Case Report

Cognition in context: Social inclusion attenuates the psychological boundary between self and other ☆

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A B S T R A C T

Cognitive research finds that people show superior encoding of information relating to the self rather than to others. This phenomenon, known as the self-reference effect, supports a view of the self as a definable and measurable entity. However, modern perspectives hold that the self is contextually fluid, not least because, under some conditions, 'other' can be incorporated into the self as part of 'us'. This suggests that when perceivers see another person as an ingroup member, the self-reference effect will be attenuated. This hypothesis was tested in two experiments in which participants were included in, or excluded from, a minimal social group. When participants were excluded, the standard self-reference effect was replicated; but when they were included, other-referential encoding was not significantly different from self-referential encoding. Findings support self-categorization theory's claims that others, even strangers, can be treated as cognitively similar to the self when they share group membership.

1. Cognition in context: social inclusion attenuates the psychological boundary between self and other

What is *the self*? This question is central to a range of psychological disciplines, including developmental, clinical, social, and cultural psychology. Over the course of the last three decades, early definitions of the self as a fixed, unitary concept (Mischel, 1977) have given way to theoretical perspectives that describe the self as a dynamic and multi-faceted entity that changes according to context (Carver & Scheier, 1981; Desteno & Salovey, 1997; Epstein, 1991; Greenwald, 1982; Kihlstrom & Cantor, 1984; Markus & Kunda, 1986; Rogers, 1981). If the self is truly contextually defined, then even the most implicit self-structured cognitive processes should vary across social contexts. We investigate this question by examining how self-relevant cognitive processing is (re)structured by people's sense that they are either included in, or excluded from, a minimal social group. Specifically, we test for contextual variation in the *self-reference effect*—a reliable cognitive phenomenon that demonstrates superior encoding and recall of information that pertains to self rather than to others (Symons & Johnson, 1997). If the self is fundamentally fluid and sensitive to social context, we predict that the self-reference effect will be attenuated following social inclusion.

1.1. The self in situ

One social psychological theory that makes strong statements about the contextual nature of the self is self-categorization theory (Turner, Haslam, & McGarty, 1994). This socio-cognitive theory examines how individuals' self-definition varies as a function of perceived difference from others within a given social setting (Turner & Onorato, 1999). For example, compared to physics students, psychologists may feel relatively artistic, but compared to drama students they may feel relatively scientific (Doosje, Haslam, Spears, Oakes, & Koomen, 1998). Building on earlier social identity work (Tajfel & Turner, 1979), self-categorization theory proposes that our sense of who we are can be defined at different levels of abstraction, and can change as a function of our environment: in an exam a person may define themselves in terms of their personal identity as a unique individual (different from other individuals), but at a sporting event they may define themselves *and others* in terms of a shared identity as a supporter of their team (different from supporters of other teams). These contextual transformations of the self reflect the fact that, in a range of social contexts, the very substance of selfhood is shaped by the groups to which people feel they belong (Ellemers, Spears, & Doosje, 2002; Haslam & Ellemers, 2011; Spears, Jetten, & Scheepers, 2002). Indeed, Turner (1982) argues that it is this capacity to define others as part of self—in terms of shared

group membership—that makes group behavior possible.

In line with this logic, research in social psychology, particularly on social exclusion, demonstrates the powerful impact of the social environment on internal self-functioning. For example, social exclusion has been shown to lead to loss of self-regulation (Inzlicht, McKay, & Aronson, 2006), impoverished cognitive performance (Baumeister, Twenge, & Nuss, 2002), and inhibited implicit learning (Hobson & Inzlicht, 2016; Rydell et al., 2010). Related research on stereotype threat shows that experiences of social alienation lead to similar cognitive decrements (Inzlicht & Ben-Zeev, 2003; Steele & Aronson, 1995). Considering the opposite psychological state, *affirming* one's identity has been found to counteract the negative cognitive impacts of these types of social disconnection (Schmeichel & Vohs, 2009; Steele, 1988). By demonstrating the stabilizing effects of inclusion and destabilizing effects of exclusion, this research demonstrates just how reactive the self can be to its social environment.

1.2. The self and others

It is now widely accepted that the self functions dynamically according to social context (Kihlstrom & Cantor, 1984; Markus & Kunda, 1986; Medin & Shoben, 1988), and yet the mechanisms for these social influences are yet to be fully defined (Desteno & Salovey, 1997). Research has shown that social exclusion impacts self-regulation (Inzlicht et al., 2006); that context impacts self-definition (Medin & Shoben, 1988); and that incorporation of significant others into the self impacts personality (Andersen & Chen, 2002). But precisely how these processes are manifest in terms of changes to the cognitive structure of the self are less clear. Understanding the cognitive processes through which the self is impacted by context is important, because it has long been understood that the self is a crucial structure for filtering and organizing incoming information (Cacioppo, Petty, & Morris, 1985; Markus, 1977; Markus & Kitayama, 1991; Rogers, Kuiper, & Kirker, 1977). In this regard, research has demonstrated that information is parsed through a self-relational filter whereby the more information relates to the self, the more deeply and elaborately it is encoded. This contributes to an empirical phenomenon well documented within the cognitive literature—the *self-reference effect* (Rogers et al., 1977; Symons & Johnson, 1997). Previous research has shown that self-referential encoding is superior to other forms of encoding, including other-referential encoding—which refers to the encoding of information in relation to other people rather than the self. Speaking to the robustness of the self-reference effect, meta-analysis indicates that encoding information with reference to the self results in stronger memory traces than all other forms of surveyed encoding ($k = 129$; $d = 0.50$; e.g., structural encoding of number of syllables in a word; Symons & Johnson, 1997).

However, despite the apparent supremacy of self-referential encoding, some research has shown that processing of information about other people can sometimes attenuate this effect, such that levels of other-referential encoding become equivalent to levels of self-referential encoding (Bower & Gilligan, 1979; Kuiper, 1982). For example, Aron, Aron, Tudor, and Nelson (1991) demonstrated that memory for information encoded with reference to a meaningful 'other' (e.g., a parent or spouse) could be equivalent to memory for information encoded with reference to the self. The authors argued that commensurate recall for information encoded self-referentially and other-referentially reflects a process of internalization of others into the self-concept, with the effect that processing of information about them becomes as deep and elaborate as processing of information about the self (Aron & Fraley, 1999; Aron et al., 1991). This notion of inclusion of others in the self has also been applied to significant ingroups. Research by Tropp and Wright (2001) found that the degree to which ingroups (in this case gender and ethnicity groups) are included in the self correlates with the degree to which an individual identifies with that group.

Providing further evidence for the contextual nature of this process, Ng and Lai (2009) found that bi-cultural individuals showed different patterns of self- and other-referential encoding depending on which cultural identity was made salient. When primed with a Chinese identity, differences between self and other-referential encoding (using 'mother') were eliminated. The authors suggested that collectivist cultures value the notion of a "socially-connected self" (p.171), and thus priming this group identity led to greater incorporation of the (significant) other into the self-concept.

We note, however, that previous work on this topic has relied on established autobiographical and socio-cultural elements to vary social context, for instance asking participants to think about their mother, or to think about their cultural identity (Bower & Gilligan, 1979; Ng & Lai, 2009). Unfortunately, these stimuli vary in uncontrolled idiographic ways (and inevitably differ in more than just familiarity), and thus introduce a methodological confound. To address this issue, we used an experimental approach in which participants encoded information about *the same target* across conditions that varied only in whether the participant had been included or excluded by that target. We note too that our experimental paradigm represents a particularly conservative test of the variable-self hypothesis, because the target is in all cases a stranger within a minimal group interaction—a type of relationship reliably shown to yield inferior recall compared to self-referential encoding (Symons & Johnson, 1997).

Our research is therefore intended to improve understanding of the psychological processes that underlie a contextual self. Under what circumstances are boundaries between the self and other attenuated or reinforced? Our studies investigate whether encoding of information about a stranger within a minimal group interaction can be indistinguishable from encoding of information about the self when a sense of shared group membership is established. Thus, we test the self-categorization claim that incorporation of others into the self-concept is not limited to cultural or sociological variation, or to interpersonal significance, but rather is dependent on the dynamic psychological restructuring of cognitive boundaries in a way that aligns the self with others (e.g., as a result of inclusion in a group). As a corollary, we expect others will be distinguished from self when psychological boundaries are restructured in a way that separates the self from others (e.g., as a result of exclusion from a group).

1.3. The present research

Combining social and cognitive approaches to the self-concept, we used self- and other-referential encoding to understand the impact of social context on the self-reference effect. We conducted two experiments in which participants were either included in or excluded from a social interaction, and then performed a task in which they encoded words with reference to the self and to the other—in this case the person who included or excluded them from the group. We hypothesized that other-referential encoding would yield lower recall than self-referential encoding when participants were excluded (H1), but that other- and self-referential encoding recall would be no different from one another when participants were included (H2). In both experiments we included a control condition, although we made no a priori predictions about the pattern of encoding this condition would produce. For comparison we included a measure of structural encoding, although on the basis of previous research we expected that this would be associated with inferior recall relative to both self- and other-referential encoding. We report all measures, manipulations and exclusions in these studies.