



Enhanced accessibility of ignored neutral and negative items in nonclinical dissociative individuals

Chui-De Chiu*

Clinical and Health Psychology Centre and Centre for Cognition and Brain Studies, Department of Psychology, The Chinese University of Hong Kong, Hong Kong Special Administrative Region

ARTICLE INFO

Keywords:

Dissociation
Executive functions
Intrusive memory
Updating

ABSTRACT

While clinical studies showed paradoxical memory phenomena, including the intrusion and amnesia of stressful experiences that are features of dissociation, the results of laboratory studies on dissociative individuals' forgetting of experimental stimuli through cognitive control varied. Some studies demonstrated ineffective inhibition, and others found that dissociative individuals could remember fewer trauma words in a divided-attention context. Dissociative individuals may utilize superior cognitive disengagement to forget the representations. This hypothesis was tested in nonclinical individuals with high, medium, and low dissociation proneness. In the study phase, the participants learned several lists of experimental words and kept updating working memory by remembering the last four items on a list (target) and ignoring those non-target items. A recognition test was then conducted. The high dissociation group performed better on updating working memory. However, the accessibility of the representations of neutral and negative non-target items was elevated. Dissociative individuals disengaged attention effectively from items they intended to ignore, and the representations of the ignored items were more accessible when cues were available.

1. Introduction

1.1. Dissociation and dissociation proneness

Dissociation, a disruption of ordinarily integrated functions in mental processing (DSM-5; American Psychiatric Association, 2013), is a feature of several stress-related psychiatric dysfunctions (Lyssenko et al., 2017; Putnam et al., 1996), including dissociative disorders (Carlson et al., 1993), post-traumatic stress disorder (PTSD, Stein et al., 2013; Wolf et al., 2012), borderline personality disorder (Vermetten & Spiegel, 2014; Zanarini, Ruser, Frankenburg, & Hennen, 2000), and recovered trauma memory (Geraerts, Merckelbach, Jelicic, Smeets, & Van Heerden, 2006; McNally, Clancy, Schacter, & Pitman, 2000). Two types of dissociation have been noted (Waller, Putnam, & Carlson, 1996). Pathological dissociation, such as depersonalization, gaps in awareness and intrusion, and amnesia, results in distress and disturbs socio-occupational function. Normative dissociation, such as absorption and mild gaps in awareness (Butler, 2006), prevails in the general population as well as in the clinical population and does not necessarily lead to distress or disability (Carlson, 1994; Ross, Joshi, & Currie, 1990).

There exists a trait-like individual difference in normative dissociation, i.e., dissociation proneness. Dissociation proneness relates to biological heredity (Becker-Blease et al., 2004; Jang, Paris, Zweig-Frank, & Livesley, 1998; also see Waller & Ross, 1997) and the

* Address: Department of Psychology, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong Special Administrative Region.
E-mail address: cdchiu@cuhk.edu.hk.

quality of early relationships with caregivers (Dutra, Bureau, Holmes, Lyubchik, & Lyons-Ruth, 2009; Ogawa, Sroufe, Weinfield, Carlson, & Egeland, 1997). It moderates the presence of dissociative symptoms in the face of stress (Hallings-Pott, Waller, Watson, & Scragg, 2005; Leonard, Telch, & Harrington, 1999; Stiglmayr et al., 2008; Zoellner, Sacks, & Foa, 2007; also see Giesbrecht, Smeets, & Merckelbach, 2008). Dissociation proneness may interact with cumulative traumatization from childhood to adulthood, and then pathological dissociation emerges (Chiu et al., 2015, 2017).

1.2. Cognitive control and memory in dissociative individuals

The cognitive mechanisms that underlie dissociation have gradually been unfolded. A series of laboratory studies of clinical and nonclinical dissociative individuals focused on cognitive control, which is responsible for the manipulation of mental representations (Miyake et al., 2000; for a review, Miyake & Friedman, 2012). The results were twofold. First, superior performance in nonclinical individuals with dissociation proneness was found in tasks pertaining to cognitive disengagement, such as dividing attention between dual tasks (De Ruiter, Phaf, Veltman, Kok, & Van Dyck, 2003; DePrince & Freyd, 1999; DePrince, Weinzierl, & Combs, 2008), updating working memory (Veltman et al., 2005), and switching attention from an attribute that had just been attended to (Chiu, Yeh, Huang, Wu, & Chiu, 2009). Second, inferior performance in nonclinical dissociative individuals was observed in tasks tapping into cognitive inhibition, including ignoring concurrent task-irrelevant representations (Freyd, Martorello, Alvarado, Hayes, & Christman, 1998), voluntarily suppressing distractors (Elzinga, De Beurs, Sergeant, Van Dyck, & Phaf, 2000), and involuntarily suppressing competing items (Chiu, Lin, Yeh, & Hwu, 2012; Chiu et al., 2010). Superior disengagement (Chiu et al., 2016a; Elzinga et al., 2007) and inferior inhibition (Dorahy, Irwin, & Middleton, 2004; Dorahy, Middleton, & Irwin, 2005; Elzinga, Phaf, Ardon, & Van Dyck, 2003) were also noticed in clinical patients with pathological dissociation.

Atypical cognitive control may affect the regulation of memory representations and may contribute to the paradoxical memory symptoms of dissociation, namely, intrusion and amnesia (Van der Hart, Nijenhuis, Steele, & Brown, 2004; Van der Kolk & Fisler, 1995). Studies investigating the memory function of dissociative individuals have focused mostly on memory suppression, with paradigms primarily involving inhibition (Anderson, 2005). In general, the results did not find that patients with PTSD (McNally, Metzger, Lasko, Clancy, & Pitman, 1998) or individuals with recovered memory of child sexual abuse (Geraerts, Smeets, Jellicca, Merckelbach, & Van Heerden, 2006; McNally, Clancy, Barrett, & Parker, 2004; McNally, Clancy, & Schacter, 2001) are superior at forgetting materials. Instead, some studies showed that the ability of dissociative individuals to forget via inhibition may, in fact, be weakened (Chiu et al., 2010; Chiu, Lin, et al., 2012; Elzinga et al., 2000, 2003).

Few studies have investigated how disengagement may impact the representations that dissociative individuals avoid. Two studies that are an exception examined nonclinical dissociative individuals' forgetting in a task context requiring attention division (DePrince & Freyd, 2001, 2004). The participants were instructed either to forget or to remember words under a single- (a memory exercise) or a dual-task context (performing the memory exercise as well as detecting changes in the color of experimental stimuli). In comparison with non-dissociative individuals, dissociative individuals retained more neutral words but remembered fewer trauma words. However, some studies failed to reproduce this result (Devilley et al., 2007; Giesbrecht & Merckelbach, 2009; McNally, Ristuccia, & Perlman, 2005). The inconsistency may result from the experimental design, as either inhibition (suppressing an item) or disengagement (diverting attention away from an item) may be engaged in the dual-task context. It remains unclear whether unusual forgetting can be achieved via cognitive disengagement in dissociative individuals.

1.3. The current study

This study aimed to examine the accessibility of mental representations that have been removed from the focus of attention in working memory via cognitive disengagement in individuals with dissociation proneness. Several studies from our laboratory (Chiu et al., 2009, 2010; Chiu, Lin, et al., 2012) have shown atypical cognitive control in nonclinical individuals with a cut-off score that informs a level of dissociation proneness with clinical significance (Carlson et al., 1993). Hence, the core comparison was between individuals with high dissociation proneness and those with a medium or low level of dissociation proneness (see the methods for details). A behavioral task that taps into updating verbal working memory, an operation separable from cognitive inhibition (Miyake & Friedman, 2012; Miyake et al., 2000), was applied to manipulate the experimental materials (Broadway & Engle, 2010; Collette et al., 2007; Conway et al., 2005). Words from a list were presented one by one. The participants, without knowledge of the number of words in the list (i.e., list length), were instructed to report the last four items at the end of the list presentation (Morris & Jones, 1990). Thus, the participants kept registering a new item and ignoring a previously held item. A recognition test was given to test the accessibility of the representations of the target (the last four items of each list) and non-target items (those that had been ignored).

The valence of words was manipulated. Varying results were noted about the valence effect on dissociative individuals' memory. While some studies showed that dissociative individuals forgot fewer trauma words (DePrince & Freyd, 2001, 2004), other studies did not find a reliable valence effect on dissociative individuals' memory suppression (Chiu, Lin, et al., 2012; Devilly et al., 2007; Elzinga et al., 2000, 2003; Giesbrecht & Merckelbach, 2009; McNally et al., 2005). Dissociative individuals may, in fact, retain more negative materials (De Ruiter, Veltman, Phaf, & Van Dyck, 2007). Notably, the studies that found the valence effect compared memory for negative and neutral items (De Ruiter et al., 2007; DePrince & Freyd, 2001, 2004), and hence, arousal might confound these results. To tackle this issue, two experimental conditions were created, with non-emotional (neutral words) and emotional materials (negative and positive words). The valence effect can be examined by contrasting the memory of negative items with that of positive items. Finally, common covariates of dissociation proneness, including state anxiety and early relational trauma, were controlled for statistically to exclude their potential confounding effects.

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات