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Attentional bias for performance-related words in individuals with narcissism

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ABSTRACT

In this study, dot probe tasks were employed to present performance-related or interpersonal-related words paired with neutral words, we examined the attentional bias of narcissists as well as its mechanism. Results showed that the narcissistic individuals demonstrated significant attentional bias for performance words. Specifically, they were highly vigilant to failure words and had difficulty disengaging from success words, and there was no such bias for the category of interpersonal ones. Non-narcissists, on the other hand, exhibited significant difficulty disengaging from negative words, including failure words and rejection words. From this data, it would appear that attentional bias may be a built-in cognitive attribute of narcissism. The limitations of the present study and future research directions are also discussed.

1. Introduction

Narcissism has been regarded as a specific personality disorder for a long time: Narcissistic Personality Disorder or NPD (DSM-IV, American Psychiatric Association, 1994). According to the DSM-IV, narcissists are preoccupied with fantasies of success, power, greatness, and brilliance. They live on an interpersonal stage with exhibitionistic behavior and require attention and admiration from others while responding to criticism or threat to self-esteem with feelings of rage, shame, or humiliation. In addition, they display entitlement and expect special treatment from others without the need to reciprocate. They are also apathetic and interpersonally exploitative and tend to have relationships that oscillate between idealization and devaluation. Despite the multifaceted clinical definition of narcissism, researchers in the area of personality and social psychology have proposed a personality dimension labeled 'normal' narcissism for nonclinical populations. The social-personality literature conceptualizes narcissism as a trait that is normally distributed in the population and for which there is no qualitative cut-off for elevated narcissism (Foster & Campbell, 2007). Elevated normal narcissism is typically defined as scoring above the mean on the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988). In the present study, narcissism is also referred to a normal personality variable which is measured with the NPI or other similar instruments.

As might be expected, narcissism is an important multi-dimensional construct consisting of grandiosity, self-love and inflated self-view (for reviews see Campbell, Brunell, & Finkel, 2006). Morf and Rhodewalt (2001) suggest that the nature of sub-clinical narcissism are underlying cognitive, social, and affective processes, which is associated with positive attitudes toward the self with regard to agentic traits (e.g., intelligence, attractiveness), whereas they care less about communal traits (e.g., intimacy, caring). Campbell et al. (2006) suggest that the agentic orientation of narcissism is linked to poor relationship functioning, such as low commitment (Campbell & Foster, 2002), high levels of infidelity (Campbell, Foster, & Finkel, 2002), and low emotional intimacy (Foster, Shrira, Campbell, & Loggins, 2003).

Holding that narcissism is associated with the agentic orientation and functions poorly in building relationships, it is important to uncover the roots of these behaviors. One interesting domain that may help explain these behaviors, but receiving very little regard from researchers, is that of social cognition, specifically, attentional bias. Considering the level of interest in this issue, the research at present has focused on attentional bias and the underlying mechanisms of different levels of narcissism to agentic or relationship relevant social information, including performance-related information and interpersonal-related information. It may help clarify a number of issues in the narcissism literature. For instance, conceptualizing narcissism in terms of attentional bias may offer insight into narcissistic behavior patterns. The primary goal of the present research was to empirically demonstrate how narcissism and attentional bias are linked.

2. Methods

2.1. Participants

The sample included 128 undergraduates in three colleges, 63 males and 65 females coming from various schools or departments

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(e.g., Education, Biological Sciences, and Physical Sciences). Participants' mean age was 19.29, with a standard deviation of 1.15, ranged from 17 to 23, all right handed. They received partial credit in exchange for their participation.

2.2. Narcissism

Narcissistic Personality Inventory for Chinese (NPIC; Zhou, Zhang, Chen, & Ye, 2009) was used in the present study. This inventory was developed based on the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988) which is widely used as a measurement of narcissism in social and personality psychology. This inventory showed satisfactory reliability and validity among Chinese (Zhou et al., 2009). It consists of 34 items with a six-point Likert scale (1 = strongly disagree to 6 = strongly agree). Examples of the descriptions include "I am an extraordinary person" and "I find it easy to manipulate people." The structure of the questionnaire yields three factors labeled authority, superiority, and self-admiration. Responses on all items were summed, creating a total score ranging from 34 to 204, with higher scores indicating higher levels of narcissism. Zhou et al. (2009) reported adequate internal reliability ($\alpha = 0.929$).

2.3. Dot probe task

Developed by MacLeod, Mathews, and Tata (1986), the dot-probe task (also referred to as the visual-probe task) is a computerized paradigm which records response time of participants to a series of visually presented stimuli. The basic premise behind this paradigm is that faster reaction time will be observed when probes are presented behind attended stimuli versus unattended stimuli. Thus, when emotional-related stimuli and neutral stimuli are simultaneously presented, reaction times to probes of each type of stimuli are compared to infer the location of attention and the presence or absence of attentional biases. Here are the operations in typical trials.

Following an initial fixation point, each trial presents a pair of stimuli simultaneously in spatially distinct locations on a computer screen (e.g., above or below the initial fixation point) for a pre-determined length of time (traditionally 500 ms). Stimuli may consist of words or images, with experimental trials featuring one threatening/emotional stimulus, and one neutral stimulus. After this presentation, both stimuli are removed, with a visual probe (e.g. a dot) replacing one of the stimuli. Congruent trials feature the probe replacing the emotional stimulus, while incongruent trials feature the probe replacing the neutral stimulus. Participants are required to indicate the location of this probe (or the type of probe) as quickly and accurately as possible, either via keyboard or response-box. Response time is faster to probes appearing in the attended region of the screen than the unattended region, providing a measure of where visual attention is allocated during probe presentation. Averaged response times are calculated for congruent and incongruent trials, which are typically converted into an index of attentional bias.

2.3.1. Word selection procedure

Participants' attentional orienting was measured using a dot probe task similar to those widely used in research with adults and children. The study not only focused on performance appraisals, but also investigated the domain of interpersonal relations. Words applied in this study are grouped into some categories: success (e.g., competent, win), failure (e.g., lose, incompetent), acceptance (e.g., welcomed, wanted), rejection (e.g., ignored, disliked) and the neutral (e.g., coat, floor). We used a thesaurus to generate an initial pool of over 400 words that were rated by undergraduates for their emotional valence and by psychology graduate students for their relevance to the proposed categories. To assess the emotional value of words, 250 undergraduates were asked to rate the emotional valence of words in the initial pool from −3 (very bad) to 3 (very good), with 0 = not good and not bad. (A word was considered for the success or acceptance category if its average rating was between 1.5 and 3, in the failure or rejection category if its average rating was between −3 and −1.5, and in the neutral category if its average rating was between −1 and +1). To confirm that the words reflected their intended categories, 20 graduate students were asked to categorize the words as success, failure, acceptance, rejection, or neutral. Words were divided across the graduate students, so that each word was evaluated by a total of 5 students. Words appropriate for the dot probe detection task were those receiving an agreement from at least 4 raters (80% agreement).

A total of 120 words were selected for the dot probe task that met the criteria for emotional valence and category relevance: 10 success words, 10 failure words, 10 acceptance words, 10 rejection words, and 80 neutral words. An analysis of variance (ANOVA) indicated that the valence scores for emotional relevant words and neutral word categories were significantly different from each other, $F(4, 95) = 453.626$, $p < 0.001$. A Scheffe's test indicated that the mean valence ratings for success words ($M = 2.07$, $SD = 0.26$), acceptance words ($M = 2.21$, $SD = 0.36$), failure words ($M = -2.04$, $SD = 0.25$), and rejection words ($M = -2.09$, $SD = 0.18$) were not significantly different from each other, but were significantly different from the neutral word valence ratings ($M = 0.04$, $SD = 0.37$). In addition, the word pairs were matched on *Dictionary of Usage Frequency of Modern Chinese Words*, and number of letters.

2.3.2. Procedure for the dot probe task

The dot probe task was designed and programmed using E-Prime software. It was comprised of 380 trials, 360 experimental trials and 20 practice trials and the 360 experimental trials were fully randomized for each participant and presented in four blocks with 90 trials for each. These blocks of experiments were separated by a 1-min break so subjects could rest their eyes. During each trial of the experiment, a white addition symbol (+) appeared as a fixation mark in the center of the screen for 800 ms. Following this fixation point, a randomly selected pair of stimuli was then presented on screen for 500 ms with one above the fixation point and the other below. The pair subsequently disappeared and was replaced by a probe (a dot) that appeared in the position of one of the previously presented words. Participants were asked to indicate what the type of probe stimulus was by pressing the corresponding key on the keyboard as quickly and accurately as possible. Once a keystroke was registered, the probe was removed from the screen and the next trial commenced.

In the tasks, word pairs were presented in one of the standard Chinese fonts (Song) in white on a black background. Participants were seated at eye level approximately 50 cm from a 15-in computer display, which had a resolution of 1024×768 pixels. Responses were recorded using the keyboard, where the "Z" key was pressed for probes appearing in the upper location, and the "M" key was pressed for probes in the lower location.

2.4. Procedure

Participants were tested individually. Upon entering the laboratory, subjects were welcomed by a female experimenter and seated in front of a computer. For the dot probe task, participants were seated comfortably at a computer where they could clearly see the screen. The instructions for the task were read aloud by an experimenter and displayed on the screen. Participants then completed 20 practice trials with feedbacks of correctness. After the practice, on-screen instructions informed participants that the test trials would begin with no feedbacks, and they were supposed to