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Do you see me the way I see myself? Narcissists are less prone to illusion of transparency than other people

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Corneille**

People tend to believe that their internal states are transparent to others (e.g., illusion of transparency), and even more when they are self-centred. Would it be the case for narcissistic individuals who are highly self-centred? Three studies investigated whether narcissists feel more transparent because they are egocentric, or whether they feel less transparent because they are socially skilled. Using a vignette method, Study 1 showed that the more participants were narcissists, the less they felt transparent with regard to their emotions, values and behaviour. Study 2 further showed that this association was stronger when narcissistic characteristics were valorised. In addition, the negative link between narcissism and felt transparency was mediated by self-monitoring. Using a face-to-face interaction, Study 3 provided evidence that participants high on narcissism were less prone to illusion of transparency. Overall our studies suggest that narcissists' meta-perception is more accurate, less egocentric because they are socially skilled.

Keywords: felt transparency, illusion of transparency, narcissism, meta-perception, egocentrism

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Narcissists are less prone to illusion of transparency than other people

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Abstract

People tend to believe that their internal states are transparent to others (e.g., illusion of transparency), and even more when they are self-centred. Would it be the case for narcissistic individuals who are highly self-centred? Three studies investigated whether narcissists feel more transparent because they are egocentric, or whether they feel less transparent because they are socially skilled.

Using a vignette method, Study 1 showed that the more participants were narcissists, the less they felt transparent with regard to their emotions, values and behaviour. Study 2 further showed that this association was stronger when narcissistic characteristics were valorised. In addition, the negative link between narcissism and felt transparency was mediated by self-monitoring. Using a face-to-face interaction, Study 3 provided evidence that participants high on narcissism were less prone to illusion of transparency.

Overall our studies suggest that narcissists' meta-perception is more accurate, less egocentric because they are socially skilled.

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Do you see me the way I see myself?

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Asking yourself what others think of you allows you to navigate in social contexts (Elfenbein, Eisenkraft, & Ding, 2009; Levesque, 1997). This process, called metaperception (Kenny & DePaulo, 1993), is also influenced by the view you have about yourself (self-perception) and, in return, it influences your self-perception. However, most of the times, your metaperception is not accurate. Whether metaperception rest on self-based (Kenny & Depaulo, 1993) or others' based (Albright, Forest, & Reiserter, 2001) information or both (Albright & Malloy, 1999), people frequently failed to develop metaperception that accurately represents others' perception of themselves.

In a society where the self is the main focus (Markus & Kitayama, 1991) and where individuals tend to be more and more narcissistic (Foster, Campbell & Twenge, 2003; Twenge & Foster, 2010), metaperceptive processes may be doomed. Indeed, studies showed that each time the self is a core concern, people tend to rely on their own self-perception and beliefs to construe their metaperception in an egocentric way (Kenny & DePaulo, 1993). Therefore, in this context, an important question is whether people for whom the self is a core concern, like narcissists, would tend to develop inaccurate metaperception. Thus, due to the important role played by metaperception in intraindividual and interindividual processes, it appears crucial to determine what type of metaperception would be developed by individuals with an utterly positive self perception, a lack of interest for others or even negative perception of them (Campbell & Foster, 2007; Morf & Rhodewalt, 2001).

Two hypotheses appear to be equally valid if we interpret the current state of the art. On one hand, if people are focusing on their selves they should feel more transparent to others and

develop more biased metaperception (Gilovich, Medvec, & Savitsky, 1998; Savitsky & Gilovich, 2003; Vorauer & Ross, 1999). Hence, narcissistic individuals, who are particularly self-absorbed (Emmons, 1987; Ames, Rose, & Anderson, 2006) should feel more transparent. On the other hand, if individuals have motives to develop accurate metaperception, they are expected to feel less transparent towards others (Albright, Forest, & Reiser, 2001; Hu et al, 2014). Thus, narcissistic individuals are expected to feel less transparent given their motives to develop social relationships (Emmons, 1984; Rauthmann, 2011) which bound them to take into account others' feedback. Once again, narcissism is associated to paradoxical consequences.

Determining the effect of narcissism on metaperception (e.g. felt transparency) and its biases (e.g., egocentric aspect and illusion of transparency) may be the basis for a new scope of research for several reasons: both concepts are tightly linked to the self, both concepts have important impact on social relationships, and finally, studying the effect of narcissism on metaperception may bring new evidences about the complex reality of narcissism with regard to interpersonal perception.

Hence, this paper aims to shed light on the relationship existing between narcissism and metaperception (e.g., felt transparency, its egocentric aspect, and illusion of transparency). To do so, three studies were carried out. The two first studies addressed the effect of narcissism on felt transparency and egocentric metaperception. Egocentric metaperception, or the level of correspondance existing between meta and self-perception, was considered here as the premise of biased metaperception (illusion of transparency). While the second study allowed us to study the underlying mechanism behind the link narcissism-metaperception, the third study was designed to assess the existence of illusion of transparency.

METAPERCEPTION: FROM ITS ORIGINS TO ITS BIAS

In everyday interactions, people want to know how others see them. This kind of process appears to be important in enabling people to interact with others (Elfenbein et al., 2009). However, in most cases, expectations about how people are seen by others (metaperception, Kenny et DePaulo, 1993; looking glass self, Xie, Mahoney, & Cairns, 1999; reflected appraisal, Kinch, 1963; Twenge & Crocker, 2002) and the way others actually see them (others' perception) do not necessarily coincide (Carlson, Vazire, & Furr, 2011; Kenny & Depaulo, 1993).

One example of this inaccurate metaperception is the tendency to overestimate the capacity of others to detect their internal states (illusion of transparency, Savitsky & Gilovich, 2003; Gilovich et al., 2001; Vorauer & Ross, 1999; Gilovich, Medvec, & Savitsky, 1998; Miller & McFarland, 1991) or their external states (spotlight effect, Gilovich et al., 2000). This biased metaperception leads to a lack of congruence between expectations (felt transparency) and other's perception (actual transparency), which in turn, could lead to misunderstanding and conflicts (Cameron & Vorauer, 2008; Gilovich, Savitsky, & Martin, 1999; Vorauer, 2005).

Hence, individuals are generally inaccurate in predicting how others see them suggesting that meta-accuracy (the level of correspondence between meteperception and others' perception) tends to be low (Kenny & Albright, 1987). This can be explained by the mechanisms underlying the development of metaperception.

On one hand, metaperception is based on self-based information as people often think others see them the way they see themselves (Kenny & Depaulo, 1993). Indeed, people access their own view of themselves before inferring how others see them. Therefore,

people tend to believe that their own internal states, like emotions, thoughts, and feelings, are more apparent to others than they are in reality (Gilovich, Medvec, & Savitsky, 1998; Savitsky & Gilovich, 2003; Vorauer et al., 1999) and even more when they feel similar or close to the other one (Vorauer & Cameron, 2002).

On the other hand, metaperception is believed to be based both on internal (self-perception) and external cues, like others' feedback and impression (Albright, Forest, & Reiserter, 2001; Albright & Malloy, 1999). These researches show that, in certain situations, individuals have more motives to develop accurate metaperception based on external cues (Albright, Forest, & Reiserter, 2001; Cheek & Hogan, 1983). When people need to take into account both, their self-perception and the perception of others' as a source of information when they develop their metaperception (Albright & Malloy, 1999), the developed metaperception is less biased and more accurate.

NARCISSISM: FROM SELF TO OTHERS

Showing narcissistic characteristics, meaning looking for a grandiose self, developing a high sense of entitlement and uniqueness (American Psychiatric Association, 2013) are the main characteristics of narcissism. Considered first as a personality disorder, narcissism draws more and more attention of social psychologists (Delič, Novak, Kovačič, & Avsec, 2011). And even more since it is considered as normal nowadays (Twenge & Campbell, 2009). Narcissism appears to be more important nowadays (Twenge & Foster, 2010), its prevalence increases from a generation to the next (Campbell & Twenge, 2013) or depends on cultural background (Foster, Campbell, & Twenge, 2003) Along this approach, narcissism may be seen as the consequence of a general rise in self-absorption. For instance, a study comparing the level of narcissism of individuals aged from 20 to 30

years old to 60 years old individuals exhibit significant higher level of narcissism (Campbell & Twenge, 2013).

Hence, this paper focused on the non-pathological type of narcissism. In other words, we employed the term narcissism and its derivatives as a personality trait normally distributed in the general population, along a continuum (Foster & Campbell, 2007).

The consequences, positive or negative, of narcissism concern both the intrapersonal and interpersonal level. Several studies have highlighted both the bright and dark sides of narcissism (Campbell & Campbell, 2009; Campbell, Hoffman, Campbell, & Marchisio, 2011; Hogan & Kaiser, 2005). For example, on the bright side, narcissism is associated to well-being (Rhodewalt & Morf, 1995), to leadership characteristics (Campbell & Campbell, 2009), to charisma (Rosenthal & Pittinsky, 2006) and to high self-esteem (Raskin & Novacek, 1989); On the dark side, narcissism is associated to anxiety (...) and to egocentrism (Wink, 1991).

Regarding the interpersonal sphere, narcissism is associated to poor perspective-taking capacities (Watson, Grisham, Trotter, & Biderman, 1984), to a lack of empathy (Watson & Morris, 1991) and to low proximity (Carroll, 1987). However, narcissistic individuals tend to develop good relationships on the short term (Paulhus, 1998). One paradox behind narcissism resides in the fact that they tend to avoid others but also seek attention and admiration from them. To create their social system at the source of their unique and grandiose self-perception (Campbell & Green, 2013), they need to meet the others in their reality. Hence, even if narcissists display interpersonal shortfalls (Carroll, 1987; Nicholls & Stukas, 2011; Paulhus, 1998; Watson et al., 1984; Watson & Morris, 1991), they are charming, extroverted and socially skilled (Back et al., 2013; Emmons, 1987; Rauthmann,

2011) since they need their interpersonal relationships. In a nutshell, despite their self, narcissists have motives to meet and to interact with others.

THE IMPACT OF NARCISSISM ON METAPERCEPTION

Do narcissistic characteristics increase or decrease the tendency to feel transparent (metaperception) towards others? On one side, narcissists are more self-centered (Emmons, 1987) and would, by extension, be more prone to feel transparent towards others (Kenny & DePaulo, 1993). On the other side, even if narcissism is negatively associated with perspective taking (Watson, Grisham, Trotter & Biderman, 1984), they are still aware of others' perception of themselves. More precisely, narcissists' metaperception are less grandiose than their self-perception (Carlson, Vazire, & Oltmanns, 2011; Lukowitsky & Pincus, 2013; Oltmanns et al., 2005). However, those three papers focused on perceptions of psychological traits and not how those traits would impact their metaperception.

The more individuals report narcissistic tendencies, the more they feel transparent.

Narcissism is characterized by the tendency to be self-focus rather than other-focus. For instance, a paper gathering four studies brought empirical evidence that narcissism is positively associated to self-focus and negatively to other-focus, narcissism was related to independent style rather than interdependent style (Konrath, Bushman, & Grove, 2009). These styles are characterized by agentic traits and by a perception of the self as unique (Markus & Kitayama, 1991). By emphasizing the independence from others, narcissistic individuals may fail to take into account others' feedback when developing their metaperception. Hence, narcissistic individuals would construe their metaperception solely on internal cues. By doing so, narcissistic individuals would be more prone to feel

transparent towards others. They would also tend to develop more egocentric metaperception.

The more individuals report narcissistic tendencies, the less they feel transparent.

Narcissism may also be characterized by social skills (Back et al., 2013; Emmons, 1987; Rauthmann, 2011). Indeed, as described earlier, narcissistic individuals need to create a social context where others feed their grandiose self-perception (Campbell & Green, 2013). Hence, even if narcissism is characterized by self-absorption, narcissistic individuals need to take into account external cues, to develop accurate expectations about how others' perceive them. Hence, based on the characteristics of narcissism and the need of other individuals to attain their goals of superiority, narcissistic individuals may be greater self-monitors (Rauthmann, 2011). Additionally, previous study already showed that self-monitoring was linked to accurate metaperception (Zaccaro, Foti, & Kenny, 1991). By extent, narcissistic individuals would take into account external cues when construing their metaperception. Hence, narcissism would lead to less felt transparency and less biased metaperception.

Overview of studies

Do narcissists feel more or less transparent? Does narcissism lead to more or less egocentric metaperception? Do narcissistic tendencies lead to more or less biased metaperception (e.g. illusion of transparency)? Three studies were carried to answer those three questions.

The goal of Study 1 was to determine whether narcissism has a positive or negative impact on metaperception. Hence, we examined the link between narcissism and metaperception (felt transparency) and the link between narcissism and egocentric

metaperception. Since Study 1 gathered data only about self- and metaperception, we computed the level of correspondence between those two types of perception to assess the extent to which metaperception depended on self-perception.

In Study 2, we sought to determine the context that strengthened the impact of narcissism on metaperception. Hence, the design of Study 2 included an experimental manipulation through the use of vignettes that allowed us to affect the perception of narcissistic tendencies (e.g. short texts that valorised or not narcissistic tendencies). The second purpose of Study 2 was to understand the mechanism behind the impact of narcissism on metaperception.

In Study 3, we aimed to study both the effect of narcissism on felt transparency and on biased metaperception (e.g. illusion of transparency). Indeed, thanks to a face-to-face task, Study 3 allowed us to measure both actors' feeling of transparency (metaperception or felt transparency) and their observer's perception of their transparency (actual transparency). By getting access to actors and observers' judgment, we were able to evaluate the occurrence of illusion of transparency as a function of narcissism.

Study 1

Study 1 investigated first, whether a rise in narcissism score is related to more or less felt transparency.

Second, it explored whether narcissistic tendencies lead to more or less egocentrism within their metaperception. Since metaperception may be built on self- and other-based information, we used the level of correspondence between self- and metaperception as an indication of biased metaperception. The assumption behind this approach was that

individuals who develop metaperception that resembled their self-perception would be more likely to develop illusion of transparency.

Method

Participants

One hundred and thirty-four participants were recruited, through a Facebook event, to participate to this study. Sixty-one participants were excluded since they did not complete the whole questionnaire. The final sample counted 73 participants (17 men and 56 women) aged from 16 to 62 ($M= 27.22$; $SD= 10.67$).

No study had previously tested the effect of narcissism on felt transparency. Hence, we estimated an expected effect size based Vorauer and Ross's paper on public self-consciousness and transparency (Vorauer & Ross, 1998). Hence, a priori power analysis was performed to determine the minimal sample size to detect a medium effect size (effect size $|\rho|=0.35$) with a power of at least 95% (G*Power version 3.1.5; Faul, Erdfelder, Buchner, & Lang, 2009). Result of the power analysis indicated that the sample size should be at least $n = 79$.

Procedure and materials

Participants were asked to answer an online questionnaire about personality and emotions. Participants were able to choose when they wanted to complete the questionnaire, when to interrupt and resume their participation. The duration of the task was approximately 20 minutes. The questionnaire consists of five parts¹.

¹ The original study comported 6 parts. In the sixth part, participants had to answer a questionnaire that assessed their level of emotional competence (Profile of Emotional Competence, PEC; Brasseur, Grégoire, Bourdu, & Mikolajczak, 2013). The PEC scale consisted of 50-items on a 5-point scale including statements

First, participants described how they would feel and behave in specific situations (self-perception).

Self-perception. Self-perception was evaluated using an adapted version of a questionnaire developed by Vorauer & Cameron (2002). Participants were asked to describe how they would feel and act in specific situations. Self-perception was measured on three dimensions: emotion, behaviour and value. First, participants imagined six situations associated with three emotional states. Second, they imagined four situations that proposed each time a specific behaviour. Third, participants rated the importance of 10 values. All the items were rated on a 7-point Likert scale, where 1 = 'strongly disagree' or 'not important at all' and 7 = 'strongly agree' or 'very important'. One example of the emotional situations was *'Imagine that you and one of your colleagues work on a joint project. Your colleague does not make his part in time, and you receive a bad evaluation. In this situation, I would feel: Anger - Disappointment - Frustration'*. The 'behaviour' subset included, for example, *'imagine that you are at a social gathering and someone makes a blatantly sexist remark. In this situation, I would express my disapproval'*. For the 'value' subset, items included, for example, *loyalty, self-respect and honesty*.

Second, they had to think of someone they knew, called 'Person X'. Third, participants described whether they thought 'Person X' would identify their emotions, behaviours and values in the same situations than the first part of the questionnaire (metaperception). This part was designed to evaluate the extent to which participants would feel transparent to Person X.

like *'if I wanted, I could easily influence other people's emotions to achieve what I want'*; *'most of the time I understand why people feel the way they do'*; *'if I dislike something, I manage to say so in a calm manner'*.

Metaperception and its egocentric aspect. The self-perception questionnaire was adapted to measure metaperception. The difference resided in the perspective participants had to take to describe themselves. Thus, instead of asking participants how they would feel, participants indicated whether they thought 'Person X' would be able to identify their emotions and behaviours or evaluate how important the values are for them. Situations concluded, for example, on *"in this situation, 'Person X' would be able to identify if I would feel: Anger - Disappointment - Frustration"*, or *"in this situation, 'Person X' would be able to say that I would express my disapproval"*. For the value subset, participants received the following instruction: *"A list of 10 values are shown below. For each of these values, please indicate what person X will predict compared to the importance that these values for you. "1" means that you think Person X would think that this value is not important to you and "7" means you think Person X would think that this value is very important to you"*. The ratings for all the items were included for behaviours and values but not for emotions. Only the emotion with the higher self-perception score among the 3 emotions proposed in each situation was retained since previous study showed that metaperception might be influenced by the intensity with which people experienced their emotions (Lederman, Savitsky, & Gilovich, 1998).

Fourth, participants reported how close they felt to 'Person X'.

Felt proximity. As felt proximity has been shown to influence the development of metaperception (Vorauer & Cameron, 2002) and other egocentric biases (Toma, Yzerbyt, & Corneille, 2010; Toma, Corneille, & Yzerbyt, 2012), we included the French version of the

Unidimensional Relationship Closeness Scale (URCS; Dibble, Levine, & Park, 2012)² were used to evaluate the extent to which participants felt proximity with 'Person X'. The adapted version of URCS contained 12 items that represented the felt quality of their relationship with 'person X'. Items include statements like *'My relationship with Person X is close'*, *'Person X is a priority in my life'* and *'I think about Person X a lot'*. Participants used a 7-point Likert scale to evaluate the felt closeness, where 1 = strongly disagree and 7 = strongly agree.

Fifth, participants completed the narcissism scale.

Narcissism. The French validated version of the Narcissistic Personality Inventory (NPI; Brin, 2011; Raskin & Terry, 1988) was used since it is the most popular scale used in social psychology. The NPI contained 40 items that participants had to rate on a 7-point Likert scale, where 1 = strongly disagree and 7 = strongly agree. Items included statements like *'I know that I am good because everybody keeps telling me so'* and *'I like to be the center of attention'*.

Results

Two scores were computed prior to the analyses. An index of felt transparency was calculated by summing up the *z* scores obtained in each dimension (emotions, behaviours and values). The score of egocentric metaperception was computed by calculating the absolute difference between self-perception and metaperception. The greater was the

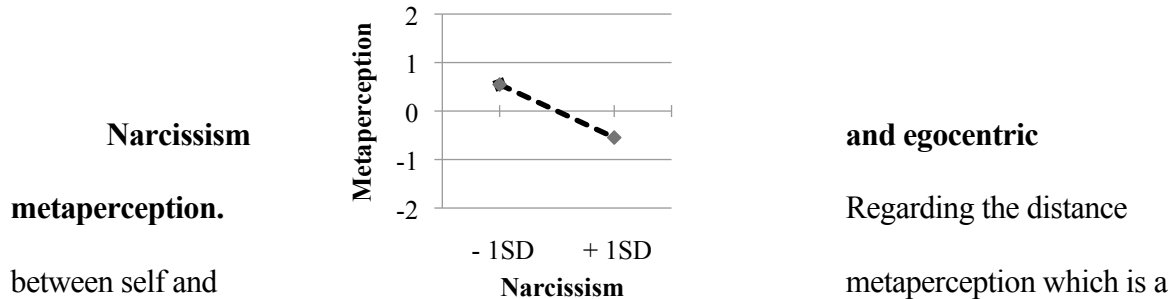
² Another measure of felt proximity was included in Study 1: Inclusion of Others in Self scale (IOS; Aron, Aron & Smollan, 1992). For the IOS scale, participants had to choose one among six Venn diagrams that represents best the level of self-other overlap. Participants 6 that described best their relationship with 'person X'. The effect of this variable on the dependent variables was not significant.

absolute difference, the less participants developed egocentric metaperception, the lower is the tendency to think that others see us as we see ourselves.

All hypotheses were tested using hierarchical linear regressions. All variables were standardized before conducting the regression analyses (Cohen, Cohen, West, & Aiken, 2003).

Narcissism and metaperception (felt transparency). Regression analyses showed that the more participants reported higher narcissistic tendencies, the less they tended to feel transparent. ($b = -.85, SE = .36, t(71) = -2.34, p < .05$) as displayed in Figure 1. This relation stayed significant when felt proximity was added to the model ($b = -.77, SE = .34, t(70) = -2.26, p < .05$) but no interaction effect was found as significant. Felt proximity has a positive and significant effect on felt transparency ($b = .63, SE = .19, t(70) = 3.35, p < .05$).

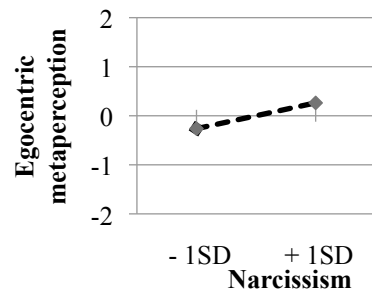
Figure 1: Metaperception



and egocentric metaperception. Regarding the distance metaperception which is a proxy of the egocentric aspect of metaperception, no main effect of narcissism on egocentric metaperception was found ($b = .41, SE = .36, t(71) = 1.12, p = .26$; see Erreur ! Source du

renvoi introuvable.). Only felt proximity had a significant impact on egocentric metaperception ($b = -.61, SE = .19, t(70) = -3.23, p < .01$). Thus, the more individuals reported proximity towards “Person X”, the less their metaperception was different from their self-perception, independently of their level of narcissism.

Figure 2: Egocentric narcissism



metaperception predicted by

Discussion

The results of Study 1 showed that narcissism was negatively associated with felt transparency. The more individuals reported narcissistic characteristics, the less they tended to feel transparent towards someone else. Indeed, they did not expect others to see them the way they see themselves. Regarding the supposed influence of felt proximity on the relationship between narcissism and felt transparency, when controlling for felt proximity, the strength of the relation between narcissism and felt transparency stayed unchanged and the link narcissism-metaperception did not change whether participants felt close or not to Person X. Finally, results showed no significant relation between narcissism and egocentric metaperception which suggest that narcissistic individuals are not necessarily egocentric regarding their metaperception.

As stated earlier two hypotheses seemed equally valid: On one side, narcissism, characterized by self-absorption would lead to more felt transparency; On the other side, due to social competency, narcissism would lead to less felt transparency. Based on our results, it appeared that, even if narcissism is associated to self-absorption (Emmons, 1987) and egocentrism (Wink, 1991), narcissistic tendencies did not prevent individuals to take into account others' perception.

Study 2

Study 2 was designed to test the hypotheses that (1) the negative effect of narcissism on felt transparency would be greater in a context that valorise narcissism and that (2) self-monitoring (other-directedness dimension) would mediate this relationship

Two assumptions behind the design of Study 2: First, narcissism may be influenced by the context; Second, the negative impact of narcissism on felt transparency may be due to social skills.

Besides being a personality trait, narcissism may also vary with social contexts. For instance, studies indicate that the raise of narcissistic characteristics among the general population may be considered as partially cultural (Foster, Campbell & Twenge, 2003), partially generational (Twenge & Foster, 2010). Hence, to test specifically the effects of narcissism on metaperception (e.g., felt transparency and its egocentric aspect), Study 2 was designed to manipulate the valorisation of narcissism through the use of vignettes. By doing, so, we expected to observe a stronger association between narcissism and metaperception in the valorisation condition than in the control condition, where the

narcissistic traits should be perceived as more valuable. This is consistent with other studies showing that people make more use of egocentric biases (such as projection or illusion of transparency) on characteristics that are valuable in a certain context (Toma, Yzerbyt, & Corneille, 2012).

Furthermore, since the link narcissism-metaperception was found to be negative, we had to test the role of social skills in the association narcissism-metaperception. Given that narcissists need interpersonal relationship to ensure their grandiose-self (Campbell & Green, 2013), they are bound to take into account other-based information – their metaperception as well as others' perception – to monitor themselves. In this case, self-monitoring would be a key element of social skills (Rauthmann, 2011). Study 2 went beyond Study 1 by assessing the mediating role of self-monitoring in the relationship between narcissism and metaperception. Hence, the hypothesis to be tested was that narcissists felt less transparent since they engaged more in self-monitoring. In other words, the more individuals were narcissistic, the more they reported self-monitoring tendencies which in turn would reduce the tendency to feel transparent.

Method

Participants

One hundred and fifty-six participants were recruited through one of their classes. In return for their participation, they received extra credit. Thirty-five participants were excluded since they did not finish the questionnaire. The final sample counted 121 participants (52 females and 59 males) aged from 19 to 52 ($M= 21.86$, $SD= 3.45$). They were asked to answer

an online questionnaire about personality and emotions where they were randomly assigned to one of two conditions (*control condition* or *valorisation condition*).

Procedure and materials

Before answering the different scales, all the participants read a short text about the impact of narcissism on private and professional success. Half of the participants were assigned to the valorisation condition and read about the positive impact of narcissistic characteristics on success and achievements. The other half, assigned to the control condition, had to read about scientists taking a stand against a corporation. The valorisation condition gathered 57 participants and the control condition 64 participants. As a manipulation check, participants were asked to specify the main message of the vignette they had to read.

Following the vignette, participants were asked to complete a questionnaire composed of 6 scales. Study 2 was based on the same procedure³ than Study 1 except for the self-monitoring and self-esteem scales.

Self-monitoring. The dimension other-directedness of the validated French version of the self-monitoring scale was used to measure the level of self-monitoring exhibited by the participants (Gana & Brechenmacher, 2001; Snyder & Gangestad, 1986). The overall scale was composed of 18 items rated according to a 7-point scale, where 1 = strongly disagree and 7 = strongly agree. Items included statements like “*I can only argue for ideas which I already believe*” and “*I have considered being an entertainer*”.

³ In addition of the NPI-40 (NPI; Brin, 2011; Raskin & Terry, 1988), a subscale of the Dark Triad Dirty Dozen designed to assess narcissism was also used (Dark Triad Dirty Dozen, Jonason & Webster, 2010). Participants used a 7-point Likert scale to indicate if they agreed with 4 statements. Items included sentences like “I tend to want others to admire me” or “I tend to expect special favour from others”.

Self-esteem. The validated French version of the Rosenberg Self-Esteem Scale (EES, Vallières & Vallerand, 1990) was used to measure self-esteem. Since narcissism and self-esteem are associated in the literature or are overlapping (Campbell, 2001; Bushman & Baumeister, 1998; Rhodewalt & Morf, 1998), the purpose of this choice was to assess the effect of narcissism after accounting for self-esteem as a covariate. The scale contained 10 items (among which 5 were reversed) answered using a 7-point scale, where 1 = strongly disagree and 7 = strongly agree. Items included statements like “*I feel that I have a number of good qualities*” or “*I wish I could have more respect for myself*”.

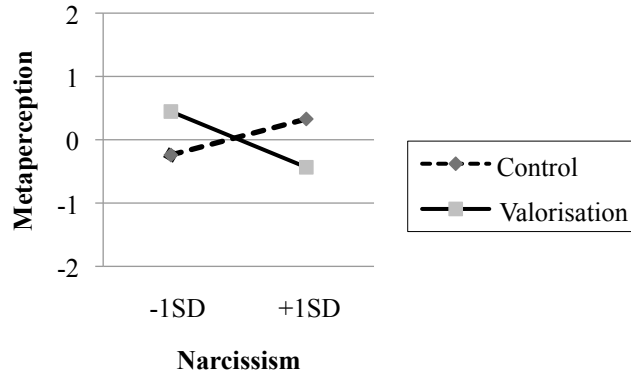
Results

The hypotheses were tested using hierarchical multiple regressions, with narcissism, valorisation of narcissism (control = 1; valorisation = -1), and its interaction as predictors. All the variables were centered prior to the analyses. Two sets of regressions were computed: First, the dependent measure was metaperception, or the extent to which participants felt transparent toward Person X; Second, the dependent measure was egocentric metaperception, or the extent to which metaperception resemble self-perception. This measure was computed based on the absolute difference between self-perception and metaperception.

Effect of narcissism on metaperception. No main effect of narcissism was found, $b = -0.08$, $SE = .22$, $t(119) = -0.37$, $p = .713$. However, the interaction narcissism x valorisation was significant, $b = 0.45$, $SE = .22$, $t(117) = 2.00$, $p < .05$. In line with our hypothesis, in the valorisation condition, the more participants were narcissistic, the less they tend to feel transparent, $b_{val} = -0.54$, $SE = .30$, $t_{val}(55) = -1.81$, $p_{val} = .077$. In the control condition, no significant effect of narcissism on felt transparency was observed, $b_{cont} = 0.35$, $SE = .33$,

$t_{cont}(62)=1.07,$

Figure 3
a function of
condition).
esteem as a
change the



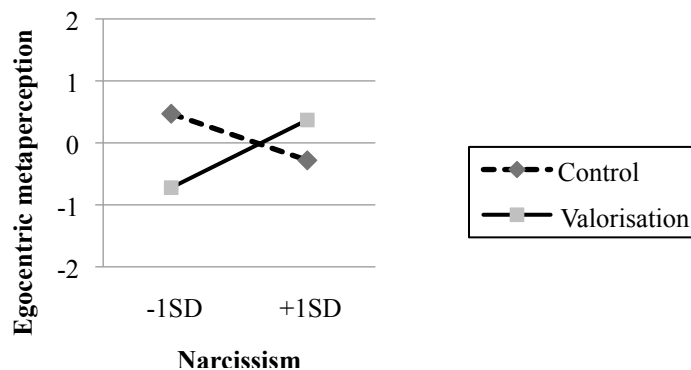
$p_{cont}=.29,$ (see

Metaperception as
narcissism and
Analyses with self-
covariate did not
results.

Figure 3 Metaperception as a function of narcissism and condition

Effect of narcissism on egocentric metaperception. The effect of narcissism on egocentric metaperception was not significant, $b=0.07, SE = .23, t(119)=0.32, p=.750$. But, the interaction narcissism x valorisation was found to be significant, $b=-0.57, SE = .36, t(117)=-2.50, p<.05$ (see Figure 4). More precisely, in the valorisation condition, the more participants were narcissistic, the less their metaperception was egocentric, $b_{val}=0.67, SE = .32, t_{val}(55)=2.12, p_{val}<.05$. In the control condition, the effect of narcissism on egocentric metaperception

was not
significant,
 $SE = .32,$



was not

$b_{cont}=-0.46,$

$t_{cont}(62)=-1.43,$

$p_{cont} = .157$.

Figure 4: Egocentric metaperception as a function of narcissism and condition

Mediating role of self-monitoring. To test the hypothesis that self-monitoring mediated the effect of narcissism on felt transparency (metaperception) and that the mediation depended on the context, we derived the statistical procedure from the method proposed by Preacher and Hayes (2008) and Baron and Kenny (1986). Three conditions must be met to posit that a variable is a mediator, in our case that self-monitoring mediated the effect of narcissism on felt transparency (metaperception) and that the mediation depended on the context: (1) narcissism predicted self-monitoring, (2) the interaction self-monitoring x valorisation predicted felt transparency and (3) when narcissism x valorisation and self-monitoring x valorisation were both included in the model predicting felt transparency, both effects were reduced.

The first condition was tested through Step 01 of the regression analyses while the second and third conditions were tested through Step 02 of the analyses. Step 01 allowed us to test if the level of narcissism had an impact on self-monitoring (mediator in the relation narcissism-metaperception). The results showed that narcissism had a marginal effect on self-monitoring ($b=0.19$, $SE= .10$, $t(119)=1.78$, $p=.077$). Step 02 showed that the

interaction self-monitoring x valorisation was a marginal predictor of metaperception, $b=0.34$, $t(115)=1.75$, $p=.083$. Figure 5 represents the model tested and the results obtained through the analyses. Taken together, these results indicated that self-monitoring played a partial role in the effect of narcissism on metaperception, and particularly in the valorisation condition⁴.

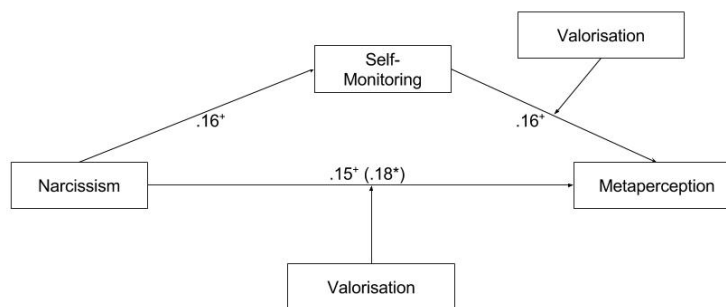


Figure 5 Standardized coefficients for the mediated relationship between narcissism and metaperception moderated by the valorisation. The direct effect between narcissism and metaperception, moderated by valorisation is in parentheses.

Discussion

The results of Study 2 showed that, in a context that valorised narcissism, the negative association between narcissism and metaperception will be greater and that (2) self-monitoring partially mediated this association. Concerning the extent to which metaperception was egocentric, results indicated that, in the valorisation condition, the

⁴ The same pattern of results was obtained when assessing the effect of narcissism on egocentric metaperception mediated by self-monitoring, moderated by valorisation. Results indicated that the interaction self-monitoring x valorisation was a marginal predictor of egocentric metaperception, $b=-0.34$, $SE=$, $t(115)=-1.71$, $p=.09$ while the interaction valorisation x narcissism became a significant predictor of egocentric metaperception, $b=-0.49$, $SE=$, $t(115)=-2.18$, $p<.05$. When both interactions were added in the model predicting egocentric metaperception, the effect of the interaction narcissism x valorisation was smaller and became marginal. These results suggested that self-monitoring mediated partially the effect of narcissism on egocentric metaperception.

more participants were narcissistic, the less their metaperception was egocentric and that this association was partially mediated by self-monitoring.

In the valorisation condition, where participants had to read a short text about the positive effects of narcissistic characteristics on everyday life, the ones who reported higher narcissistic tendencies tend to feel less transparent. Hence, the link between narcissism and felt transparency appeared to depend on the context. As expected, in the valorisation condition, the more participants reported narcissistic characteristics, the less they developed egocentric metaperception.

Additionally, when participants had to read about the benefits of being narcissistic, they seemed to engage more in self-monitoring. Results of multiple regressions suggested that self-monitoring played a partial role in the effect of narcissism on metaperception. In other words, narcissism would reduce felt transparency due to self-monitoring but only in the valorisation condition.

Taken together those results confirm the existence of a negative link between narcissism and transparency. Going further, it appeared that narcissistic tendencies lead to more self-monitoring which in turn decrease the tendency to feel transparent. Previous studies showed that even if people tend to rely first on self-based information when they develop their metaperception (Kenny & DePaulo, 1993), they might also pay more attention to others' feedback when they value the outcomes of the relationship (Hu et al., 2014, Albright, Forest, & Reiserter, 2001; Albright & Malloy, 1999). Because narcissistic individuals seek to develop rewarding relationship to supply their need of grandiosity (Campbell & Green, 2013), they have to be socially skilled and to be able to observe and adapt their behavior to elicit specific reactions and interactions (e.g., Emmons, 1984;

Rauthmann, 2011; Campbell & Green, 2013). Hence, when developing their metaperception, individuals need to take into account both their self and others perception (Albright & Malloy, 1999) and even more, when they need to develop accurate metaperception (e.g., Albright et al., 2001; Hu, Kaplan, Wei, & Vega, 2014; Yun, Takeuchi, & Liu, 2007). And due to these interpersonal motives, narcissism does not simply lead to egocentrism, and by extent, lead individuals to feel less transparent.

Though these results support our hypotheses, the design of Study 2 may bring some limitations due to (1) the type of evocative stimuli used to trigger internal states, (2) the number of positive and of negative stimuli with regard to their emotional valence, and finally, (3) the absence of actual transparency measures..

The use of short situations presented in text form may be insufficient to create a significant internal change since the intensity of felt emotions impacts felt transparency (Lederman, Savitsky, & Gilovich, 1998). To tackle this issue, we may use evocative stimuli in picture form, like the pictures of composing the International Affective Picture System (IAPS) that triggered actual physiological responses associated to felt emotions (Gil, 2009).

Additionally, we have to test the occurrence of transparency for emotions of positive and negative valence.

Finally, Study 1 and Study 2 gathered data only about self and metaperception where egocentric metaperception was considered as a precursor of biased metaperception.

However, it did not allow us to test the effect of narcissism on biased metaperception (e.g. illusion of transparency) since we did not measure actual transparency.

Study 3

The aim of Study 3 was twofold: First, it aimed at determining the effect of narcissism on illusion of transparency. Second, it aimed at replicating the effect of negative effect of narcissism on felt transparency for both positive and negative emotions.

The design of Study 3, including a face-to-face task, derived from Gilovich and colleagues (1998), allowed us to assess directly the gap that may exist between felt and actual transparency. The occurrence of the illusion of transparency is characterized by the gap existing between the extent to which an actor think an observer detects his/her internal state (felt transparency or metaperception) and the extent to which an observer detects the actor's internal state (actual transparency or other's perception). Hence, Study 3 went further than Study 1 and Study 2 since it assessed the effect of narcissism on biased metaperception (e.g. illusion of transparency).

Study 3 was designed to assess specifically the impact of narcissistic tendencies on metaperception of emotions using pictures instead of short texts. Hence, affective images from the International Affective Picture System (IAPS) were used for negative (disgust) and positive (joy) emotions. The hypothesis tested in Study 3 was that the more actors reported being narcissistic, the smaller would be the gap between felt and actual transparency.

Method

Participants

One hundred and thirty-eight enrolled in the study in exchange of extra credit. Each student had to register with another student. However, 124 participants, aged from 19 to 52 years old, distributed into 62 dyads, showed up and completed the study. When a dyad of

participants arrived in the laboratory, both participants were randomly assigned the role of actor (30 females and 32 males, aged from 20 to 52) or observer (29 females and 33 males, aged from 19 to 28).

Procedure and materials

Except for the Narcissistic Personality Inventory, all the measures used in Study 3 differed from the ones used in Study 1 and Study 2⁵. Below are presented the procedure and corresponding materials used for the task of concealment and detection of emotions.

After assigning the roles, the experimenter, while asking the actor and observer to sit face to face, gave an overview of the study and presented it as a study on emotional profile and facial expression. Then, each participant received an Ipad presenting the instructions and materials necessary to complete the task. The instructions were the same for the actor and the observer: they would complete four questionnaires, they were not allowed to speak with each other, the experiment would last 30 minutes.

The last instructions, related to the "emotional expression" task, were specific to the role they had to take actors read *"the role you have been assigned for this task is that of ACTOR. This role means that you will be asked to view 6 images of positive and of negative valence while maintaining a neutral facial expression"* while observers read *"the role you have been assigned for this task is that of OBSERVER. This role means that you will be asked to observe and evaluate the facial expressiveness of your partner during the task on facial expressions"*.

⁵ Differential Emotions Scale IV. The French version of the Differential Emotions Scale IV originally designed to evaluate how participants experiments emotional states (DES-IV; Ricard-St-Aubain, Philippe, Beaulieu-Pelletier, & Lecours, 2010) was used here to prime feeling of similarity between actor and

First, both actor and observer complete the Narcissistic Personality Inventory (NPI; Brin, 2011; Raskin & Terry, 1988). Second, the actor was asked to visualize each image (3 "disgusting" images and 3 "joyful" images, presented in a random order for each dyad) while concealing their emotional state. For their part, the observer was asked to detect the emotional state of the actor.

Emotional images. Six images, three representing joy and three disgust, were selected among the pool of images of the International Affective Picture System (IAPS; Gil, 2009; Lang, Bradley, & Cuthbert, 2005). The internal consistency varied greatly between the category "disgust" ($\alpha = .701$) and "joy" ($\alpha = .501$). Hence, since the focus is on strong emotional experience, only one image per category was selected for statistical analyses based on the norms attached to the IAPS. The image called "mutilation" was selected for the category disgust and the image called "couple" for the category joy. Compared to the two other images of their category, "mutilation" and "couple" had respectively the lowest and highest valence score (mutilation, $M= 1.59$, $SD= 1.35$; couple, $M=7.77$, $SD= 1.43$) and the highest arousal score (mutilation, $M= 7.34$, $SD= 2.27$; couple, $M=4.68$, $SD= 2.43$) with regards to the norms of the IAPS.

After viewing each image for five seconds, 6 questions were presented both to the actor and to the observer. The 6 questions, specific to the role of actor and of observer, were the basis to create the score of actor's metaperception (felt transparency) and observer's perception (actual transparency).

observer. Instead of using the whole scale and a 5-point Likert type scale, participants were asked to answer 15 items by yes or no.

Actor's questionnaire. For each image, the actor completed a questionnaire composed of 6 questions: two items assessing the intensity of his/her emotional state ("*have you felt disgust?*" and "*have you felt joy?*") and four items referring to metaperception of emotional states. Among those four items, two were designed to assess the extent to which they thought their facial expression showed disgust and joy ("*do you think that your facial expressions showed disgust?*" and "... *showed joy?*") and two items to assess the extent to which they thought his/her partner (the observer) would have detect his/her emotional state ("*do you think that your disgust was perceived by the observer?*" and "*do you think that your joy was perceived by the observer?*").

Observer's questionnaire. For his/her part, while the actor was filling out the 6 questions, the observer also answered 6 questions, with two items per dimension: observer's perception of actor's felt emotion ("*do you think that your partner felt disgust?*" and "*do you think that your partner felt joy?*"), observer's perception of actor' facial expression of emotion ("*did you perceive the disgust on the face of your partner?*" and "*did you perceive the joy on the face of your partner?*"), and finally, auto-evaluation of the observer' capacity to detect emotional state ("*do you think you can detect the disgust?*" and "*do you think you can detect the joy?*").

Third, → mécompréhension (self-other attribution) Once the task had been completed, both participants reported their demographics information.

Results

To test the hypotheses that narcissistic tendencies reduced the tendency to feel transparent whether the object of metaperception is positive or negative emotions and that

narcissistic tendencies may decrease the gap existing between felt and actual transparency, several scores were computed prior to statistical analysis.

Hence, for clarity purposes, the results are presented in four sections. The first and second section report the manipulation check and the methods used to compute the scores of felt, actual and illusion of transparency. The third section presents the results of regression analyses carried out to test the effect of narcissism on transparency. This section gathered three subsections: the impact of actors' narcissism on felt transparency, the impact of observer's narcissism on actual transparency and finally, the impact of actor's narcissism on illusion of transparency. The fourth section refers to the attribution style of the participants.

Manipulation check. The two first items of the actor's questionnaire (felt emotion) was used as a manipulation check regarding the primed emotion. As stated earlier for each image, whether categorized as a "disgust" image or a "joy" image, participants completed a questionnaire composed of 6 items, half of them referred to an emotion of disgust and the other to an emotion of joy. Thus, to test if participants actually felt the desired emotions (disgusted when viewing a disgusting image and happy in front of a joyful image), a score of felt emotion was computed for each participant and each image. For the 3 disgusting images, the score of felt emotion for joy was subtracted from the score of felt emotion for disgust (and the reverse for the three joyful images). A negative score would indicate that the participant did not feel the emotion he/she was supposed to feel. Since one of the purposes of Study 3 was to assess the effect of narcissism on metaperception both on positive and negative emotional states, it appeared crucial to control the emotions that actors felt during the task. Four actors reported to feel more joy than disgust when

visualizing the "disgust" or the reverse for at least one of the six images. Hence, four dyads were excluded from the sample before performing statistical analyses.

Dependent variables. Three scores of transparency were computed: felt transparency, actual transparency and illusion of transparency. Before computing each score, the difference between the scores on disgust and joy were also calculated for actor's metaperception of facial expression and for actor's metaperception of emotional state, as well as for observer's perception of actor's felt emotion, observer's perception of actor' facial expression of emotion. The method used was based on the manipulation check. Afterwards, actor's metaperceptions of facial expression and of emotional state, both for disgust, were summed up to create a global score of felt transparency on disgust. And, actor's metaperceptions of facial emotion and of emotional state, for joy this time, were summed up to create a score of felt transparency on joy. Regarding actual transparency, the same type of procedure was applied. Finally, a score of illusion of transparency was computed based on the difference between felt and actual transparency. The assumption behind this method was that illusion of transparency occurred when the score of felt transparency is greater than score of actual transparency.

Effects of narcissism on transparency

Effect of actor's narcissism on felt transparency (metaperception). Results showed that actor's level of narcissism had a negative impact on their metaperception. The more the actors reported narcissistic tendencies, the less they felt their emotion was

transparent to their partner, both when experiencing disgust ($b = -.72, SE = .43, t(56) = -1.67, p = .10$)⁶ and joy ($b = -1.02, SE = .40, t(56) = -2.52, p < .05$)⁷.

Effect of observer's narcissism on actual transparency. Observers' narcissism was a marginal predictor of actual transparency for disgust ($b = 1.12, SE = .58, t(56) = 1.92, p = .059$). The more the observers were narcissists, the more they reported to detect that the actor was feeling disgust ($b = .54, SE = .30, t(56) = 1.85, p = .070$) and their facial expression of disgust ($b = .57, SE = .30, t(56) = 1.90, p = .063$). However, for joy, narcissism was not significant ($b = -.35, SE = .46, t(56) = -.77, p = .443$)⁸.

Effect of actor's narcissism on illusion of transparency⁹. Illusion of transparency appeared to decrease when narcissistic tendencies increased. Indeed, the more actors displayed narcissistic tendencies, the more the gap existing between what actors think the observers have detected (felt transparency) compared to what the observers had actually detected (actual transparency) was small. This effect was observed both for disgust ($b = -1.16, SE = .65, t(56) = -1.80, p = .08$) and for joy ($b = -1.20, SE = .53, t(56) = -2.26, p < .05$).

⁶ Here are presented in more details the effect of narcissism on each score of metaperception on disgust: effect of narcissism on metaperception of facial expression of disgust ($b = -.32, SE = .23, t(56) = -1.43, p = .16$); effect of narcissism on metaperception of emotional state of disgust ($b = -.39, SE = .23, t(56) = -1.73, p = .09$).

⁷ Here are reported the effect of narcissism on each score of metaperception on joy: effect of narcissism on metaperception of facial expression of joy ($b = -.59, SE = .23, t(56) = -2.58, p < .05$); effect of narcissism on metaperception of emotional state of joy ($b = -.43, SE = .21, t(56) = -2.06, p < .05$).

⁸ The effect of observers' narcissism on actual transparency of emotional state of joy ($b = -.09, SE = .23, t(56) = -.37, p = .712$) and of facial expression of joy ($b = -.27, SE = .24, t(56) = -1.11, p = .274$) were not significant.

⁹ Because each actor was paired to one observer, paired t test were carried out to test the existence of the illusion of transparency before testing the effect of narcissism on illusion of transparency. The results showed that actors tended to overestimate the extent to which the observers detected their emotions both for disgust ($t(57) = 3.94, p < .01$) and joy ($t(57) = 5.74, p < .01$) which support the existence of the phenomenon.

Attribution style and illusion of transparency. [Include a period at the end of a run-in heading. Note that you can include consecutive paragraphs with their own headings, where appropriate.]

Discussion

Study 3 showed that narcissism decreased felt transparency, that narcissism predicted the level of felt transparency both for disgust and joy (emotions with positive and negative valence). This is consistent with Study 1 and Study 2, since it showed that, once again, narcissism was negatively associated to felt transparency. Going further, it also showed that whether for positive or negative emotions, narcissism decreased felt transparency. Moreover, by using pictures of the IAPS, the method used in Study 3 was based on validated and reliable materials that have been proven to affect individuals' emotional state.

Moreover, results showed that the more actors were narcissistic, the less illusion of transparency occurred. Observers' narcissism did not affect illusion of transparency. It is important to note that actors did not underestimate their transparency. Instead, the more they were narcissistic, the less they overestimated their transparency.

The limitation on which we have to draw attention concerns the instructions given to the dyads of participants. For instance, actors were asked to conceal their emotions to their partner. While their partner (the observer) had to detect the emotional state of the actors. Given this instruction, actors' narcissism may have decrease their felt transparency. The actor would not report that the observer was able to detect his/her emotions since it would support that he/she would have fail to conceal his/her emotions.

General discussion

The results of the present studies indicate that the more individuals are narcissistic, (1) the less they feel transparent, (2) the less their metaperception is egocentric. Study 2 goes further by showing that narcissistic tendencies diminish individuals' tendency to feel transparent towards someone else and that this relationship may depend on the context (whether individuals feel close to Person X, *felt proximity*, or whether narcissistic characteristics are valorised or not, *condition*). Study 2 also suggests that self-monitoring may explain the negative association observed between narcissism and metaperception. As expected due to lower level of felt transparency and egocentric metaperception, Study 3 shows that narcissism decreases the tendency to overestimate their transparency.

The results obtained through three studies indicate that narcissism was negatively associated to felt transparency. This relationship appeared to be contingent to the situation. For instance, in a context that emphasizes the merits of being narcissists (valorisation condition), individuals who reported more narcissism tend to feel less transparent. The negative link existing between narcissism and metaperception, as well as the link between narcissism and egocentric metaperception, appears to be partially explained by self-monitoring. This observation fits with the idea that narcissistic individuals seek to develop rewarding relationships to supply their need of admiration and attention. And, to do so, they have to be socially skilled and to be able to observe and adapt their behaviour to elicit specific reactions and interactions (e.g., Emmons, 1984; Rauthmann, 2011; Campbell & Green, 2013). Due to their motives to develop "self-enhancing" relationships, narcissists tend to take more into account both their self and others perception (Albright & Malloy,

1999) and even more, when they need to develop accurate metaperception (e.g., Albright et al., 2001; Hu, Kaplan, Wei, & Vega, 2014; Yun, Takeuchi, & Liu, 2007).

The observed pattern of felt transparency and egocentric metaperception with regards to narcissism lead us to hypothesize that narcissism would decrease the occurrence of illusion of transparency. Our results are consistent with this. For instance, we observed that the more the actors were narcissistic, the less they expected the observers to detect their internal states (felt transparency). Moreover, the more they were narcissistic, the less they overestimate that the observers would detect their internal states in comparison to their actual transparency. Two explanations may be proposed with regards to this. The first explanation is that narcissists have once again motives to develop accurate metaperception which lead them to take into account more than what they feel (Hu et al., 2014, Albright, Forest, & Reiser, 2001; Albright & Malloy, 1999). The second explanation, linked to the first one is that when individuals face their observers, they have access to other based information. And because they had access to social feedback, they were able to adapt their metaperception. However, whether individuals had access to direct social feedback (cf. Study 3) or not (cf. Study 1 and Study 2), they were less subject to the illusion of transparency.

Limitations and future direction

This research has some limitations. The first limitation concerns characteristics of the sample, namely its size, its social status and its gender repartition. The number of participants who took part in Study 1 ($n= 73$) and Study 2 ($n = 121$) was small. Moreover, the sample was only composed of students. Finally, the sample of Study 1 gathered a

sampled composed mostly of women. A small sample only composed of students and with uneven repartition of gender limits potentially the generalizability of the findings.

The second limitation refers to the design used to valorize or not narcissism. Concerning the manipulation of valorisation of narcissism, the results concerning the condition control of Study 2 compared to the results of Study 1 are quite puzzling. Indeed, the results of the condition control of Study 2 did not replicate the association between narcissism and metaperception found in Study 1. These discrepancies may be explained by the design of the experimentation. With the aim to manipulate the perception of narcissism, two texts were developed to prime the participants with positive perception of narcissism (valorisation condition) or not (control condition). Participants from the control condition were expected to exhibit felt transparency as a function of narcissism like the participants from Study 1. However, the reversed pattern was observed: participants in the control condition who appeared more narcissistic tend to feel more transparent toward Person X, whereas, in Study 1, the more participants reported being narcissistic, the less they tend to feel transparent. One possible explanation of this difference may reside in the construction of the valorisation and control conditions. Even if the vignette from the control condition did not refer neither to perception of the self, it may highlight collectivist tendencies by narrating how a group of scientists made a stand against a corporation for the greater good. Hence, the control condition may not be comparable to Study 1 since it may prime the participants with collectivist values (the common good over personal gain) and interdependent view of the self, whereas the valorisation condition may trigger independent view of the self (Markus & Kitayam, 1991). If we accept the postulate that in Europe, individualistic tendencies are more current than collectivist ones, results from Study 1

should be more consistent with the valorisation condition than with the control condition. In other words, the control condition did not replicate the results of Study 1 since it referred to interdependent orientation in a context where independent tendencies are predominant. Another argument consistent with this interpretation is the evidence that under the control condition, participants that showed highest rate of narcissism tend to feel more transparent. This finding is consistent with a study showing that horizontal collectivism was positively associated with transparency overestimation (Vorauer & Cameron, 2002). In short, the control condition may have primed participants with interdependent tendencies instead of being a “real” control condition. Furthermore, the manipulation of the perception of narcissism was indirect. Future research should trigger directly narcissistic tendencies such as selfie taking behaviours or social media usage. In this perspective, the experimental should include 3 conditions: selfie, landscape and control condition. By doing so, the experimental design would allow better comparison between valorisation or not of narcissism and a control condition. In this case, we would expect to observe the same pattern of results in Study 1 and in the “new” control condition.

The third limitation concerns the valence of the items. No distinction was made between desirable and undesirable characteristics, whether for emotions, behaviours or values. Narcissistic tendencies are characterized by the tendency to develop utterly positive self-views and to avoid negative feedback. Hence, in addition of the self-serving bias (Campbell & Sedikides, 1999; Sedikides & Gregg, 2003), the link narcissism-metaperception may depend upon the valence of the items. To differentiate the effects of desirable and undesirable dimensions of metaperception, another group of participants could be asked to rate the valence of the items used in this study. Afterwards, new analyses

would be carried to test the pattern of biases in metaperception based on the valence of the items. Narcissists may feel misunderstood (Carlson et al., 2011), narcissists may underestimate their transparency to others. The assumption would be that narcissistic individuals may emphasize self and metaperception of positive and overestimate the transparency of these characteristics while they would underestimate the transparency of undesirable characteristics.

Conclusion

Narcissism and egocentrism are frequently associated, whether regarding their own self or their perception of others. Previous studies indicate that narcissism is linked to self-knowledge but also to social skills. The current paper brings evidence that narcissism is not necessarily linked to a more egocentric type of perception. More particularly, two studies indicate that narcissistic individuals may display less egocentric metaperception than non-narcissistic individuals.

Whether holding to one approach of the other, there is a consensus about the fact that narcissistic characteristics are associated to a complex pattern of manifestations, even paradoxical regarding their interpersonal styles. This research shed light on the role played by narcissism in the development of metaperception, and by extent in their counter intuitive manners regarding their social life. Actually, in this paper, narcissism is neither associated to good nor bad outcomes but studied through a new scope.

Narcissists may feel misunderstood, quite 'opaque' to others instead of transparent. To get a better understanding of the paradoxical trend observed in narcissists' relations, we need to assess the illusion of transparency to get a better understanding of the mechanisms, the role

of metaperception in self-perception among narcissists and non narcissists, and their motives.

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Footnotes

¹ The original study comported 6 parts. In the sixth part, participants had to answer a questionnaire that assessed their level of emotional competence (Profile of Emotional Competence, PEC; Brasseur, Grégoire, Bourdu, & Mikolajczak, 2013). The PEC scale consisted of 50-items on a 5-point scale including statements like *'if I wanted, I could easily influence other people's emotions to achieve what I want'*; *'most of the time I understand why people feel the way they do'*; *'if I dislike something, I manage to say so in a calm manner'*.

² Another measure of felt proximity was included in Study 1: Inclusion of Others in Self scale (IOS; Aron, Aron & Smollan, 1992). For the IOS scale, participants had to choose one among six Venn diagrams that represents best the level of self-other overlap. Participants 6 that described best their relationship with 'person X'. The effect of this variable on the dependent variables was not significant.

³ In addition of the NPI-40 (NPI; Brin, 2011; Raskin & Terry, 1988), a subscale of the Dark Triad Dirty Dozen designed to assess narcissism was also used (Dark Triad Dirty Dozen, Jonason & Webster, 2010). Participants used a 7-point Likert scale to indicate if they agreed with 4 statements. Items included sentences like "I tend to want others to admire me" or "I tend to expect special favour from others".

⁴ The same pattern of results was obtained when assessing the effect of narcissism on egocentric metaperception mediated by self-monitoring, moderated by valorisation. Results indicated that the interaction self-monitoring x valorisation was a marginal predictor of egocentric metaperception, $b=-0.34$, $SE=$, $t(115)=-1.71$, $p=.09$ while the interaction valorisation x narcissism became a significant predictor of egocentric

metaperception, $b=-0.49$, $SE=$, $t(115)=-2.18$, $p<.05$. When both interactions were added in the model predicting egocentric metaperception, the effect of the interaction narcissism x valorisation was smaller and became marginal. These results suggested that self-monitoring mediated partially the effect of narcissism on egocentric metaperception.

⁵ Differential Emotions Scale IV. The French version of the Differential Emotions Scale IV originally designed to evaluate how participants experiments emotional states (DES-IV; Ricard-St-Aubain, Philippe, Beaulieu-Pelletier, & Lecours, 2010) was used here to prime feeling of similarity between actor and observer. Instead of using the whole scale and a 5-point Likert type scale, participants were asked to answer 15 items by yes or no.

⁶ Because each actor was paired to one observer, paired t test were carried out to test the existence of the illusion of transparency before testing the effect of narcissism on illusion of transparency. The results showed that actors tended to overestimate the extent to which the observers detected their emotions both for disgust ($t(57)= 3.94$, $p < .01$) and joy ($t(57)= 5.74$, $p < .01$) which support the existence of the phenomenon.