Consciousness and Cognition 42 (2016) 125–134

Contents lists available at ScienceDirect

Consciousness and Cognition

journal homepage: www.elsevier.com/locate/concog

Things happen: Individuals with high obsessive–compulsive tendencies omit agency in their spoken language

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ARTICLE INFO

Article history:
Received 8 October 2015
Revised 9 March 2016
Accepted 11 March 2016

Keywords:
Agency
Agent
OCD
Language

ABSTRACT

The study examined the prediction that obsessive–compulsive tendencies are related to an attenuated sense of agency (SoA). As most explicit agency judgments are likely to reflect also motivation for and expectation of control, we examined agency in sentence production. Reduced agency can be expressed linguistically by omitting the agent or by using grammatical framings that detach the event from the entity that caused it. We examined the use of agentic language of participants with high vs. low scores on a measure of obsessive–compulsive (OC) symptoms, using structured linguistic tasks in which sentences are elicited in a conversation-like setting. As predicted, high OC individuals produced significantly more non-agentic sentences than low OC individuals, using various linguistic strategies. The results suggest that OC tendencies are related to attenuated SoA. We discuss the implications of these findings for explicating the SoA in OCD and the potential contribution of language analysis for understanding psychopathology.

1. Introduction

The sense of agency (SoA) can be broadly defined as "the registration that I am the initiator of my actions" (Synofzik, Vosgerau, & Voss, 2013). According to a recent model of the SoA (Gentsch & Synofzik, 2014; Synofzik, Vosgerau, & Lindner, 2009; Synofzik, Vosgerau, & Newen, 2008; Synofzik et al., 2013), agency experiences rely on the integration of external cues (e.g., seeing one's hand moving) with internal cues of proprioception and movement (e.g., feeling the position and the movement of one's hand) and interoceptive cues, including affective states (e.g., an increase in heart rate and feeling of excitement when performing a personally relevant action). The weight given to these different cues in the integration process that leads to the SoA is believed to depend on the relative reliability of the different cues (Gentsch & Synofzik, 2014).

The present study was designed to examine the SoA in obsessive–compulsive disorder (OCD). There are good reasons to believe that OCD is characterized by a distorted SoA (Belayachi & van der Linden, 2010; Gentsch, Schütz-Bosbach, Endrass, & Kathmann, 2012). A deficient SoA is directly implied by the notion of compulsion, which is the experience of individuals with OCD that they do not always choose their actions freely. More generally, a central assumption in Shapiro's (1965) classic theory of OCD is that obsessive–compulsive (OC) individuals have a deficient sense of autonomy and agency. Surprisingly, very few empirical studies have addressed the SoA in OCD, and only a couple examined basic processes that are believed to contribute to the SoA. Gentsch et al. (2012) examined event-related potentials of OCD and control participants in response to

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http://dx.doi.org/10.1016/j.concog.2016.03.012
1053-8100/

self-generated vs. externally generated visual stimuli. Self-generated stimuli are typically suppressed in comparison to externally generated stimuli (sensory attenuation), an effect believed to be one source of the SoA. This effect is reflected in EEG studies as a suppression of the N1 component to self-generated, as compared with externally generated, stimuli. In Gentsch et al.'s study, the expected suppression of N1 was reduced in OCD participants. According to the authors, this finding suggests that individuals with OCD fail to predict and to suppress the sensory consequences of their own actions. An earlier study, which compared somatosensory evoked potentials in OCD during relaxation vs. movement, reached a similar conclusion (Rossi et al., 2005).

Synofzik and colleagues' model of the SoA is highly relevant to the SPIS (Seeking Proxies for Internal States) model of OCD (Lazarov, Dar, Liberman, & Oded, 2012a, 2012b; Lazarov, Dar, Oded, & Liberman, 2010; Lazarov, Liberman, Hermesh, & Dar, 2014; Liberman & Dar, 2009). The SPIS model offers an account of OC doubt and ensuing rituals. It postulates that OC individuals are generally uncertain about their internal states, including what they feel, what they know, what they believe, and what they prefer. Therefore, when they must answer questions in regard to their internal states, OC individuals must seek and rely on *proxies* for these internal states. Proxies in this model are substitutes for the internal state that the individual perceives as more easily discernible or less ambiguous, such as indicators, rules, procedures, behaviors, or environmental stimuli (Liberman & Dar, 2009). The SPIS model implies that to the extent that the SoA in a specific context depends on accurate perception of internal signals, the experience of agency should be attenuated for OC individuals.

While the observations and theoretical arguments summarized above indicate a deficient SoA in OCD, other observations appear to lead to the opposite conclusion. The OCD-related construct of inflated responsibility (Salkovskis, Shafran, Rachman, & Freeston, 1999), which is the belief that one is responsible for negative outcomes that are far removed from one's immediate control, suggests a heightened SoA in this population. Similarly, people with OCD often believe that their thoughts would automatically lead to actions ("thought-action fusion", Shafran, Thordarson, & Rachman, 1996) or events in the world ("thought-event fusion", Gwilliam, Wells, & Cartwright-Hatton, 2004), which also appears to suggest an elevated SoA. In line with these observations, Reuven-Magril, Dar, and Liberman (2008) found elevated judgments of perceived control in participants with high OC tendencies (compared to those with low OC tendencies) and in OCD participants (compared to non-clinical controls). Notably, these subjective judgments reflected an illusory sense of control, as in reality, events in the experimental procedure used by the authors were entirely uncontrollable. A similar duality was observed in the study by Gentsch et al. (2012): whereas the EEG indices in OCD participants suggested a deficiency in the process believed to lead to the SoA, when participants rated the relation between their actions and the visual stimuli, these explicit judgments of agency were higher in OCD participants compared to controls and were correlated with the severity of OC symptoms.

One way to conceptualize the apparent inconsistency noted above is to suggest that the explicit measures of the SoA used in previous studies reflect attempts to compensate for the experience of a deficient SoA seen in implicit measures. In this view (e.g., Reuven-Magril et al., 2008; Shapiro, 1965), the OC person experiences an attenuated sense of autonomy and will, two psychological constructs that are highly correlated with self-agency and a sense of control (de Haan, Rietveld, & Denys, 2013). This deficit motivates compensatory efforts to control all actions, thoughts, impulses and emotions. Such compensation mechanism is exhibited when a person with OCD tries to prevent negative events, on which s\he has no control, by controlling what s\he does, thinks, desires, or feels. This causal model implies that explicit measures of agency in OCD, such as the illusion of control (Reuven-Magril et al., 2008) and OCD core beliefs in inflated responsibility and control (Rachman, 1993; Salkovskis et al., 1999; Shafran, 1997) might miss a more basic experience of reduced agency in this population. Therefore, in the present study, we measured the SoA indirectly through the use of language.

The language people use can be informative in regard to many psychological processes (e.g., Semin & Fiedler, 1988) and systematic analysis of language can serve as an implicit measure of psychological constructs, including attitudes (e.g., Sekaquaptewa, Vargas, & Von Hippel, 2010) and the level of agency (Duranti, 2004). Specifically, reduced agency can be expressed by omission of the agent altogether or by using alternative grammatical framings that detach the event from the entity that might have caused it. Clinical experience with OCD suggests that indeed, their language often conveys reduced agency. For example, a client might say "there is the thought that..." rather than "I think that..." or "you feel that..." rather than "I feel that..." or "the clothes go into the washer" rather than "I put the clothes in the washer". Yamamoto (2006) suggested that the mitigation of self-agency is motivated by the wish to reduce the responsibility and guilt attributed to the agent. A good illustration for this is the comparison between "police shot 100 demonstrators" and "100 demonstrators were killed" (Fairclough, 1992). Another classic example is the rhetorical phrase "mistakes were made" used by President Nixon, presumably expressing reluctance to take responsibility for his actions (Kuha, 2007). Fausey and Boroditsky (2010) recently demonstrated that subtly different linguistic descriptions of accidents influence how much people blame and punish those involved. They altered the level of agency expressed in descriptions of accidents, using either agentic (e.g., "she had ignited the napkin") or non-agentic (e.g., "the napkin had ignited") language. In accordance with their hypothesis, agentic descriptions led participants to attribute more blame and request higher financial penalties than did non-agentic descriptions. For OC individuals, the use of non-agentic language may not only reflect a diminished SoA, but might also serve to reduce the responsibility and guilt, which are central concerns in this disorder (e.g., Lopatka & Rachman, 1995; Mancini, D'Olimpio, & Cieri, 2004).

As shown above, previous studies found that explicit measures of SoA often diverted from implicit measures and actually showed elevated SoA in OCD. These explicit measures assessed the SoA in the specific tasks used in those studies, all of which were intentionally vague in order to allow for the perception of elevated SoA or illusory control (e.g., Gentsch et al., 2012; Reuven-Magril et al., 2008). We reasoned that if we assess the general SoA of OC individuals, as distinct from the specific