Original Article

# Hostile Attribution Biases in Vulnerable Narcissists Depends on the Socio-Relational Context

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**Abstract:** Narcissism, especially the vulnerable kind, is associated with anger and hostility. In a sample of outpatients, group psychotherapy ($N$ = 74) and community members ($N$ = 153), we replicated and extended previous work linking vulnerable, but not grandiose, narcissism to hostile attributions across different socio-relational contexts. We also examined if the level of ambiguity of social situations, assessed from the other-referent position, influences the relationship between vulnerable narcissism and attributing hostile intentionality, and whether narcissistic individuals distinguish hostile interpretations, depending on the level of ambiguity of the scene. In ambiguous vignettes, assessed from the self-referent position, higher levels of vulnerable narcissism were associated with a greater tendency to infer more attributions of hostile intentions with people with whom there was no close relationship (except for authority in the patient group). In the case of visual scenes, the positive relationship between vulnerable narcissism and attributed hostile intentionality appeared in accidental scenes, but not in hostile and ambiguous ones. In addition, the higher the vulnerable narcissism the lower the ability to differentiate between contextual nuances (e.g., the level of ambiguity). We replicated previous research indicating a relationship between vulnerable narcissism and hostile attribution bias, but shed new light on the phenomenon of this bias in that it appears to depend on the socio-relational context and the level of ambiguity of the situation.

**Keywords:** vulnerable narcissism, grandiose narcissism, hostile attributions, socio-relational context, psychotherapy group

Narcissistic people are characterized by a sense of superiority, the need to be admired by others, and a lack of empathy (Czarna, 2011). Unsurprisingly, these people tend to also engage in various forms of antisocial behaviors like aggression (Kernberg, 1975; Rasmussen, 2016) and cruelty (Wink, 1991). For instance, they exhibit "narcissistic rage," an explosive mixture of anger and hostility common in ego-threatening situations (Krizan & Johar, 2015) which are often fueled by a disrupted self-image (Kohut, 1972). However, narcissism is not a homogeneous construct, and its various forms are distinguished, for example, by grandiose (aka, overt) and vulnerable (aka, covert) narcissism (Miller et al., 2011, 2013; Pincus & Lukowitsky, 2010; Wink, 1991). Most of the unfavorable and socially undesirable features of narcissism may stem from an inferiority complex in what is called vulnerable narcissism (Miller et al., 2011; Wink, 1991). This form of narcissism is derived from an elevated level of neuroticism, based largely on anxiousness along with threatening and hostile perceptions of reality (Czarna et al., 2019; Dickinson & Pincus, 2003; Miller, et al., 2018). In contrast, grandiose narcissism positively

correlates with extraversion, while negatively correlates with neuroticism and agreeableness (Miller et al., 2010, 2011). It is characterized by increased self-esteem, a demanding attitude, and the need to be admired (Dickinson & Pincus, 2003; Wink, 1991). It is also associated with a reduced level of (declared) loneliness or depression, and, therefore, leads to (reported) positive affective states (Sedikides et al., 2004). Both forms of narcissism are associated with aggression; grandiose with proactive and reactive aggression, and vulnerable with reactive (Vize et al., 2019). However, only the second type of narcissism is connected to internal aspects of aggression (Czarna et al., 2019). Unlike grandiose narcissism, vulnerable narcissism appears to be a defensive attitude leading to a heightened sense of hostility from others which often leads to anger (Krizan & Johar, 2015; Wink, 1991). One interesting psychological bias that may be associated with vulnerable narcissism but not grandiose narcissism and potentially at the heart of the psychosocial dysfunctions of people characterized by the former is an over-perception of hostile intentions in others (Hansen-Brown & Freis, 2021). That is, they may

have a hostile attribution bias which leads them to view others and situations as threatening, to react defensively, and engendering rejection and worse from others, all of which create a negative feedback loop. This negative feedback loop may be part of (1) the resistance to treatment characteristic of narcissistic personality disorder (Scheff, 1987; Tangney et al., 1996) and (2) common perceptions around the issues with narcissists (Krizan & Herlache, 2018). Therefore, we predict that vulnerable but not grand-iose narcissism will be associated with hostile attribution of intent.

Prior research has confirmed this hypothesis (Hansen-Brown & Freis, 2021) but was limited in several ways. First, as it is common in personality research, the effects have been documented in college students, who experience various types of mental problems (Tosevski et al., 2010), however, clinical populations (e.g., patients) present them to a greater extent (Zajenkowska et al., 2019). Second, there has been an (over)reliance on vignette-based methods that frame the process in a potentially problematic, self-referential way (Jahoda et al., 2006). Furthermore, vignette methods might not factor analysis well as they do not load on a single latent dimension (Zajenkowska et al., 2018). This leads to the third limitation; authors often assume there exists a hostile attributional style akin to a personality trait (Cutrona et al., 1984). Meanwhile, attributions of hostile intent can be sensitive to the socio-relational context (Basquill et al., 2004; Cutrona et al., 1984; Jahoda et al., 2006; Wilkowski et al., 2007; Zajenkowska et al., 2018; Zajenkowska & Rajchert, 2020). This context is differenti-ated among many by several factors including (1) the rela-tionship described in the stimuli (e.g., friend vs. stranger), (2) the level of provocation/hostility described in the situa-tion (e.g., hostile vs. accidental), and assessment perspective (e.g., self-referent position vs. other-referent position). Therefore, we verify if vulnerable narcissism is associated with a greater tendency to make hostile attributions (i.e., ascribe greater intent and blame to the perpetrator and declare angry feelings) depending on the type of relationship in a particular event and the relative ambivalence of the threats. We do so in samples of clinical patients and commu-nity members. Vulnerable narcissism is associated with many clinically relevant criteria of psychopathology, such as interpersonal guilt, maladaptive defense mechanisms, low self-esteem, or reduced psychological well-being (Kaufman et al., 2020). We also test whether the strength of the correlation between vulnerable narcissism and hostile attributions is greater in the clinical sample than in the community sample.

We use two different methods of assessing individual differences in attributed hostile intentions. The first method is based only on ambiguous stimuli (i.e., unclear, which could be interpreted as both hostile and non-hostile). The second method contains hostile, ambiguous, and non-hostile stimuli, which allows us to check whether people with a high level of vulnerable narcissism generally differ-entiate their causal attributions depending on the ambiguity level of the scene.

A long-held idea regarding narcissism is that they are hostile people (Krizan & Johar, 2015). Underneath such hostility might be a tendency to misread social situations such that narcissistic people see threats most people do not see. However, theoretically, this assertion is limited because narcissism is not always associated with hostility when considering nuanced views of the trait that include the grandiose and vulnerable distinction (Dickinson & Pincus, 2003; Sedikides et al., 2004; Wink, 1991). There-fore, in this study, we attempt to replicate (Hansen-Brown & Freis, 2021) and extend work on how these two traits are related to individual differences in hostile attributions of intent. Importantly, we add some sampling heterogeneity to a field that tends to rely on college students; in Sample 1 we collect data from community members engaged in group psychotherapy.

# Method

## Participants and Procedure

We collected two samples: A clinical ($N$ = 74; 52 women; $Range_{Age}$ = 19–59, $M_{Age}$ = 34.43, $SD_{Age}$ = 8.72) and a non-clinical ($N$ = 153; 97 women; $Range_{Age}$ = 18–49, $M_{Age}$ = 25.35, $SD_{Age}$ = 5.50) group of volunteers.[1] Both samples came from a large, Central European city; most of whom from Sample 1 had a higher degree ($n$ = 47) and were single ($n$ = 32) and most of whom from Sample 2 were university students ($n$ = 83) and were single ($n$ = 80). Sample 2 partic-ipants were recruited via social media or asked directly by investigators in their community to partake in a larger study in a designated room in a university. Sample 1 involved people in an outpatient, group therapy practice who were seeking therapy for interpersonal, affective or anxiety

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[1] We originally collected data from 89 participants but 15 needed to be eliminated for problematic gaps in the data. No participants were excluded from Sample 2. Based on the correlations ($r$ = .25) reported previously (Hansen-Brown & Freis, 2021), we aimed for at least 80% power with a 5% error rate; therefore, we needed to recruit at least 120 participants. This was unfeasible in Sample 1 given the nature of the group. However, in the case of specific samples (e.g., offenders) such a number of participants should still allow us to detect group differences in narcissism because the effects are expected to be larger in clinical groups (e.g., Hepper et al., 2014).

disorders, and personality disorders.[2] Patients were recruited to participate during one-on-one consultations with their therapist, before starting therapy. Individuals with a history of psychosis were excluded a priori. Participants completed the prepared set of questionnaires after the first group session and after the last group session because the study was part of a larger project focused on changes in hostile attributions after group psychotherapy. However, in the present study, we analyzed only answers from the first measurement. Most of the patients completed their questionnaire alone in a group setting where the researcher, not the therapist, was present in the room. In both samples, all participants were assured of the anonymity/confidentiality of their participation, provided informed consent, and were debriefed and thanked for their participation. The study was conducted by the established ethical guidelines and received approval from the hospital authorities.

## Measures

In both samples, to measure hostile attributions, we used the Polish translation (Zajenkowska et al., 2018) of the Ambiguous Intentions and Hostility Questionnaire (AIHQ; Combs et al., 2007). Participants were asked to assess whether the other person/s acted on purpose (1 = *definitely no*; 6 = *definitely yes*), how angry it made them feel (1 = *not angry*; 5 = *very angry*), and how much they blamed the other person/s (1 = *not at all*; 5 = *very much*) with five hypothetical, ambiguous situations, that involve a range of social relationships, including a new "co-worker," "an authority figure," "strangers," "an acquaintance," and "a friend." Descriptions of the vignettes are included in the Appendix. The scoring of the AIHQ often consists of summing blame, intentionality, and anger, resulting in one index of hostile attribution across the five scenarios (Combs et al., 2007). This approach reflects the strong inter-correlation between blame, intentionality, and anger (all $r$'s > 70; Combs et al., 2007). However, the AIHQ may include five indices of hostile attributions (one for each of the scenarios, reflecting differences as a function of social relatedness) rather than simply one general hostile attributions dimension, as indicated by previous studies (Zajenkowska et al., 2018). Therefore, we calculated five situational hostile attributions as a mean composite scores of the three questions regarding blame, anger, and intentionality per situation (Coworker $\alpha_{Sample1}$ = .83, $\alpha_{Sample2}$ = .86; Authority $\alpha_{Sample1}$ = .83,

$\alpha_{Sample2}$ = .81; Strangers $\alpha_{Sample1}$ = .86, $\alpha_{Sample2}$ = .85; Acquaintance $\alpha_{Sample1}$ = .80, $\alpha_{Sample2}$ = .81; Friend $\alpha_{Sample1}$ = .91, $\alpha_{Sample2}$ = .90).

In Sample 2, in addition to the above method, we also used a scene rating task to measure hostile attributions (Wilkowski et al., 2007; Zajenkowska & Rajchert, 2020), which contained 99 pictures presented on a computer monitor. Participants were asked to rate the extent to which the depicted harm was intentional (1 = *not intended at all*; 9 = *intended*). Each scene was created in three versions: presenting (1) unambiguously hostile behavior between two men/women, (2) unintentional event, and (3) ambiguous event (i.e., some aspects indicated hostile behaviors, and some indicated unintentional ones). In the first version (i.e., unambiguous), all cues suggested hostile behavior of one of the actors (e.g., facial expression and hand/leg direction in the first picture of Figure 1). In the second version, all cues suggested an unintentional situation (e.g., second situation in Figure 1). The ambiguous version included some aspects (e.g., hand/leg direction) indicating hostile behavior and some indicating unintentional behavior (e.g., facial expression: see the third picture in Figure 1). Scenes were prepared about everyday situations and depicted adults only. To create a total score of hostile attribution bias for each type of scene, we averaged the responses separately for Hostile (α = .84), Non-Hostile (α = .87), and Ambiguous (α = .69) scenes.

In both samples, to measure vulnerable narcissism, we used the Polish translation (Czarna et al., 2014) of the 10-item Hypersensitive Narcissism Scale (HSNS; Hendin & Cheek, 1997). Participants were asked for their agreement (1 = *strongly disagree*; 5 = *strongly agree*) with items like "I easily become wrapped up in my own interests and forget the existence of others" and "I am secretly 'put out' when other people come to me with their troubles, asking me for my time and sympathy." In both samples, we averaged participants' ratings to create a score of vulnerable narcissism (Cronbach's $\alpha_{Sample1}$ = .77, $M$ = 3.40, $SD$ = 0.60; $\alpha_{Sample2}$ = .71, $M$ = 2.91, $SD$ = 0.55).

In both samples, to measure grandiose narcissism, we used the Polish translation (Banaśkiewicz-Bazińska & Drat-Ruszczak, 2000) of the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979; Raskin & Terry, 1988) where participants were asked to rate how much (1 = *not all like me*; 5 = *it is highly like me*) 34 items described them (e.g., "I have a natural talent for influencing people" or "I like to show my body").[3] In both samples, we averaged participants' ratings to create a score of grandiose

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[2] We wanted to include patients from the same clinic to avoid confounding factors. Because the groups were limited to no more than 12 patients over 3 months, usually no more than two groups were conducted simultaneously.

[3] The Polish version of the NPI questionnaire differs from the original in terms of the number of items (40 in the original) and the response format (dichotomous in the original), the reasons for these changes are described by the authors of the adaptation (Banaśkiewicz-Bazińska & Drat-Ruszczak, 2000).
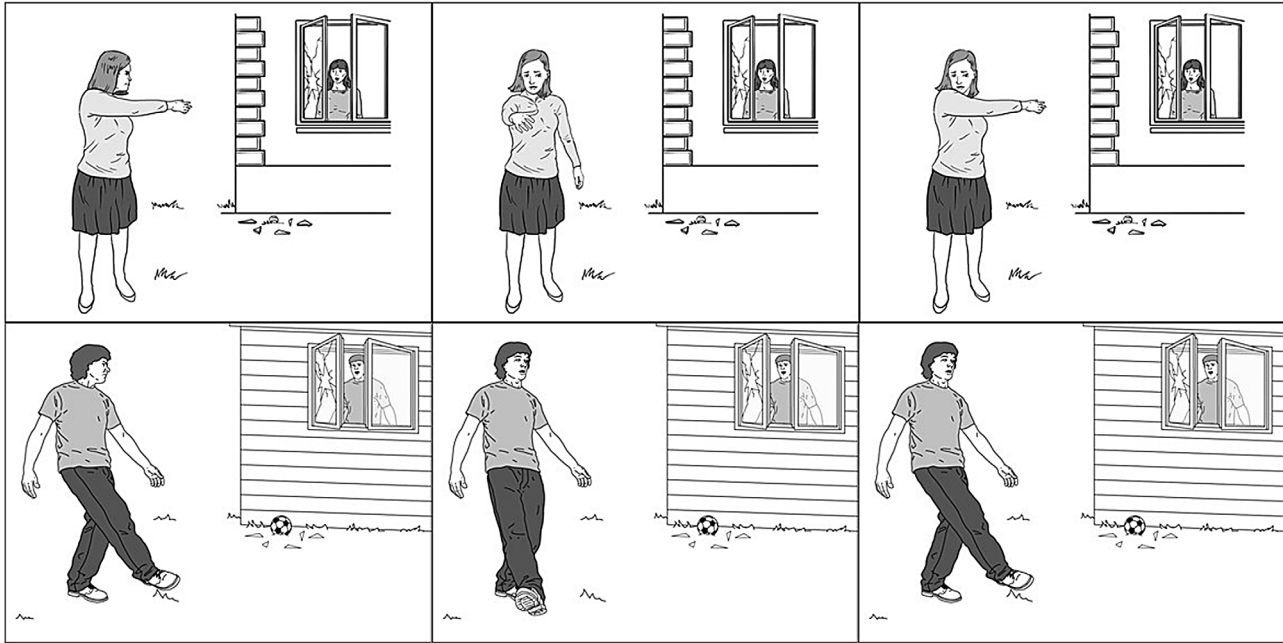
**Figure 1.** Examples of scenes with male and female actors used in tasks to measure hostile attributions (Wilkowski et al., 2007; Zajenkowska & Rajchert, 2020).

narcissism ($\alpha_{Sample1}$ = .85, $M$ = 2.42, $SD$ = 0.70; $\alpha_{Sample2}$ = .93, $M$ = 3.01, $SD$ = 0.59).[4]

## Results

All analyses were performed in IBM SPSS 26.0.01 for Windows. To verify the relationship between vulnerable narcissism and the tendency to make hostile attributions, we checked the bivariate correlations, however, we were interested in dependence on the socio-relational context, thus we examined correlations separately for each situation. In Table 1, we present descriptive statistics for the hostile attributions and correlations between those attributions and narcissism. In Sample 1 (top panel), vulnerable narcissism was positively correlated with a hostile attribution bias for an encounter with a coworker, acquaintance, and a stranger only. In Sample 2 (bottom panel), vulnerable narcissism was positively correlated with a hostile attribution bias across all situations except for the one with a friend. The correlations between both types of narcissism and hostile attributions measured with AIHQ were retrieved from two different samples, therefore, we examined them

against each other using a Fisher's $z$-test (Eid et al., 2011), revealing no differences in the strength of the correlations between patients and community participants ($z$'s = −0.57 to 0.84).

In Sample 2 we also investigated correlations between hostile attributions and the type of scene, vulnerable narcissism was correlated with a greater ascription of intentionally but only in non-intentional scenes (i.e., they perceived hostile intent where none should exist). To demonstrate this result more clearly and examine whether the intentionality attributed in different types of scenes depends on the level of vulnerable narcissism, namely whether vulnerable narcissism predicts the difference between scenes (e.g., Intentionality in Hostile Scenes – Intentionality in Non-Hostile Scenes), we conducted a multiple moderation test with 5,000 bootstrapped samples using MEMORE V2.1. macro (Montoya, 2019). It permits the comparison between two the measurements, hence, we created three models (Hostile – Ambiguous; Hostile – Non-Hostile; Ambiguous – Non-Hostile). In each model, vulnerable narcissism was included as a moderator. There was no moderation for the first model (Hostile – Ambiguous; $F[1, 151]$ = 0.29, $p$ = .59). We did, however, find moderation for the Hostile – Non-Hostile ($F[1, 151]$ = 5.65, $p$ = .02) and

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[4] In Sample 1, both forms of narcissism were uncorrelated ($r$ = .07, $p$ = .54), however, there was a significant difference in their severity ($t[73]$ = 9.44, $p$ < .01), vulnerable narcissism was greater ($M$ = 3.40, $SD$ = 0.60) than grandiose narcissism ($M$ = 2.42, $SD$ = 0.70). In Sample 2, both forms of narcissism were also uncorrelated ($r$ = −.02, $p$ = .86) and there was no differences in their intensity ($t[153]$ = 1.55, $p$ = .12).

**Table 1.** Descriptive statistics and correlations between individual differences in hostile attributions and grandiose (NPI) and vulnerable (HSNS) narcissism in Sample 1 and 2

| | | *r* | |
|---|---|---|---|
| | *M (SD)* | NPI | HSNS |
| Sample 1 (*N* = 74) | | | |
| Coworker | 2.89 (1.11) | −.11 | .27* |
| Authority | 3.27 (0.99) | .09 | .14 |
| Strangers | 2.90 (1.25) | −.23† | .32** |
| Acquaintance | 3.19 (0.98) | .12 | .37** |
| Friend | 2.61 (1.15) | .13 | .15 |
| Sample 2 (*N* = 153) | | | |
| Coworker | 2.51 (1.06) | .09 | .25** |
| Authority | 3.03 (0.98) | .12 | .22** |
| Strangers | 2.11 (1.05) | −.14 | .29** |
| Acquaintance | 2.86 (1.01) | .14 | .28** |
| Friend | 2.30 (1.19) | .03 | .03 |
| Ambiguous | 5.60 (0.66) | .08 | .02 |
| Hostile | 7.40 (0.73) | .06 | −.02 |
| Non-Hostile | 3.41 (1.05) | −.06 | .23** |

*Note. M* = Mean; *SD* = Standard Deviation; NPI = Narcissistic Personality Inventory; HSNS = Hypersensitive Narcissism Scale. †$p \leq .10$; *$p \leq .05$; **$p \leq .01$.

**Table 2.** Vulnerable narcissism (HSNS) as a moderator of the relationships between type of scenes and intentionality

| | *B (SE)* | LLCI (95%) | ULCI (95%) |
|---|---|---|---|
| HSNS | | | |
| Hostile − Non-Hostile | −0.46 (0.19)* | −0.84 | −0.78 |
| Ambiguous − Non-Hostile | −0.41 (0.14)** | −0.68 | −0.13 |
| Low (*M* = 2.36) | | | |
| Hostile − Non-Hostile | 4.24 (0.15)** | 3.94 | 4.53 |
| Ambiguous − Non-Hostile | 2.41 (0.11)** | 2.20 | 2.62 |
| Medium (*M* = 2.91) | | | |
| Hostile − Non-Hostile | 3.99 (0.11)** | 3.78 | 4.20 |
| Ambiguous − Non-Hostile | 2.19 (0.08)** | 2.04 | 2.34 |
| High (*M* = 3.45) | | | |
| Hostile − Non-Hostile | 3.74 (0.15)** | 3.44 | 4.03 |
| Ambiguous − Non-Hostile | 1.96 (0.11)** | 1.75 | 2.18 |

*Note.* Each level is a ratio of the difference between the intentionality assigned in a particular type of scene. *B* = Unstandardized Beta; *SE* = Standard Error; LLCI = Lower Limit of the Confidence Interval; UPCI = Upper Limit of the Confidence Interval; HSNS = Hypersensitive Narcissism Scale. *$p \leq .05$; **$p \leq .01$.

the Ambiguous – Non-Hostile models ($F$[1, 151] = 8.66, $p$ = .01) where the former accounted for 3% of the variance and the latter accounted for 5% of the variance. In both cases, vulnerable narcissism moderated the relationship between scene-type and assigned intentionality (Table 2). Post hoc tests indicated that less intentionality was attributed to the Non-Hostile scenes; however, the higher the level of vulnerable narcissism, the smaller the difference between the scenes (Figure 2).

# Discussion

In this study, we aimed to investigate whether the relationship between vulnerable narcissism and the tendency to make hostile attributions depended on the socio-relational context of the situation. We also examined if the level of ambiguity of social situations, assessed from the other-referent position, influenced the relationship between vulnerable narcissism and attributing hostile intentionality.
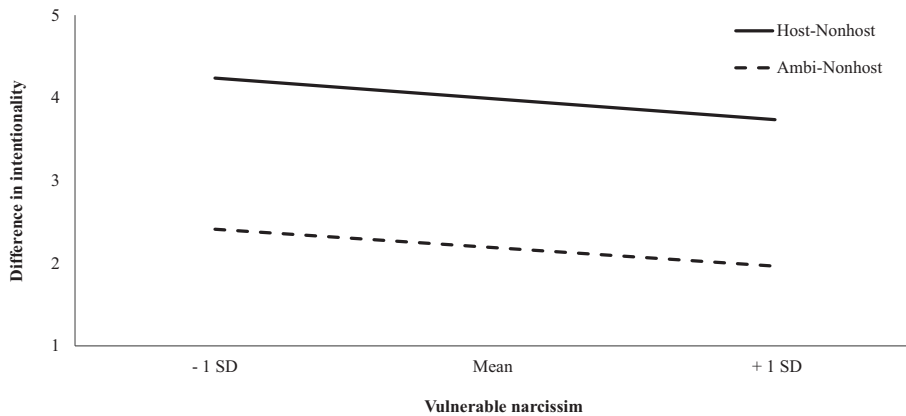
**Figure 2.** Vulnerable narcissism as a moderator of differences in ascribed intentionality across scene types.

Furthermore, we added some sampling heterogeneity to the field of research on hostile attributions, collecting data from community members engaged in group psychotherapy.

We have largely replicated associations between vulnerable narcissism, but not grandiose narcissism, and hostile attributions, the former of which can be destructive to social interactions (Hansen-Brown & Freis, 2021). Both forms of narcissism lead to interpersonal difficulties, but the sources of these problems are different (Miller et al., 2010). While in grandiose narcissism, disagreeable behaviors towards others result from instrumental motivations (e.g., profit, domination), in the case of vulnerable narcissism, such behaviors result from disagreeableness, stable negative emotionality, and a lack of trust, which increases hostility towards others (Miller et al., 2010, 2018). In general, the current results confirm those obtained earlier, however, they show that these well-described regularities are not fully consistent across situations.

We found that in both clinical and community populations, higher levels of vulnerable narcissism were associated with a greater tendency to infer more hostile intentions in others. Importantly, however, this relationship was absent in the situation with a friend. Friendship is an important kind of relationship for people; perhaps humans naturally look for non-personal, accidental reasons for the behavior of a friend to protect this bond and the self. Vulnerable narcissists could be particularly motivated to do it for fear of rejection. Interestingly, in the clinical group, there was no connection between vulnerable narcissism and hostile attributions bias in the situation with authority. In this item, authority is defined as an "important person," perhaps narcissistic patients have identified with this person, so they have not assessed their actions as hostile. We also verified if there are differences in the strength of the correlation between people from the community and patients who have problems in relationships, which is characteristic of an increased level of vulnerable narcissism, however, we found

no differences. The narcissistic personality is dimensional, but in extreme cases, it leads to disordered behaviors (Krizan & Herlache, 2018). In our study, the groups differed in the pattern of the severity of narcissism – the clinical sample had higher levels of vulnerability than grandiose narcissism, while there were no differences in the non-clinical group. Such comparisons are not the purpose of our work here, thus we discuss them with caution. Nevertheless, in subsequent studies, it will be worth verifying whether the imbalance between the two types of narcissism is responsible for interpersonal problems among patients, especially because grandiose narcissism could be conducive to mental health (Kaufman et al., 2020; Sedikides et al., 2004). The need to clarify the within-person dynamics of both types of narcissism was reported in previous works (Wright & Edershile, 2018).

Lastly, we found that vulnerable narcissism was linked to the greater intentionality attributed to actors in non-violent scenes, but not in hostile and ambiguous ones. This result was further expanded by the analysis which showed that individuals with higher levels of narcissism were less likely to differentiate intentionality by scene-type, particularly between Non-hostile scenes (those containing no hostile cue) and Ambiguous or Hostile scenes. It is interesting because an attributional bias primarily occurs in ambiguous social situations (Waas, 1988). That is, in weak situations personality traits take center stage in predicting behaviors. The fact that for people with higher levels of vulnerable narcissism, this bias appears in scenes without hostile cues might indicate a "hypersensitivity" of vulnerable narcissists to perceive threats when others do not see them. Our research, although largely confirming previous results, focuses on the social-relational context (Zajenkowska et al., 2018). Even a vulnerable narcissist may not be sensitive to hostile cues in their relationship with a friend, but when observing social situations from the other-referent position, they may notice hostility even if nothing or no one points to it.

## Limitations and Conclusions

Despite the heterogeneity of the samples and the style of assessment of attributions of hostile intent, our study is limited in several ways. First, both samples were problematic: they are somewhat WEIRD (Henrich et al., 2010), imbalanced regarding the participant's sex, they may be contaminated by volunteer bias, and were small given modern standards (Gignac & Szodorai, 2016; Schönbrodt & Perugini, 2013) despite basing our sample sizes on previous research (especially for Sample 1). Second, while we used two different methods of assessing hostile attributions, other methods may be useful. For instance, a recently developed method to assess the perceptions people have of situations was created that relies on situational affordances (Rauthmann & Sherman, 2016). One of those situational perceptions may be relevant here in the form of adversity. However, across two measurement models of narcissism, the researcher did not find a relationship with individual differences in viewing the situations as containing adversity (Jonason & Sherman, 2020; Zajenkowski et al., 2020), however, this work may be capturing grandiose more than vulnerable narcissism. Despite these limitations, we have replicated and extended work suggesting a key difference between vulnerable and grandiose narcissists is that the former see the world and others as more hostile (Hansen-Brown & Freis, 2021).

Of all personality traits under investigation, narcissism has one of the longest research traditions reaching as far back as at least Freud (see Kohut, 1972) if not to the Greek myth from which its name comes from of the man – *Narcissus* – who fell in love with his reflection and then fell to ruin. Traditionally, the trait has been studied solely as a singular pathology, but modern research says there might be two sides of this man (or person): one grandiose and one vulnerable (Dickinson & Pincus, 2003; Sedikides et al., 2004; Wink, 1991). In this study, we add to this modern research tradition, suggesting only one of these faces of *Narcissus* is linked to a tendency to see the others in hostile ways. It was vulnerable, and not grandiose, narcissism that showed any real associations with global hostile attributions of the intentions of others, but these were sensitive to the target in the vignette- or image-stimuli we used. What is called for now, is more research to determine what are the situational and relationship cues – if any – that moderate this hostile bias in vulnerable narcissists.

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# Appendix

## Ambiguous Intentions and Hostility Questionnaire (AIHQ; Combs et al., 2007)

AIHQ contains five ambiguous situations, as follows:

1. You have been in a new job for 3 weeks. One day, you see one of your new co-workers on the street. You start to walk up to this person and start to say hello, but she/he passes by you without saying hello.
2. You have an appointment with an important person. When you arrive at your appointment, the secretary informs you that the person is not in; they took the day off.
3. You walk past a bunch of teenagers at a mall and you hear them start to laugh.
4. You are supposed to meet a new friend for lunch at a restaurant but she/he never shows up.
5. You call a friend and leave a message on their answering machine, asking them to call you back. One week passes and they have not called you back.

Participants read each scenario, imagined it happening to them, and then used Likert scales to rate whether the other person/s performed the action on purpose (rated from 1 = *definitely no* to 6 = *definitely yes*), how angry it made them feel (rated from 1 = *not at all angry* to 5 = *very angry*), and how much they blamed the other person/s (rated from 1 = *not at all* to 5 = *very much*).