;” “When I have to make a choice I prefer to rely on clear criteria than on my intuition;” and “To know how hungry I am, I consider what and when I’ve eaten today.” Participants rated the extent to which each statement applied to them on a scale of 1 (“Not at all”) to 5 (“Very much”). While this scale is at preliminary research stages, we will term it here, for convenience of communication, SPISI (for Seeking Proxies for Internal States Inventory). Importantly, in this scale people report on their use of proxies, not on their inability to access internal states (which, as we said before, would be difficult to report for people who are low on this ability). Also important to note is that this scale has virtually no content overlap with the OCI-R. In the present study, the internal consistency of the SPISI as indexed by Cronbach’s Alpha was 0.86 and its correlation with the OCI-R was  $r = 0.58$ ,  $p < 0.001$ .<sup>2</sup>

The procedure of this study was similar to that of Study 1. Participants first completed the MSCEIT, then the OCI-R, the SPISI, and

finally the DASS-21.

### 3.2. Results and discussion

The correlations between the main variables of interest are presented in Table 2. As expected, the OCI-R scores were negatively correlated with scores of Experiential EI, but were not correlated with scores of Strategic EI. The same pattern of correlations was also obtained for levels of depression and anxiety on the DASS and most prominently for the SPISI, which measured reliance on proxies for internal states.

Since in this study both anxiety and depression scores were correlated with scores on the Experiential area of the MSCEIT, we examined whether the correlations of the OCI-R and SPISI with Experiential EI would remain significant after controlling for anxiety and depression. Controlling for depression, the partial correlation of the Experiential area score and the OCI-R was  $r = -0.20$ ,  $p = 0.026$ , and the corresponding correlation with the SPISI was  $-0.22$ ,  $p = 0.017$ . Controlling for anxiety, the partial correlation of the Experiential area score and the OCI-R was  $-0.21$ ,  $p = 0.023$ , and the corresponding correlation with the SPISI was  $-0.24$ ,  $p = 0.009$ . These results suggest that the correlations of OCI-R and SPISI with Experiential EI were not accounted for by anxiety and depression.

Notably, anxiety and depression were no longer correlated with the Experiential area score after controlling for scores on the OCI-R (partial  $r$  with depression =  $-0.15$ ,  $p = 0.10$ , partial  $r$  with anxiety =  $-0.06$ ,  $p = 0.50$ ) or SPISI (partial  $r$  with depression =  $-0.13$ ,  $p = 0.14$ , partial  $r$  with anxiety =  $-0.09$ ,  $p = 0.33$ ). These results suggest that the correlations of anxiety and depression with Experiential EI can be accounted for, at least in part, by their relation to the OCI-R and the SPISI.

Finally, the correlation between the OCI-R and the Experiential area score was no longer significant after controlling for SPISI scores, partial  $r = -0.15$ ,  $p = 0.11$ , whereas the correlation between the SPISI and the Experiential area score remained significant, though modest, after controlling for scores on the OCI-R, partial  $r = -0.18$ ,  $p = 0.05$ . These results are consistent with both a more extreme view, according to which the correlation of OCI-R with Experiential EI is accounted for by SPISI, and a more moderate view, according to which both OCI-R and SPISI account for the same variance in Experiential EI. Both views suggest that the SPISI is relevant to the relation between OC tendencies and low performance on Experiential EI. We think, more specifically, that high OC tendencies co-occur with low Experiential EI because they are characterized by an impaired access to internal states.

We also examined whether the results of Study 1 would be replicated in this sample. We divided the 120 participants into quartiles based on their scores on the OCI-R and analyzed the data of the lowest and highest quartile ( $n = 30$  in each quartile) in the same manner used for high vs. low OC participants in Study 1. In this Study, the mean OCI-R score was 2.77 ( $SD = 1.50$ ) for the lowest quartile and 36.60 ( $SD = 10.56$ ) for the highest quartile.

Fig. 1(b) displays the empirical percentile scores of the two groups in the two areas of EI. We tested our hypothesis with a 2 (OC quartile: Highest OC quartile vs. Lowest OC quartile) X 2 (EI areas: Experiential vs. Strategic) mixed-model analysis of variance (ANOVA) with empirical percentile scores as the dependent measure. Consistent with our prediction and with Study 1, the interaction was significant,  $F(1, 58) = 12.94$ ,  $p = 0.001$ ,  $\eta^2 = 0.18$ , reflecting differential performance of the groups in the two areas of the MSCEIT. A simple effects analysis showed that the highest OC quartile group scored significantly lower ( $M = 37.02$ ,  $SD = 27.64$ ) than the lowest OC quartile group ( $M = 62.90$ ,  $SD = 25.52$ ) on the Experiential area of the MSCEIT,  $F(1, 58) = 14.20$ ,  $p < 0.001$ ,  $\eta^2 = 0.19$ . There was no significant difference between the highest

<sup>2</sup> The SPISI is in advanced stages of development but data on its psychometric properties have not been published yet. Both figures are practically identical to statistics obtained in previous studies with this measure.

**Table 2**  
Pearson correlation coefficients between scores on subscales of the MSCEIT and scores on other measures in Study 2.

MSCEIT	OCI-R	SPISI	DASS-21 anxiety	DASS-21 depression
Experiential area	−0.30***	−0.31***	−0.22*	−0.26***
Reasoning area	−0.03	−0.04	−0.07	−0.13
Branch 1 – perceiving emotions	−0.28***	−0.27***	−0.23**	−0.24**
Branch 2 – using emotions	−0.17	−0.26***	−0.10	−0.19*
Branch 3 – understanding emotions	−0.12	−0.09	−0.13	−0.10
Branch 4 – managing emotions	−0.06	−0.02	−0.01	−0.12

\* $p < 0.05$  \*\* $p < 0.01$  \*\*\* $p < 0.005$ .

OC quartile group ( $M = 29.83$ ,  $SD = 15.14$ ) and the lowest OC quartile group ( $M = 33.94$ ,  $SD = 12.55$ ) on the Strategic area,  $F(1, 58) = 1.31$ ,  $p = 0.26$ .

In sum, the results of Study 2 replicate and supplement the results of Study 1. In a large sample of 120 unselected participants, OC symptoms were negatively correlated with Experiential EI but not with Strategic EI. As would be expected, anxiety and depression symptoms, which are associated with OC symptoms in both clinical and non-clinical populations (Abramowitz & Jacoby, 2015), produced similar patterns of correlations with the MSCEIT areas. However, the correlations of OC symptoms with Experiential EI remained statistically significant after controlling for associated anxiety and depression.

When we examined participants at the top and the bottom of the distribution of OC symptoms, the results fully replicated those obtained in Study 1. High OC participants had lower scores on the Experiential area of the MSCEIT compared to low OC participants, but did not differ from them in their Strategic area scores.

Finally, in this study we introduced a new scale designed to measure reliance on proxies for internal states (the SPISI). The scale produced a pattern of correlations which was similar to that of the OCI-R, suggesting that impaired Experiential EI among people high in OC tendencies is related to their general difficulty in accessing internal states.

#### 4. Study 3

In this study we turned to address the causal mechanism behind impaired Experiential EI in OCD. What is it about OC tendencies that might cause the observed attenuation of access to experienced emotions? A key suspect in mediating this relationship is obsessional doubt, which is a defining symptom in OCD. As detailed in the introduction, two previous studies (Lazarov et al., 2012a, 2015, Study 2) strongly indicate that doubt is a critical factor in accounting for the attenuation of internal states in OCD. In these studies, inducing doubt in unselected participants' ability to accurately assess their internal states had the effect of mimicking the findings observed with high (as compared to low) OC participants. In the present study, we adopted the same approach to examine whether the relationship between OC tendencies and low experiential emotional intelligence could also be attributable to doubt.

##### 4.1. Method

###### 4.1.1. Participants

Sixty undergraduate Psychology students (51 women, 9 men) at Tel-Aviv University participated in the study ( $M$  age = 23.16,  $SD = 3.97$ , range = 21–51). Participants signed an informed consent form and received course credit for participation. None of the participants had prior experience with the MSCEIT.

###### 4.1.2. Procedure

Participants were told that they were going to participate in a study in the field of emotions and were tested individually in a

quiet room. They were randomly assigned to an Undermined Confidence condition and a Control condition. Participants in the undermined confidence group were told that “in the following questionnaire you will be asked to answer a variety of questions regarding different aspects of emotions. Some of these questions test your ability to recognize emotions accurately. You should know that several studies in the field of emotions show that although people often feel quite confident when asked to identify emotions, in reality their answers are often inaccurate. Therefore, we ask you to check yourself and to make sure that you are confident about the answers you are giving.” Participants in the control group were not given any additional information or instructions before proceeding with the MSCEIT. In addition to the verbal confidence undermining manipulation, the two groups were also given different answer sheets. Whereas the control group received standard answer sheets, the answer sheets of participants in the confidence manipulation group included a “reminder” of the verbal manipulation. This reminder consisted of the following sentence, which was written at the top of the answer sheet for each new part of the MSCEIT (excluding the first): “Remember, people often feel misguided confidence in their ability to recognize emotions accurately. Therefore, please try to check yourself and to make sure that you are confident about the answers you are giving.” Finally, as a manipulation check, we asked participants in both groups to rate how confident they were about their performance on the test on a scale of 0–100%.<sup>3</sup>

##### 4.2. Results and discussion

In order to check whether our manipulation created a difference between the two groups with regard to their confidence in their performance on the MSCEIT, we conducted a two-tail independent sample  $t$ -test with confidence rating as the dependent measure. As expected, undermined confidence participants were less confident ( $M = 63.83$ ,  $SD = 17.97$ ) regarding their subjective performance estimates than were control participants ( $M = 77.13$ ,  $SD = 13.29$ ),  $t(58) = 3.26$ ,  $p = 0.002$ .

We tested our hypotheses with a 2 (confidence: undermined vs. control) X 2 (EI area: Experiential vs. Strategic) mixed-model ANOVA with empirical percentile scores as the dependent measure. Consistent with our prediction, the interaction was significant,  $F(1, 58) = 8.20$ ,  $p = 0.006$ ,  $\eta^2 = 0.10$ , reflecting differential performance of the two groups on the two areas of EI. As Fig. 1(c) shows, undermined confidence participants performed more poorly compared to the control group on the Experiential area of the MSCEIT but not on the Strategic area. A simple effect analysis showed that as predicted, the undermined confidence group scored

<sup>3</sup> At the end of the session participants also completed the OCI-R and the Depression, Anxiety and Stress Scales-21 (DASS-21; Lovibond & Lovibond, 1995a), to examine any interactions of the results with OCD symptoms, depression and anxiety. As none were found, we eliminated the analyses involving these questionnaires from the Results section.

significantly lower ( $M = 34.95$ ,  $SD = 24.58$ ) than the control group ( $M = 54.11$ ,  $SD = 26.41$ ) on the Experiential area of the MCSEIT,  $F(1, 58) = 8.46$ ,  $p = 0.005$ ,  $\eta^2 = 0.13$ . There was no significant difference between the undermined confidence group ( $M = 32.91$ ,  $SD = 13.12$ ) and the control group ( $M = 33.70$ ,  $SD = 12.64$ ) on the Strategic area,  $F(1, 58) = 0.52$ ,  $p = 0.81$ . We followed this analysis with a series of analyses of covariance (ANCOVA) with anxiety, depression and stress as covariates. The interaction remained significant after controlling for anxiety,  $F(1, 57) = 9.96$ ,  $p = 0.002$ ,  $\eta^2 = 0.11$ , depression,  $F(1, 57) = 7.92$ ,  $p = 0.006$ ,  $\eta^2 = 0.11$ , and stress,  $F(1, 57) = 8.94$ ,  $p = 0.004$ ,  $\eta^2 = 0.12$ . Next, we conducted a series of two-tail independent sample *t*-tests to examine the differences between the two groups on the empirical percentile scores of the four EI branches. As Table 1 illustrates, we found a significant difference between the two groups on the two branches of the Experiential EI but not on the two branches of the Strategic EI.

In sum, undermining participants' confidence in their ability to assess their own feelings appears to have attenuated their access to these feelings. These results bear compelling resemblance to those of Study 1 and Study 2, with the performance of undermined confidence participants mimicking that of the high OC participants in these studies. Together with our previous findings regarding assessment and production of muscle tension (Lazarov et al., 2012b, 2015), the findings of Study 3 suggest that doubt could be a major factor that causes and/or exacerbates the attenuation of access to internal states in OCD.

## 5. General discussion

We found that high OC participants, compared to low OC participants, had lower Experiential emotional intelligence, but not lower Strategic emotional intelligence (Study 1). In addition, we found that both OC symptoms and a tendency to rely on proxies in accessing internal states were similarly related to lower Experiential EI but not Strategic EI (Study 2). Finally, we demonstrated that this pattern of results could be mimicked by experimentally inducing doubt in one's emotions among unselected participants (Study 3). The results of these three studies corroborate our Seeking Proxies For Internal States (SPIS) theory of OCD (Lazarov et al., 2010; Liberman & Dar, 2009), according to which a central feature of OCD is impaired access to internal states. These results extend our previous findings to the important domain of emotions. Namely, they show that OC tendencies, as well as induced doubt, are associated with reduced access not only to relaxation (Lazarov et al., 2010, 2012a) and muscle tension (Lazarov et al., 2012b, 2014, 2015) but also to affective states.

The finding that access to affect may be negatively related to OC tendencies resonates with classic descriptions of obsessive-compulsive character. A prime example is the description of OC style by David Shapiro (1965), in which the narrowing of the range of emotional experiences and their diminished expressions is considered a principal feature of the OC personality. Empirically, this finding is consistent with two bodies of previous research. First, several studies have reported elevated levels of alexithymia in OCD (for review see Robinson & Freeston, 2014). Alexithymia refers to difficulty in identifying and describing emotions and discriminating them from other bodily states. The most common measure of Alexithymia, which was used in all the studies with OCD participants, is the Toronto Alexithymia Scale (TAS-20; Bagby, Parker, & Taylor, 1994). The TAS-20 assesses difficulty identifying feelings and distinguishing them from bodily sensations, difficulty expressing feelings, and externally-oriented thinking. As Robinson and Freeston (2014) noted, there is considerable overlap between this latter component of the TAS and OCD symptoms, making the interpretation of the findings of elevated alexithymia in OCD

difficult to interpret. Moreover, studies in which OCD participants were compared to other clinical groups, including anxiety patients, did not find any difference between the groups. Most importantly, unlike the MCSEIT which was used in our studies, the TAS-20 assesses people's self-reported beliefs about their ability to accurately perceive and express their emotions, rather than their actual ability to do so.

A second related body of research is the consistent finding that people with OCD have impaired ability to identify emotional expressions (for review see Daros, Zakzanis, & Rector, 2014). This is specifically relevant to our findings because, as noted above, the Experiential area of the MCSEIT contains items which require participants to identify emotional expressions. Unfortunately, all these studies compared OCD patients to healthy controls and none included measures of anxiety, so it is impossible to determine the extent to which the deficit in recognizing emotional expressions is specific to OCD. It is important to note, at any rate, that a specific deficit in recognizing emotional expressions cannot explain our findings. In both our studies, performance was reduced not only in the "Perceiving Emotions" branch, which contains facial expression items (albeit only in one of its sub-tasks), but also in the "Using Emotions" branch, which does not. In fact, in light of our findings, it might be concluded that the deficit in recognizing emotional expressions in OCD may be a reflection of a more general attenuation of emotional experience.

What is it like to have reduced access to your own feelings? For example, not to have a clear sense of your emotional reactions during an intense family discussion, or of what you feel towards your intimate partner? According to the SPIS hypothesis, such situations are likely to create uneasiness and motivate people to search for an answer elsewhere. This is especially the case when identifying the feeling is important, for example, if one is trying to decide whether to stay in a relationship but is unsure of his love to his partner. There are at least two ways in which people might attempt to gain information about their own feelings. The first is to increase monitoring of their feelings. For example, a person who cannot decide whether he feels attracted to his date might attempt to "look inside" more and more "deeply" in an attempt to decipher his feeling. Such attempts are unlikely to succeed, however; as noted above, many feelings do not become clearer upon close examination, but rather tend to dissipate by the very process of examining them (e.g., Shapira et al., 2013). It is interesting to note that anxiety, unlike other feelings, does not seem to dissipate as a result of monitoring. Quite the opposite: the tendency to focus attention on one's level of anxiety is considered a key characteristic of people with anxiety disorders and is believed to lead to an escalating cycle of anxiety and further monitoring (e.g., Wells, 1997; Wells & Matthews, 1994). We may speculate that the reason people with OCD experience high levels of anxiety despite the hypothesized general attenuation of affective states is that anxiety "survives" monitoring, whereas other emotions do not.

Another way in which people may attempt to gain knowledge of their feelings is to seek other sources of information, or proxies, to make out for the lack of direct and clear emotional experience. For example, a woman trying to assess the extent to which she really likes her chosen major in college may rely on her grades in the subject as a proxy. A man who worries that he might be attracted to other men can choose to watch gay pornography and monitor any physiological changes during the viewing that might indicate sexual arousal. As these examples illustrate, such proxies may be easier to assess but are often only poorly correlated with the feelings they are supposed to index (Liberman & Dar, 2009). Together, intensifying monitoring and reliance on proxies are unlikely to provide reliable information on the target emotional state. Instead, they perpetuate obsessional doubts in regard to these feelings, thereby,



as our studies suggest, making them less and less discernible.

Not surprisingly, an area in which the difficulties of identifying one's emotion have especially detrimental effects is the one of intimate relationships. Indeed, researchers have suggested that Relationship OCD (ROCD) should be seen a specific subtype of OCD (e.g., Doron, Derby, & Szepeswol, 2014). According to these authors, dysfunctional monitoring of internal states, particularly of emotions, is an important factor in the development of relationships-related obsessions. In line with the SPIS hypothesis, Doron and colleagues have found that individuals with ROCD are often unable to determine what they feel towards their partner, leading them to seek and use "objective" indexes for their feelings. For example, a man with ROCD might conclude that he does not sufficiently love his partner because he found himself looking at other women. Another client cited "time spent crying" after a breakup as a post-hoc index of her love to her boyfriend. Moreover, according to Doron and colleagues, an important proxy for feelings in people with ROCD is their own obsessive thoughts. For example, obsessional preoccupation with minor physical flaws of the partner might be taken as evidence that one's feelings towards the partner are not strong enough. Unfortunately, attempts to suppress such obsessional thoughts only serve to perpetuate the obsessional cycle (e.g., Liberman & Förster, 2000; Purdon & Clark, 2002), leading further away from one's immediate emotional experience.

Our studies reliably indicate that the SPIS model is specific to the OC dimension rather than to related dimensions such as anxiety and depression, which are frequently associated with it. In Study 2, the negative correlations of the OCI-R and SPIS scores with the Experiential area scores remained significant after controlling for anxiety and depression. In Study 3, the interaction between group and EI also remained significant after controlling for levels of anxiety and depression. Moreover, our recent study with a sample of clinical OCD and anxiety participants showed that the inability to access internal states was specific to the OCD participants, whereas anxiety participants were indistinguishable in that respect from non-clinical controls (Lazarov et al., 2014).

Study 3 and two previous studies (Lazarov et al., 2012a, 2015) show that similar effects to those of OC tendencies can be obtained by a simple manipulation that undermines participants' confidence in their ability to accurately assess their internal states. These results have several interesting implications. In relation to the SPIS hypothesis, they suggest that the diminished access to internal states in OC individuals may be attributable to self-doubts in relation to these states. The process by which doubt may lead to attenuation of internal states is an important question for future research, but at present we might suggest two possible mechanisms. First, doubting one's ability to assess his or her internal state may lead to increased monitoring of that internal state. As we noted earlier, a large body of research has shown that engaging in this type of monitoring may end up attenuating the target state.

A related mechanism that may lead from doubts to attenuation of affective states is suggested by the "mere resources" theory, which posits that experiencing emotions requires resources. In support of this theory, Kron, Schul, Cohen, and Hassin (2010) showed in a series of studies that concurrent cognitive load diminished the intensity of both positive and negative feelings. In light of this view, we could raise the possibility that monitoring attenuates feelings because it takes up cognitive resources.

Whereas our findings suggest a causal chain leading from doubt to attenuation, it is very likely that the complementary causality exists as well. That is, once people experience attenuated access to their internal states, such attenuation would be expected to lead to reduced confidence in these states. This hypothetical causal process may propel an escalating cycle of doubt, attenuation and further doubt.

Coming back to the present studies, it may seem surprising that a single manipulation of confidence impaired performance in a test that is assumed to measure a stable disposition, namely, emotional intelligence. This finding, however, is less surprising in view of social psychological approaches, according to which intellectual abilities should not be regarded only as stable dispositions, but may vary considerably as a function of features of the situation (e.g., Cohen, Garcia, Apfel, & Master, 2006; Steele & Aronson, 1995). For instance, African American students' test performance suffered when the test was introduced as diagnostic of intelligence (a stereotype threat), but recovered when they were given a chance to affirm an important value (e.g., Cohen et al., 2006). Similarly, women's performance on a mental rotation test improved and their performance on emotion recognition test deteriorated as a result of a situational induction of a sense of interpersonal power (Nissan, Shapira, & Liberman, 2015).

Our findings have implications for the construct of EI as conceived by the authors of the MSCEIT (Mayer et al., 2002, 2004). As predicted, the effects of OC tendencies and the confidence-undermining manipulation were specific to the Experiential area of the MSCEIT. These findings corroborate the two-area structure of the test, as well as the specific claims regarding what these sub-structures assess. They also point to the potential use of the MSCEIT for studying emotional processes in relation to psychopathology. For example, it would be important to examine impairment in experiential versus strategic EI in other psychopathologies in which alexithymia or attenuation of emotion is evident, such as anorexia nervosa (e.g., Bourke, Taylor, Parker, & Bagby, 1992), panic disorder, social phobia (e.g., Cox, Swinson, Shulman, & Bourdeau, 1995), traumatization (e.g., Zeitlin, McNally, & Cassidy, 1993), psychosomatic disorders (e.g., Sifneos, 1973), and autism (e.g., Dapretto et al., 2006).

In conclusion, our studies show that OC tendencies and undermined confidence in one's feelings attenuated performance on Experiential Emotional Intelligence, but not Strategic Emotional Intelligence. These findings are consistent with our Seeking Proxies for Internal States model of OCD, according to which OC tendencies are characterized by an impaired access to one's feelings, which might both cause and result from reduced confidence in those feelings. These findings substantiate our SPIS model of OCD, and point to the importance of experiential EI in psychopathology.

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