The Public Image of Narcissism and Its Social Consequences

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Summary

Narcissism is a construct with both scientific and cultural significance, yet its public image remains poorly understood. This thesis adopts a bottom-up, participant-led approach to examine how narcissism is conceptualized, structured, and visually represented in everyday life, using qualitative, quantitative, and visual methods across three empirical papers. Paper 1 (two studies; N = 842) analyzed lay conceptualizations of narcissism and narcissistic acquaintances. Participants emphasized selfishness and vanity in their conceptualization of narcissism, with narcissistic acquaintances described as extraverted, disagreeable, low in warmth, and placing high importance of self-enhancement values. Further, participants scoring higher in narcissism evaluated narcissism and narcissistic acquaintances more positively. Paper 2 (four studies; N = 718) investigated the prototype structure of narcissism. Central traits clustered into grandiose egocentricity (e.g., vanity, attention-seeking) and interpersonal antagonism (e.g., manipulation, lack of empathy). These traits were applied more readily, judged as more prototypical, and evaluated more positively by participants higher in narcissism, extending the tolerance effect to lay-defined content. Paper 3 (three studies; N = 841) employed reverse correlation to generate images of selfish narcissists and vain narcissists. Naïve observers judged narcissistic faces as less warm and trustworthy overall, yet the vain image was seen as more competent, attractive, and romantically appealing. Narcissistic tolerance also extended to visual representations of the vain narcissist, with higher-narcissism participants rating the vain image more positively via perceived self-similarity. Overall, the findings show that public conceptions of narcissism are structured and consequential. They converge with and diverge from academic and clinical accounts, revealing tensions between narcissism's social costs and

superficial appeal. This bottom-up approach advances theory, underscores the value of lay perspectives for construct validity, and demonstrates the wider social consequences of narcissism as a public image.

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Acknowledgments

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Chapter 1 – General Introduction

Background and Rationale for the Research

Since the days of the Roman poet Ovid, narcissism has captured the cultural imagination. In *Metamorphoses*, Ovid recounts the myth of Narcissus - a youth doomed to fall fatally in love with his own reflection. The story has endured for over two millennia as a symbol of vanity, self-delusion, and emotional isolation. In contemporary society, narcissism continues to hold significant cultural relevance, appearing across podcasts, advice columns, viral media, and everyday discourse. It is commonly invoked to describe a spectrum of traits, ranging from superficial self-absorption to excessive egocentrism.

Tabloid headlines warn of "toxic narcissists" in break-ups and celebrity feuds (Todisco, 2025), while political commentary routinely labels public figures - particularly populist leaders - as narcissistic in both style and strategy (Nai & Maier, 2020; Watts et al., 2013). In romantic contexts, the term has become shorthand for emotionally harmful partners, fueling the rise of self-help genres aimed at "spotting the signs" of narcissistic abuse (Durvasula, 2024). Online forums such as r/raisedbynarcissists and r/NarcissisticAbuse have become digital support communities for those describing experiences of parental neglect, gaslighting, and long-term trauma, highlighting how narcissism is now deeply entwined with lay understandings of abuse and recovery (Lyons et al., 2023). On platforms such as TikTok and Instagram, mental health influencers distil complex traits into viral content, warning against "love bombing" and encouraging users to identify narcissistic behaviors in dating and friendships (Connors, 2024). These phenomena highlight not only the widespread prominence of narcissism in modern

discourse, but also its deeply moralized and socially toxic reputation as an interpersonally dangerous construct.

Despite this dominant narrative of narcissism as socially destructive and interpersonally harmful, public representations of narcissism reveal a more complex picture. Fictional and popular portrayals often cast narcissists as vain, charming, and magnetic figures. Characters such as Tony Stark (*Iron Man*), Jordan Belfort (*The Wolf of Wall Street*), or Barney Stinson (*How I Met Your Mother*) are portrayed as arrogant, flamboyant, and self-serving - yet also intelligent, skilled, and compelling. These portrayals are not merely entertaining; they reflect a deeper social ambivalence toward narcissism itself. On one hand, narcissistic traits may suggest leadership, competence, and charm. On the other, they may evoke manipulation, entitlement, and interpersonal harm. In many cases, what is admired or condemned depends not solely on the trait, but on how it is framed and interpreted. In the public imagination, narcissism is frequently split between two narratives: as vain and magnetic, associated with confidence and appeal, or as selfish and toxic, linked to emotional harm and moral failure. This tension mirrors longstanding debates in psychological theory and highlights the construct's social ambiguity (Back et al., 2013; Dombek, 2016; Miller et al., 2017).

At the same time, narcissism has been semi-ironically rebranded in internet culture, reflecting a broader cultural trend where self-celebration and self-pathologization increasingly blur the boundaries between personality expression, performative identity, and psychological pathology (Abidin, 2021). These developments underscore not only the pervasive presence of narcissism in contemporary discourse but also the extent to which it remains deeply moralized and socially contested. As such, responses to the label

"narcissistic" appear to be influenced not only by the traits themselves but also by the salience, values, and relational contexts through which they are interpreted.

This thesis investigates how people conceptualize and evaluate narcissism and narcissistic individuals. While academic psychology increasingly treats narcissism as a multidimensional construct (e.g., Krizan & Herlache, 2018; Miller et al., 2017; Sedikides, 2021), far less is known about how it is understood, organized, and enacted in everyday life. This matters, not only for conceptual clarity but because these beliefs shape interpersonal perception, influence social judgments, and carry real-world consequences for how individuals are, or are not, trusted, included, and stigmatized.

To address this gap, this thesis adopts a bottom-up, participant-led approach to explore public perceptions of narcissism across three interrelated sets of studies, which are introduced as separate empirical papers. Paper 1 (Chapter 3, two studies, total N = 842) asks: How do people define narcissism and narcissistic individuals in their own words, which traits do they spontaneously associate with the construct, and how closely do these lay conceptions map onto the content of widely used narcissism scales? This paper uses thematic and trait-based analysis. Building upon these findings, Paper 2 (Chapter 4, four studies, total N = 718) asks: Which of these traits are perceived as central versus peripheral to narcissism (i.e., what is the prototype structure of narcissism), and to what extent does this organization align with contemporary academic perspectives? This paper employs prototype analysis to uncover perceived structure and trait centrality. Finally, Paper 3 (Chapter 5, three studies, total N = 841) asks: What do narcissists look like in people's minds, how do these mental images shape downstream social judgements (e.g., warmth, competence, trust, leadership suitability, attraction), and are these evaluations moderated

by observers' own narcissism? This paper uses reverse correlation methodologies (Dotsch & Todorov, 2012). Together, these papers build a theoretically grounded and socially relevant account of how narcissism is understood and evaluated in everyday contexts.

This introductory chapter is structured as follows. I begin by tracing how academic psychology has conceptualized narcissism, from early psychoanalytic accounts to contemporary trait-based and multidimensional models. I then review current research on how narcissism is perceived by the public, including trait-based, relational, and visual perspectives, as well as the role of individual differences in shaping lay judgments. Building on this foundation, I outline key gaps in the literature - particularly the overreliance on researcher-defined conceptualizations and the lack of bottom-up approaches to understanding lay conceptions. I close by introducing the aims, research questions, and thesis format, highlighting how this work contributes a novel, participant-led investigation into how narcissism is conceptualized and socially evaluated in everyday life.

Academic and Clinical Understandings of Narcissism

Academic and clinical understandings of narcissism have undergone considerable evolution over the past century. Early psychoanalytic accounts characterized narcissism as a developmental disturbance. Freud (1914/2001) introduced the concept of primary and secondary narcissism, suggesting a necessary role for self-focus in early psychological development, which could later become pathological.

Subsequent developments in post-Freudian psychoanalysis - particularly in object relations theory and the work of theorists like Horney, who reframed narcissism in more relational and defensive terms (Horney, 1939) - laid important groundwork for the clinical theories that came to dominate in the latter half of the 20th century. A pivotal moment

came in the 1970s and 1980s, with a major theoretical debate between Otto Kernberg and Heinz Kohut (see Dombek, 2016; Tolentino, 2016). Kernberg (1970), drawing on Freud's more pessimistic framing, regarded narcissism as a pathological fixation - a form of arrested development that masked deep internal fragility. Kohut (1971), by contrast, argued that narcissism could serve an adaptive and even prosocial function, fostering ambition, creativity, and stable self-esteem. This opposition - between narcissism as illness versus growth - highlighted the construct's complexity and laid the foundation for the ongoing tension in how narcissism is academically and clinically understood.

These clinical debates shaped the development of Narcissistic Personality Disorder (NPD) as a formal diagnosis, leading to its inclusion in the *DSM-III* (APA, 1980). The diagnostic criteria reflected Kernberg's emphasis on grandiosity and interpersonal dysfunction, with less consideration of Kohut's more adaptive framing. The codification of NPD in turn catalyzed efforts to measure narcissistic traits in non-clinical populations and as an individual difference construct. In this context, the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979; Raskin & Terry, 1988) was developed to operationalize DSM-derived features of narcissism in a dimensional form. Marking a pivotal shift from clinical diagnosis to trait-based assessment, the NPI emerged as the most widely used instrument for assessing narcissistic traits in non-clinical populations.

The NPI focuses predominantly on *grandiose* features - including entitlement, self-sufficiency, and authority - and was instrumental in positioning narcissism as a dimensional, socially relevant trait. However, the NPI has also drawn criticism for conflating narcissism with self-confidence and leadership, potentially underestimating its maladaptive and antagonistic aspects (Brown et al., 2009; Cain et al., 2008).

In response to these limitations, more nuanced models of narcissism emerged. Researchers now commonly distinguish between *grandiose* narcissism - characterized by extraversion, dominance, and self-assurance - and *vulnerable* narcissism, associated with defensiveness, hypersensitivity, and social withdrawal (Miller et al., 2011; Pincus & Lukowitsky, 2010). Crucially, vulnerable narcissism reflects a pattern of self-enhancement that is internally orientated and contingent, often marked by shamed, insecurity, emotional hypersensitivity, and fragile self-worth rather than over self-promotion. As a result, vulnerable narcissism is frequently expressed through indirect or defensive interpersonal strategies, such as withdrawal, hostility, or emotional reactivity, rather than through the conspicuous dominance and entitlement typically associated with narcissism (Cain et al., 2008; Edershile et al., 2019; Pincus & Roche, 2011). Accordingly, vulnerable narcissism was historically harder to identify and measure, and only more recently has it gained prominence through instruments such as the Pathological Narcissism Inventory (Pincus et al., 2009).

A third domain, *antagonistic* narcissism, has also been articulated, defined by entitlement, manipulativeness, and arrogance (Miller et al., 2016). Models such as the Trifurcated Model (Miller et al., 2016) and the Narcissism Spectrum Model (Krizan & Herlache, 2018) attempt to unify these dimensions by situating narcissistic traits along key personality axes: agentic extraversion, antagonism, and neuroticism.

Indeed, contemporary frameworks appear to be converging on a shared understanding of narcissism as fundamentally rooted in interpersonal exploitation, entitlement, and self-centeredness. Campbell and Foster (2007) describe selfishness as the *psychological core* of narcissism - a formulation that aligns with more recent models that

emphasize antagonism as a central feature (Miller et al., 2016; Krizan & Herlache, 2018). This convergence is further supported by meta-analytic evidence suggesting that narcissistic traits consistently correlate with exploitative and antagonistic tendencies (Weiss & Miller, 2018). Although these perspectives vary in emphasis - some foregrounding motivational dynamics of self-regulation (e.g., Back et al., 2013), others prioritizing trait-based dimensionality (e.g., Miller et al., 2016) - they collectively conceptualize narcissism as a socially embedded personality configuration encompassing both dispositional and evaluative components. Another recent conceptualization, proposed by Sivanathan et al. (2023), builds on these developments by integrating motivational and trait perspectives to provide a framework that accounts for the multifaceted and dynamic nature of narcissism across contexts.

This convergence within personality psychology has been mirrored by parallel shifts in clinical approaches to narcissism. While early DSM definitions reflected a narrow, grandiose conception of Narcissistic Personality Disorder (NPD), more recent editions have moved toward a broader, more dimensional understanding. The DSM-5 (APA, 2013), for instance, proposed an alternative model that situates narcissism within impairments in self and interpersonal functioning, with antagonism as a core trait domain. The DSM-5-TR (APA, 2022) further reinforces this dimensional framing, explicitly recognizing both overt and covert expressions of narcissism and highlighting the role of self-enhancement motives. These refinements reflect a growing alignment between clinical and personality perspectives, emphasizing narcissism's heterogeneity and interpersonal dysfunction across diverse contexts.

Finally, recent work has sought to unpack the complexity of narcissistic traits by proposing subtypes beyond the usual grandiose–vulnerable-antagonistic distinction (see Sedikides, 2021). Such approaches theorize narcissism as a multifaceted construct that includes forms such as grandiose versus vulnerable, agentic versus communal, admirative versus rivalrous, and collective versus individual. Despite the differences between these varied narcissistic subtypes, these forms share a common basis in self-enhancement motives. For example, communal narcissism involves asserting self-importance through seemingly prosocial behaviors, with communally narcissistic individuals seeing themselves as especially moral, giving, or empathic - although these traits still serve self-promotion (Gebauer et al., 2012). Collective narcissism, on the other hand, is about exaggerated pride in one's group and sensitivity to threats against it, often expressed through nationalism or ideology (Golec de Zavala et al., 2009).

Overall, current research conceptualizes narcissism as a multifaceted construct comprising distinct yet interrelated trait dimensions and underlying motivational processes, manifesting at both individual and collective levels. Despite this diversity, there is broad academic consensus that antagonism/self-enhancement constitutes the core embryonic feature underpinning these expressions.

Public Understandings of Narcissism

Research is mixed regarding whether laypersons perceive narcissists as more antagonistic (e.g., selfish), grandiose (e.g., vain), or vulnerable (e.g., insecure), although perceptions often appear to converge with grandiose narcissism. For instance, Miller et al. (2018) asked public participants (as well as clinicians and academicians) to rate a prototypical narcissist using the Five Factor Model Rating Form (FFMRF) and found strong

consensus around traits such as low agreeableness and high extraversion, with grandiose traits viewed as more prototypical than vulnerable ones. Similarly, Buss and Chiodo (1991) found that people most strongly associated narcissism with acts reflecting self-centeredness, self-absorption, and grandiosity.

Other studies have explored how narcissistic individuals are perceived in relational and social contexts. At zero acquaintance, narcissists are often evaluated more favorably than other "dark trait" individuals, due to their confidence and charm. Back et al. (2010) and Carlson et al. (2011) demonstrated that narcissists tend to make strong first impressions, while Rauthmann and Kolar (2013) found that, unlike Machiavellians or psychopaths, narcissists were judged relatively neutrally when first encountered. However, these impressions deteriorate over time as narcissistic traits, particularly entitlement and emotional volatility, become more salient in ongoing relationships (Malkin et al., 2013; Paulhus, 1998). Indeed, Park and Colvin (2014) found that participants viewed their narcissistic acquaintances as antagonistic, whereas friends described them in more vulnerable terms, noting hypersensitivity and defensiveness. Stanton et al. (2018) similarly found that laypeople perceived grandiose behaviors as masks for underlying emotional insecurity and envy.

In addition to trait and relational perceptions, emerging research has examined how narcissism is perceived visually. Giacomin and Rule (2019), for example, found that eyebrow shape was significantly associated with perceptions of unfamiliar others' narcissism, suggesting that people rely on subtle facial cues to make personality inferences and judgments. Other studies have examined participants' ability to detect narcissism using facial composite methods (Alper et al., 2021; Holtzman, 2011). These approaches involve

creating composite images from individuals high or low in narcissism, then asking observers to judge personality traits based on facial appearance. While such studies are informative, they have been critiqued for their limited ecological validity, lack of methodological transparency, and reliance on researcher-selected trait groupings rather than participant-driven representations (Bovet et al., 2022).

Perceiver characteristics may also shape how people judge narcissistic traits. According to the *narcissistic tolerance hypothesis*, individuals high in narcissism tend to evaluate other narcissists more favorably, or at least less negatively, than non-narcissistic observers. This pattern has been observed across studies involving evaluations of narcissistic behaviors (Burton et al., 2017), hypothetical character profiles (Wallace et al., 2015), and interpersonal traits (Hart & Adams, 2014). Hart and Adams (2014), for example, found that narcissistic individuals were more tolerant of narcissistic traits in others, while Burton et al. (2017) demonstrated that this effect was driven by perceived similarity between the observer and target. These findings suggest that narcissistic perceivers are more likely to identify with or empathize with narcissistic traits, potentially moderating their social judgments. However, little is known about how perceiver traits influence conceptual and visual understandings of narcissism more broadly, something addressed in Chapter 5.

Taken together, lay understandings of narcissism tend to emphasize its visible, antagonistic features while often overlooking more covert or vulnerable expressions. This disparity may reflect the relative observability of grandiose traits - such as arrogance, extraversion, and attention-seeking - which are more overtly expressed and socially salient. In contrast, vulnerable narcissism involves internal states such as defensiveness, shame,

and emotional hypersensitivity, which may be less apparent to observers and thus less likely to inform everyday understandings of the construct (Cain et al., 2008; Edershile et al., 2019; Miller et al., 2017; Pincus & Roche, 2011). Although vulnerable narcissism may play a central role in clinical and personality models, its less overt nature might reflect why it is less frequently captured in cultural discourse or lay descriptions. This asymmetry between theoretical centrality and perceptual salience raises important issues about whether public understandings of narcissism are disproportionately anchored in grandiose and antagonistic features, potentially obscuring vulnerable manifestations of the construct. Clinician ratings reflect this divide: Stanton and Zimmerman (2018) found that, when rating their patients, clinicians assessed traits like perfectionism and inadequacy as distinct from grandiose features. This suggests that vulnerable narcissism may reflect a separate and less visible expression - both in clinical contexts and public perception.

In sum, while lay understandings often align with grandiose and antagonistic models, existing studies typically rely on researcher-selected traits and top-down methods, offering limited insight into how people spontaneously define or conceptualize narcissism. I explore these limitations in more detail below.

Key Gaps in the Research and Why They Matter

Despite growing scholarly interest in how people perceive narcissism, important methodological challenges remain. Much of the existing literature relies on researcher-defined stimuli - including presenting participants with trait lists or vignettes - which, while useful for standardization, offer limited access to bottom-up, participant-led conceptualizations of narcissism. These methods risk missing how narcissism is spontaneously understood and recognized in everyday contexts. This limitation extends to

visual research on narcissism, where studies typically use composite images created from individuals scoring high or low on standardized narcissism scales rather than representations generated by the public. As a result, both trait-level and visual research may underestimate the complexity and variability of public understanding of narcissism and narcissistic individuals.

Building on these methodological concerns, a critical gap remains in understanding how laypeople mentally organize narcissistic traits - specifically, which characteristics are perceived as central or diagnostic. While the mental organization of several socio-psychological constructs has been explored using participant-driven methods such as prototype analysis - including nostalgia (Hepper et al., 2012), love (Thorne et al., 2021), self-gratitude (Tachon et al., 2022), solitude (Weinstein et al., 2021) and hope (Luo et al., 2022) - a similar investigation has yet to be conducted for narcissism. Relatedly, Hall and colleagues (2019, 2021) have shown the value of inductive, participant-led methods in their research on empathy, where participants' spontaneously generated open-ended responses revealed substantial divergence between lay and scientific conceptualizations. Unlike these phenomena - where participant-led methods have clarified which features are considered most central - the perceived structure and relative importance of narcissistic traits in public conceptualizations remain insufficiently examined. Addressing this gap is essential for improving the ecological validity of psychological models and for capturing how narcissism is naturally perceived and categorized outside academic contexts.

In addition to trait organization, significant gaps exist in how lay beliefs about narcissism translate into social judgments within real-world contexts. While numerous social psychological studies have used participant-driven methods to generate mental

representations of social categories - such as atheists (Brown-Iannuzzi et al., 2018), political orientations like liberals and conservatives (Proulx et al., 2023), and ambivalent others (Han et al., 2023) - similar bottom-up research exploring how people visualize narcissistic individuals is lacking. This absence limits our understanding of the consensual visual cues associated with narcissism and how these mental representations influence psychosocial judgments like trust and attraction.

Moreover, although research on narcissistic tolerance shows that individuals high in narcissism tend to evaluate other narcissists more favorably, these studies typically rely on vignette-based designs with limited ecological validity. There remains a notable gap in examining how narcissists categorize and judge others based on their own conceptualizations of narcissistic traits in more naturalistic or participant-led ways. Understanding these dynamics is crucial, as it would provide insight into the variability of social judgments shaped by individual differences and personal frameworks, thereby enriching our comprehension of narcissism as both a psychological and social phenomenon.

More fundamentally, understanding public conceptions of narcissism is crucial given the term's cultural salience and emotional charge, as it is frequently invoked across news media, clinical discourse, online communities, and everyday language. Despite its widespread use, empirical research investigating what people actually mean by "narcissism" remains limited. Public conceptions of narcissism powerfully shape how individuals are perceived, judged, and treated in various social contexts, including friendships, romantic relationships, workplaces, and leadership selection. When these conceptions are incomplete, moralized, or diverge from psychological evidence, they risk

reinforcing stigma, fostering exclusionary behaviors, and perpetuating superficial or inaccurate attributions of competence and harm (Freestone et al., 2022; Stewart et al., 2019).

Further, gaining insight into lay conceptualizations is important for improving construct validity and science communication. Lay understandings of psychological concepts often differ substantially from academic models, a gap highlighted in research on core constructs such as empathy (Hall et al., 2019; 2021). Such discrepancies can impede effective communication between researchers and the public and may result in misinterpretations of scientific findings. Clarifying these differences can support the development of measurement tools that better capture how people actually think about narcissism and enable more responsible public messaging that reduces stigma and promotes nuanced understanding. This theme is particularly relevant to Paper 1 (Chapter 3).

In addition to understanding conceptual definitions, it is crucial to examine how narcissism is mentally represented by the public. Mental representations - how people internally organize and visualize traits and types - play a central role in shaping social perception and judgment. Research in related domains has demonstrated that these representations influence critical interpersonal evaluations, such as trustworthiness, competence, and social warmth, and importantly, these effects extend beyond a general positivity bias (Brown-Iannuzzi et al., 2018; Itzchakov et al., 2025). However, there is a significant gap in understanding how narcissistic traits are mentally structured and how these mental images affect everyday social interactions. Exploring these representations

can help further illuminate the cognitive processes underlying stereotyping and bias and help explain how public perceptions of narcissism translate into real-world outcomes.

Addressing these gaps is essential for advancing our understanding of how lay perceptions of narcissism develop and influence social interactions, particularly by revealing the ways in which narcissistic traits are conceptualized and evaluated through bottom-up, ecologically valid processes.

Research Aims and Overarching Questions Guiding the Thesis

As noted in the preceding section, empirical research on how narcissism is perceived by the public remains limited, despite the concept's widespread use in everyday discourse. Prior studies have largely relied on researcher-defined materials - such as trait lists or vignettes - which, while valuable, may not fully capture how narcissism is conceptualized and evaluated in real-world contexts. Understanding these lay beliefs is crucial not only for improving the ecological validity of psychological models but also for illuminating how perceptions of narcissism shape everyday social interactions, judgments, and decisions. In this thesis, I aim to address critical gaps by investigating how the public defines, mentally represents, and responds to narcissistic traits, using more participant-led and ecologically grounded methods. To this end, I address two primary aims:

Aim 1: To investigate the public conceptualization of narcissism.

- **Research Question 1 (RQ1):** What themes, traits, and values are commonly associated with narcissism?

  Background and Rationale: Most research uses predefined measures (e.g., NPI), overlooking more spontaneous associations. Exploring public themes can help

reveal the features people commonly associate with narcissism in everyday understanding.

- **Research Question 2 (RQ2):** Which features are regarded as central or peripheral to the construct?

  Background and Rationale: Prototype analysis has clarified trait centrality in other constructs (e.g., Hepper et al., 2012; Thorne et al., 2021) but has not been applied to narcissism. Applying this method can help identify which features are most prominent in public perceptions of the construct.
- **Research Question 3 (RQ3):** In what ways do individuals high in narcissism conceptualize the construct differently, if at all, from individuals low in narcissism?

  Background and Rationale: Research on narcissistic tolerance (e.g., Burton et al., 2017) suggests perceiver traits shape evaluations, but little is known about how narcissistic individuals define narcissism themselves.

Aim 2: To examine the psychosocial implications of these lay conceptions.

- **Research Question 4 (RQ4):** How do public beliefs about narcissism shape visual representations of narcissistic individuals?

  Background and Rationale: Mental imagery influences social categorization (e.g., Brown-Iannuzzi et al., 2018), but no visual studies use public-generated representations of narcissism. Examining these representations may clarify the perceptual cues underlying stereotype formation and social judgments.

- **Research Question 5 (RQ5):** What are the effects of these representations on key interpersonal judgments, including trustworthiness, leadership suitability, and interpersonal attraction?

  Background and Rationale: Narcissism shapes judgments in leadership and attraction contexts (e.g., Grijalva et al., 2015), yet we lack evidence on how visual cues derived from public beliefs influence these outcomes.

- **Research Question 6 (RQ6):** How does an individual's own level of narcissism influence their evaluations of narcissistic others, and through which psychological mechanisms are these effects mediated?

  Background and Rationale: Narcissistic individuals show greater tolerance for similar traits (Hart & Adams, 2014), but mechanisms driving this effect (e.g., similarity perception) remain unexplored in bottom-up, participant-led studies.

Thesis Format and Rationale

I have chosen a thesis-by-publication format because this research comprises a series of nine studies addressing interrelated questions through distinct methodologies — each suitable for standalone publication while contributing to a coherent research narrative. Of the three papers, two have been published (Paper 1, Smith et al., 2025a, *Journal of Personality* ; Paper 3, Smith et al., 2025b, *Personality and Social Psychology Bulletin*), and the third (Paper 2) is currently being prepared for publication. The thesis-by-publication format enables the inclusion of peer-reviewed, publication-standard work, ensuring methodological rigor while supporting timely dissemination without necessitating artificial restructuring of studies originally designed for publication. As such,

each paper stands as a self-contained publication but also forms part of an integrated and coherent thesis.

Because of this format, some overlap in content across chapters is inevitable, particularly where background literature or key measures are shared. Likewise, there are points where individual chapters cross-reference each other in ways that do not strictly follow their chronological order within the thesis - a common feature of thesis-by-publication formats, especially when the studies form part of a cohesive program of research. For consistency, spelling conventions follow American English, reflecting the style of the journals in which two of the papers were published.

The sequence of studies and corresponding methodological choices were guided by the overarching aim of the thesis: to investigate public conceptions of narcissism and their consequences for social judgment. To support this, Chapter 2 provides a dedicated methodology overview, detailing the rationale behind the study designs and outlining the criteria used to select or adapt measures. Following this, the three empirical papers are presented in Chapters 3 through 5. Finally, Chapter 6 synthesizes the findings, drawing connections across the papers and offering an integrated discussion of their theoretical and applied contributions.

Original Contribution of the Thesis

To my knowledge, this thesis represents one of the first systematic investigations of public conceptions of narcissism employing bottom-up, participant-led methods. The research is the most novel and comprehensive in its scope, introducing prototype analysis and reverse correlation techniques to narcissism research, providing novel tools for capturing lay beliefs and visual representations in an ecologically valid manner.

The thesis explores the structure of lay conceptions of narcissism and examines their social consequences by investigating *how* these beliefs influence perceptions of core variables within social perception, such as warmth, competence, trust, interpersonal attraction, and leadership suitability. Furthermore, it extends existing research on narcissistic tolerance by examining how individuals high in narcissism understand and evaluate others, moving beyond hypothetical vignette studies to include responses to real acquaintances and participant-generated facial stimuli, rather than relying solely on researcher-defined traits and targets.

Collectively, these contributions significantly advance methodological approaches and enhance theoretical understanding of the public image of narcissism and its social consequences, demonstrating the value of integrating multiple, layered methodologies to uncover lay perceptions of psychological phenomena across conceptual, cognitive, and visual levels.

Chapter 2 – Methodology

Chapter Overview and Purpose

This chapter provides an overview of the methodological approach adopted across the thesis. It outlines the rationale for the multi-method approach, details key ethical procedures, and describes each of the three study sets in relation to their corresponding research questions. Finally, it reflects on the methodological contributions of the thesis, particularly in advancing bottom-up, ecologically valid approaches to understanding public conceptions of narcissism.

Methodological Rationale

The present thesis aims to examine how narcissistic traits are defined, cognitively represented, and socially evaluated by lay perceivers. To address this aim, three distinct but interrelated sets of studies were conducted, each targeting a different aspect of public understanding and employing methodologically complementary approaches. Each study set adopts a participant-led approach, designed to address limitations of top-down methods commonly used in narcissism research. Whereas much prior work relies on researcher-defined trait lists, vignettes, or psychometric composites, the current thesis focuses on how people themselves define, structure, and visualize narcissism. This inductive focus enhances ecological validity and responds to both methodological calls for bottom-up approaches in personality and social psychology (e.g., Hall et al., 2019) and broader critiques of psychiatrization, which highlight the need to examine how psychological constructs are understood, labelled, and experienced by people outside clinical or diagnostic frameworks (Beeker et al., 2021).

Study Set 1 (i.e., Paper 1) employs thematic and trait-based analyses to examine how individuals spontaneously define and evaluate narcissism and narcissistic traits. Study Set 2 (i.e., Paper 2) uses prototype analysis to assess the perceived structure and centrality of these traits within lay conceptualizations. Study Set 3 (i.e., Paper 3) implements reverse correlation techniques to generate visual representations of narcissistic individuals and examine how these images influence downstream social judgments. This multi-method design enables triangulation across conceptual, structural, and perceptual domains, providing a comprehensive account of how narcissism is cognitively represented and socially evaluated by the public.

Ethical Considerations

All studies reported in this thesis received ethical approval from Cardiff University's Psychology Research Ethics Committee. Across all studies:

- Participants provided informed consent prior to participation and received a full debrief upon completion.
- All data were anonymized and handled in accordance with GDPR and institutional data management policies.
- Participants were recruited via Prolific or university student research panels.
- Where applicable, studies were pre-registered and study materials were made openly available via the Open Science Framework (OSF) to promote transparency and reproducibility.

Study Methodologies by Paper

Paper 1 – How Do People Conceptualize Narcissism and Narcissistic Others?

Research Questions Addressed. RQ1: What themes, traits, and values are commonly associated with narcissism? RQ3: In what ways do individuals high in narcissism conceptualize the construct differently, if at all, from individuals low in narcissism?

Design and Rationale. Paper 1 comprised two complementary components designed to investigate lay conceptions of narcissism using both qualitative and quantitative methods. In the first, participants provided open-ended definitions and listed traits they personally associated with narcissism. Thematic analysis and narrative coding were used to identify recurring conceptual themes, which were compared against traits captured by established narcissism measures.

In the second component, participants evaluated the desirability of these traits and described an acquaintance they perceived as narcissistic. This allowed for examination of how narcissistic characteristics are perceived and socially attributed in everyday contexts. Individual differences in narcissism were examined in relation to both trait evaluations and the conceptual content of participants' definitions.

Analytic Techniques. Inductive thematic analysis of open-ended narcissism definitions, including narrative coding and frequency mapping of conceptual themes. Content mapping of participant definitions against facet structures from established narcissism scales, e.g., Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988), Five-Factor Narcissism Inventory (FFNI; Glover et al., 2012), and Grandiose Narcissism Scale (GNS; Rosenthal et al., 2020). Descriptive and inferential analyses of trait valence ratings, including one-sample t-tests and bivariate correlations. Regression analyses to examine whether participants' narcissism scores moderated trait evaluations.

Paper 2 – Lay Conceptions of Narcissism: A Prototype Approach

Research Questions Addressed. RQ2: Which features are perceived as central or peripheral to the concept? RQ3: In what ways do individuals high in narcissism conceptualize the construct differently, if at all, from individuals low in narcissism?

Design and Rationale. Paper 2 employed prototype analysis to investigate the perceived structure of narcissistic traits in lay conceptualizations. Participants first generated traits they associated with narcissistic individuals, then rated the typicality of these traits in the context of narcissism. This approach was designed to test whether public conceptions reflect a structured, prototype-based representation, wherein certain traits are viewed as more central or diagnostic than others. While prototype analysis has previously been applied to a range of psychological constructs (e.g., nostalgia, empathy, solitude), this study represents a novel application of prototype analysis to narcissism, providing insight into how the construct is cognitively structured and how perceived trait centrality may differ across individuals. It also examines whether individual differences in narcissism shape perceptions of which features are seen as most representative of the construct.

Analytic Techniques. Descriptive statistics were used to calculate mean centrality and valence ratings for each trait. Inter-rater reliability on centrality ratings was assessed using intraclass correlation coefficients (ICCs). A one-sample t-test compared the grand mean centrality score to the scale midpoint to assess overall perceived representativeness. Pearson correlations examined convergence between centrality ratings and frequency indices. Principal component analysis (PCA) with Varimax rotation was used to identify latent dimensions in trait ratings. Paired-sample t-tests compared centrality and valence

ratings across the empirically derived trait clusters. Centrality and frequency indices were standardized and combined using a classification algorithm outlined by Shi et al. (2021) to identify traits as central, peripheral, or marginal. Moderated regression analyses (PROCESS macro, Model 1) tested whether participant narcissism (NPI scores) moderated the relationship between trait category and centrality or valence ratings.

Paper 3 – What Narcissists Look Like and Why it's Important

Research Questions Addressed. RQ4: How do public beliefs about narcissism shape visual representations of narcissistic individuals? RQ5: What are the effects of these representations on key interpersonal judgments? RQ6: How does an individual's own level of narcissism influence their evaluations of narcissistic others?

Design and Rationale. Paper 3 employed a reverse correlation paradigm (Dotsch & Todorov, 2012) to generate visual representations of narcissistic individuals. Participants completed one of two reverse correlation tasks, each introduced with a different definition of narcissism: one emphasizing *selfishness*, the other emphasizing *vanity*. Across a series of trials, participants selected the face that best matched their given definition. Selections were averaged to produce two distinct composite images — one representing a "selfish narcissist" and one representing a "vain narcissist." To provide comparison images, the non-selected faces from each condition were also averaged, resulting in a "non-selfish" and a "non-vain" composite.

These images were subsequently rated by a separate sample of participants on a range of interpersonal dimensions, including warmth, competence, trustworthiness, and dominance, as well as perceived similarity and familiarity. Mediation analyses were

conducted to examine whether the rater's own narcissism influenced target evaluations indirectly via perceived similarity and familiarity.

Analytic Techniques. Image generation via reverse correlation techniques (i.e., averaging selected and non-selected face choices to produce "selfish," "vain," "non-selfish," and "non-vain" composites). Descriptive and inferential comparisons of image ratings across interpersonal dimensions (e.g., warmth, competence, dominance, trustworthiness). Correlational analysis examining associations between rater narcissism (NPI-13) and trait evaluations. Mediation analysis testing whether perceived similarity and familiarity mediated the effect of rater narcissism on evaluations of narcissistic targets.

Methodological Contributions of the Thesis

This thesis makes several methodological contributions to the study of narcissism. Across the three study sets, it adopts a bottom-up, participant-led approach, using thematic analysis, prototype analysis, and reverse correlation to examine how narcissism is defined, structured, and visually imagined by the public. These methods allow for more naturalistic representations that reflect how people encounter and interpret narcissistic traits and behaviors in everyday life. The research also spans multiple levels of analysis: from the words people use to describe narcissism, to the traits they view as central to it, to the facial features they associate with narcissistic individuals. This multi-level framework offers a more complete picture of how narcissism is understood and evaluated socially. Finally, the findings show how these public conceptions shape real-world judgments, influencing how people evaluate others (e.g., in terms of warmth, trustworthiness, and attraction). Together, these contributions support a more ecologically valid and socially grounded understanding of narcissism as it exists outside of clinical or psychometric frameworks.

Chapter 3 – Paper 1: How Do People Conceptualize Narcissism and Narcissistic Individuals?

Preface to Chapter 3

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Co-authorship. This paper was co-authored by Professor Geoffrey Haddock and Dr. Travis Proulx. The candidate is the first author.

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Candidate's contribution. The candidate conceived and designed the studies, recruited participants, analyzed qualitative and quantitative data, and drafted the full manuscript. Estimated contribution: 80%.

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Context within the thesis. This paper addresses RQ1 and RQ2 by exploring how narcissism is defined and described by the public. It also contributes to RQ3 by examining how participants high in narcissism conceptualize and evaluate narcissistic individuals. Trait themes and responses informed framing in subsequent papers.

Overview of Paper 1

Paper 1 consists of two studies (total *N* = 842) that examine how people define and evaluate narcissism and narcissistic individuals. The paper addresses the following questions: How do people define narcissism in their own words? To what extent are lay definitions of narcissism captured in commonly used narcissism scales? How desirable is narcissism perceived to be, both at the concept and person level? What attributes (e.g., Big Five traits, personal values) are associated with narcissistic individuals? And how do individuals higher versus lower in narcissism evaluate narcissism and narcissistic individuals?

Study 1 focused on understandings of narcissism at the concept level. Participants provided their own definitions of narcissism and indicated the extent to which they perceived items from the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988) as representative of their conceptualization. Study 2 examined perceptions of narcissism at the person level, with participants describing an acquaintance they perceived as narcissistic (or selfless, depending upon condition) and rating that individual on a set of attributes. In both studies, participants' own levels of narcissism were measured, enabling analysis of how self-reported narcissism shaped perceptions of the construct and evaluations of narcissistic acquaintances.

Abstract

Introduction. Although past decades have seen notable advances in the conceptualization and assessment of narcissism (Miller et al., 2021), scholarship examining lay conceptualizations of the construct remains limited.

Method. We report two studies utilizing bottom-up, participant-driven methodologies to examine public understandings of narcissism and narcissistic individuals. In Study 1 (n=202), we thematically analyzed layperson definitions of narcissism and compared their central contents with widely used narcissism measures. In Study 2 (n=640), participants freely listed terms they associated with narcissistic or selfless acquaintances and rated them on a series of interpersonal dimensions (e.g., attributes, personal values).

Results. Study 1 found that narcissism is most commonly conceptualized in relation to selfishness and vanity, and that divergences exist between public conceptualizations of narcissism and how it is operationalized in research. Study 2 found that although narcissistic acquaintances are ascribed greater grandiose relative to vulnerable traits (e.g., high extraversion, low agreeableness), they are also judged less favorably and perceived as placing greater (lesser) emphasis on self-enhancement (self-transcendence) values, relative to non-narcissistic acquaintances.

Conclusion. These findings broaden our knowledge of lay perspectives of narcissism and offer important theoretical (e.g., conceptualizations of narcissism) and practical implications (e.g., improving public communications regarding narcissism).

Keywords: narcissism, lay perceptions, thematic analysis, individual differences.

How Do People Conceptualize Narcissism and Narcissistic Individuals?

Since the days of the Roman poet Ovid, narcissism has captured the public imagination. In his mythological epic *Metamorphoses*, Ovid chronicles the tragic fable of Narcissus' vain self-absorption. Beautiful and beloved, it was prophesized that Narcissus would live a long life if only he failed to recognize himself. Fatefully, after rejecting the advances of a river nymph, a parched Narcissus is lured to a pool of water, only to fall in love with his reflection. Paralyzed with self-infatuation, he wastes away in solitude leaving his only earthy trace – a burgeoning flower – his floral namesake.

Two millennia on from Ovid's tale there continues to be robust public interest in narcissism, with Google search interest in terms categorized under the topic of 'narcissism' at their highest point in the UK since records began in 2004 (Google, 2023). A breakout topic on TikTok, the hashtag #narcissist has over twelve billion views as of December 2023, ranking well above #ptsd (7.3 billion) and #ocd (6.8 billion). Content on the topic posted by social media influencers – such as 'How to know if you're a narcissist' (Bartlett, 2024) – is watched by millions and can impact how people think about narcissism. Indeed, countless social media posts show individuals discussing their own (and others') narcissism, proclaiming the importance of qualities such as selfishness (Lollie, 2023) and vanity (Lopez, 2023) in describing their own or others' narcissism. However, despite the widespread fascination with narcissism, relatively little is known about how lay persons conceptualize narcissism and narcissistic individuals. This is important - gaining a richer understanding of public perceptions of the construct could provide important conceptual insights and help to facilitate public understanding of scholarly work on narcissism.

Accordingly, in this paper, we assess how people conceptualize narcissism and narcissistic individuals, and why these conceptualizations matter.

Psychological perceptions of narcissism and narcissistic individuals

Early conceptualizations of narcissism in the social/personality psychology literature can be traced to Ernest Jones's (1913/1951) description of individuals with a "God-complex". These individuals were construed as self-admiring, self-important and exhibitionist, harboring fantasies of unlimited power and needing others' admiration. Over a century later, this constellation of traits described by Jones is remarkably similar to the personality facets captured by one of the most widely-used measures of subclinical narcissism – the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988).

Derived from the narcissistic personality disorder (NPD) DSM-III diagnostic criteria, the NPI targets the prototypical 'grandiose' narcissist, however, the literature now recognizes narcissism as comprised of, minimally, two separate dimensions – grandiose and vulnerable (see Miller et al., 2017). Grandiose narcissism is typified by a bold, outgoing, and dominant interpersonal orientation, while its vulnerable counterpart is characterized by hypersensitivity to rejection, self-consciousness, and emotional fragility (Pincus et al., 2014; Rogoza et al., 2018). Indeed, these two sub-forms differ markedly in their relationship to positive emotionality, with grandiose narcissism positively, and vulnerable narcissism negatively predicting greater levels of global self-esteem (Rogoza et al., 2018; Weiss & Miller, 2018).

Importantly, grandiose and vulnerable narcissism share a core sense of self-importance, with individuals viewing themselves as deserving of special treatment (Miller et al., 2017). This 'selfish core of narcissism' (Campbell, 2022) constitutes the binding

principle of tridimensional models of narcissism. Within these models, grandiose and vulnerable narcissism are conceived of as two connected yet separate traits – bound by a foundational set of narcissistic features, typically labelled antagonism (Miller et al., 2016; 2017) or entitlement (Krizan & Herlache, 2018). The trifurcated model of narcissism (Miller et al., 2016; 2017), for example, posits that the core component of narcissism is high antagonism (low agreeableness) manifested as low levels of trust, altruism and modesty (Miller et al., 2021). In the case of grandiose narcissism, this low agreeableness is combined with high levels of extraversion (e.g., assertiveness, drive, gregariousness); for vulnerable narcissism, it is mixed with high levels of neuroticism (e.g., vulnerability, self-consciousness, shame).

Public perceptions of narcissism and narcissistic individuals

As noted earlier, social media is rife with posts from individuals willingly sharing stories of their self-perceived narcissism, as well as detailed monologues expressing their own definitions of narcissism and the attributes/behaviors they associate with narcissistic individuals. Themes of selfishness, vanity, and exploitativeness (to name just three) are common. While such proclamations offer idiosyncratic perceptions of narcissism, there is some empirical research examining public perceptions of narcissism. Buss and Chiodo (1991) examined the acts that people considered prototypic of narcissism, with central themes including self-centeredness, self-absorption and grandiosity. Park and Colvin (2014) found that whilst participants viewed their narcissistic companions as highly antagonistic, friends viewed narcissistic companions in relatively vulnerable terms, for example, having a critical and self-defensive interpersonal style. Stanton et al. (2018) examined lay beliefs in narcissistic insecurity and found that grandiose narcissistic traits

(e.g., arrogance) were viewed by the public as being linked to covert insecurity, emotional vulnerability, and jealousy of others. Miller et al. (2018) found that participants tend to view grandiose traits (e.g., low agreeableness and high extraversion) as more indicative of narcissism relative to vulnerable aspects (e.g., high neuroticism). Finally, Hyatt et al. (2018b) found that lay participants perceived grandiose and vulnerable narcissistic individuals as exhibiting anger under conditions of ego threat, with sadness being linked with vulnerable but not grandiose narcissism.

One common finding across such research is that narcissistic individuals are generally perceived negatively, though they can make positive first impressions that become more negative over time (Paulhus, 1998). That said, narcissistic perceivers often evaluate narcissist targets more favorably (or, more specifically, less negatively) than non-narcissistic perceivers – an effect known as *narcissistic tolerance* (Hart & Adams, 2014). Indeed, narcissism is positively associated with evaluations of others' narcissistic behaviors (Burton et al., 2017) and ratings of hypothetical characters possessing narcissistic traits (Wallace et al., 2015).

However, thus far, relevant research assessing perceptions of narcissism and narcissistic individuals has utilized top-down approaches where participants rate narcissistic targets along predetermined traits and social outcomes. To our knowledge, no research has adopted bottom-up approaches whereby participants freely describe their understandings of narcissism. Elsewhere, research using a bottom-up approach has demonstrated marked differences between academic and public conceptualizations of other fundamental psychological constructs, such empathy and the Big Five traits (Hall et al., 2019, 2021). Such research has revealed several components of these constructs

identified by participants that are absent from standard measurement scales, and vice versa. This is important, because it implies that laypersons' conceptualizations of core psychological phenomena may not neatly map onto the primary aspects of same phenomena as broadcast in the research literature or the original myth-based conceptualization.

The present research

Our research addresses the following fundamental questions: How do people define narcissism? To what extent are lay definitions of narcissism captured in commonly used narcissism scales? How desirable is narcissism perceived to be, both at the concept and person level? What attributes (e.g., Big Five traits, personal values) are associated with narcissistic individuals? And, finally, how do narcissistic and non-narcissistic individuals evaluate narcissism and narcissistic individuals?

Study 1 focused on understandings of narcissism at the *concept* level. Here, participants freely described their own personal definition of narcissism and the extent to which they perceived one of the most widely used measures of construct, the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988) as representative of their own conceptualization. Study 2 examined perceptions of narcissism at the *person* level. Here, participants freely listed the characteristics they associated with a narcissistic (or selfless) acquaintance and rated this individual on a set of attributes. Across both studies, we measured participants' own level of narcissism and explored how these scores influence perceptions of the concept of narcissism and narcissistic acquaintances.

Study 1 - How do people define narcissism?

Study 1 adopted a bottom-up approach, where participants provided their own definition of 'narcissism', listed the traits and behaviors that they associated with narcissism, and indicated how desirable they perceived these traits and behaviors to be. Participants also listed terms that they felt best represented the opposite of narcissism. Finally, we explored the extent to which participants endorsed the items of the NPI-13 (Gentile et al., 2013; Raskin & Terry, 1988) as reflective of their own personal conceptualization of narcissism. Importantly, we explored the relationships between participants' NPI scores and the content of their definitions, perceived valence of traits and behaviors exemplifying narcissism and NPI endorsement.

We predicted that narcissistic traits would generally be perceived unfavorably (i.e., significantly lower than the scale mid-point), but that self-reported narcissism would positively correlate with appraisals, in line with the narcissistic tolerance perspective.

Method

Participants

We recruited 212 UK participants via Prolific, who each received £1.24 for their participation. Six participants were excluded for failing an honesty check item (i.e., they used an additional source, such as a dictionary, when reporting their definition of narcissism). Four other participants were excluded for incorrectly responding to attention check items. This resulted in final sample of 202 (96 males, 103 females, 1 other, 2 did not to say; 57% with a college degree; M_{age} = 38.01; SD_{age} = 14.95).

Our sample size was guided by affordability and extant research on lay perceptions on attributes (Hall, 2019, Study 1). A sensitivity power analysis conducted using G*Power

indicated that our sample was sufficiently powered (power = .80, α = .05, two-tailed) to detect correlations of |.19| and higher.

Materials and Procedure

Personal Definition of Narcissism

We collected data online via Qualtrics. First, participants provided their personal definition of the term narcissism by typing their definition into a text box. There were no time, character, or detail limits for this task, though they were asked to refrain from using a dictionary or thesaurus.

Traits and Behaviors Associated with Narcissism

Following the definition task, participants listed five traits or behaviors that they personally associated with narcissism. Participants next evaluated each of their listed responses for valence (1 = extremely negative; 7 = extremely positive). For the present study's purposes, we were only interested in the valence ratings ascribed to each feature. However, the traits and behaviors were analyzed using prototype analysis for a separate study.

Participants also indicated their familiarity with the term 'narcissism', as well as how confident they felt in their own understanding of the term (0 = not at all familiar/confident, 100 = extremely familiar/confident).

Opposite of Narcissism

Next, participants completed two short tasks designed to determine how well various terms represent the opposite of narcissism (which is relevant to Study 2). First, participants rated four words - selfless, altruistic, modest, and generous – as opposites of narcissism (1 = definitely not, 5 = definitely yes) and were also asked to

list any other words that came to mind and rate them accordingly. Second, participants selected one word from that selection that they felt best represented the opposite of narcissism.

Narcissistic Personality Inventory – Likert Version

Participants completed the Likert rating version of the NPI-13 (Gentile et al., 2013; Raskin & Terry, 1988). Within the measure we included an attention check item that required participants to select a certain number. Participants rated their agreement with the extent to which each statement applied to them personally, e.g., "I find it easy to manipulate people" and "I like to show off my body". We calculated average total NPI scores for each participant (M = 2.95; SD = 0.82; α = .83).

Filler Measures

After completing the NPI, participants completed three filler measures. These included two single item measures of self-esteem (Gebauer et al., 2008; Robins et al., 2001) and importance ratings of Schwartz's (1992) four value types (self-transcendence, self-enhancement, openness, and conservation). Data collected from these filler measures were not intended to be analyzed, rather, they were included to avoid participants completing the next task immediately after completing the NPI.

Endorsement of NPI Items

Participants rated each of the NPI-13 items (presented in a random order) for how well each item matched their own definition of narcissism (1 = not narcissistic, according to my definition, 9 = extremely narcissistic, according to my definition). All items were rephrased from self-report to describe a range of feelings, beliefs, attitudes and behaviors.

For example, the item "I expect a great deal from other people" was rephrased as "Expecting a great deal from other people".

Finally, participants reported their gender, age, educational status, and political orientation.

Narrative Coding of Personal Definitions

Narrative coding of the definition data was a three-part process. First, all definitions were allocated an accuracy score based classifications from Hall et al. (2019): (1) *Senseless, silly, not credible as an answer,* (2) *Seems to misunderstand what it means, or says they have no idea,* (3) *Somewhat suggests the trait [e.g., naming just one of several possible facets of the trait], and* (4) *Fits an obvious way of defining the trait.* For example, the definitions: "someone selfish and arrogant", "rejection of other people's ideas", "someone that dislikes something a lot", and "self-praise is donkey praise" received accuracy scores of 4, 3, 2 and 1, respectively.

Second, an inductive narrative thematic analysis process was used to sort the definitions into conceptually similar categories (see Hall et al., 2019). Each definition was then allocated a code that pertained to each of the major categories (e.g., code 1 = Social Selfishness). Definitions could be allocated multiple different codes, however if participants made multiple statements that referred to only one code, that code was allocated only once. A full coding manual for the 10 Narrative Narcissism Codes is available within Appendix A (see Table A1 [Appendix A]).

Finally, we examined the extent to which participants' definitions of narcissism overlapped with the contents of common assessment measures: NPI-40 (Ackerman et al.'s [2011] three-factor solution; Ackerman et al.'s [2016] five-factor solution; Raskin & Terry's

[1988] seven-factor solution), the Grandiose Narcissism Scale (GNS; Foster et al., 2015), and the Five Factor Narcissism Inventory (Glover et al., 2012). Definitions were given a facet code if they conceptually matched the relevant facet from any of the measures (definitions could be allocated more than one code). For example, the definition "narcissism is when a person holds superior beliefs about themselves" would receive the following facet codes: NPI-7 Superiority, NPI-5 – Superiority, GNS – Superiority, and FFNI – Arrogance.

The first author conducted all coding. Following Syed and Nelson's (2015) guidelines, we randomly selected 20% of the definitions to be independently coded by a trained research assistant. The research assistant indicated agreement with the coding decisions of the first author 85% (narcissism narrative codes) and 90% (facet codes) of the time.

Results

We begin by describing participants' self-reported knowledge about narcissism and the perceived desirability of narcissistic traits and behaviors, before highlighting the emergent themes that were present in participants' definitions. Next, we compare participants' definitions with the content of common narcissism measurement scales and examine participants' endorsement of the NPI as reflective of their own conceptualization of narcissism. Finally, we explore participants' chosen terms that best conceptualize the opposite of narcissism.

Self-Reported Accuracy and Knowledge

Four definitions received accuracy ratings below 3 and were removed from subsequent analyses without impacting the overall pattern of findings. The remaining

definitions received ratings of either 3 (18.3%) or 4 (79.7%). Familiarity and confidence scores regarding the term 'narcissism' were strongly correlated ($r(200) = .82$, $p < .001$), so we created a 'knowledge' index comprised of an average of participants' score on both variables. There were no associations between knowledge scores and NPI scores, age, or political orientation (all ps ≥ .068). We also found no gender differences in self-reported knowledge ($M_{male} = 67.64$, $M_{female} = 63.66$; $t(194.47) = 1.41$, $p = .162$, Cohen's $d = 0.20$).

Perceived Desirability of Narcissistic Traits

To examine participants' perceived desirability of narcissistic traits and behaviors, we computed an average valence rating for each participant. Narcissistic attributes (M = 1.89, $SD = 0.76$) were evaluated significantly less positively than the scale midpoint, t(197) = -38.89, $p < .001$; Cohen's $d = -2.76$). Participant narcissism (i.e., total NPI score) was positively associated with perceived desirability of narcissism, $r(198) = .18$, $p = .011$, such that narcissistic participants were less negative in their perceived desirability of narcissistic traits and behaviors. This pattern is consistent with the narcissistic tolerance hypothesis (Hart & Adams, 2014). Neither age nor political orientation were related to valence scores (ps ≥ .252) and no gender difference was found, $t(194) = .707$, $p = .582$, Cohen's $d = 0.10$.

Narcissism Narrative Codes

We present the percentages of participant narratives receiving each Narrative Narcissism Code in Table 3.1. The mean number of codes allocated per participant was 2.14 ($SD = 1.05$; range 1-6). Social Selfishness (persistently prioritizing oneself above others; having a self-centered worldview) was most frequently mentioned by participants (60%). Sample narratives that received this code were: "Being selfish and not caring about other

people" and "...putting your own needs before everyone else". Additionally, 41% of participants mentioned Vanity (excessive admiration of one's physical and mental attributes and abilities). Sample narratives that received this code were: "An unusually deep-seated love for the self, including body image" and "Obsessed with oneself".

Furthermore, at least a quarter of participants included Impaired Empathy (diminished concern for others' thoughts, emotions, and opinions; 29%) and Relational Grandiosity (preoccupation with one's own specialness and superiority *over others*; 27%) in their definitions. In contrast, the codes Stubbornness (refusing to change one's view or position, or to admits one's faults), Obliviousness (having no self-awareness over the impact of one's actions or how they are perceived by others), Attention-Seeking (engaging in exhibitionist, self-promoting behaviors), Deservingness (believing that you are innately entitled to others' attention, admiration and recognition), and Emotional Fragility (a tendency toward low or unstable self-esteem) were mentioned by less than 10% of participants.

Correlates of Narcissism Narrative Code Allocation

Next, we examined relationships between participant narcissism and the allocation of individual codes. While total NPI score was unrelated to the allocation of any particular codes (all ps ≥ .020), it was negatively associated with number of codes allocated ($r_s(196) = -.21$, $p = .004$), with participants scoring high in narcissism generating definitions with fewer codes. We also examined age, gender, and political orientation as correlates of code allocation. Age was correlated with Vanity code allocation ($r_{pb}(196) = .26$, $p < .001$), suggesting that older participants may consider vanity to be a more salient aspect of

narcissism. Political orientation and gender were both unrelated to code allocation (all *p*s ≥ .032).

Comparing Participant Definitions with Common Measurement Content

Table 3.2 shows the top three facets from each scale that were most frequently mentioned in participants' definitions (see Table A2 for percentages for all facet codes with example excerpts). The mean number of facet codes allocated per participant was 4.86 (*SD* = 3.26; range 0-22). The facet code 'FFNI - Entitlement' was the most commonly allocated, with 51% of definitions demonstrating conceptually similar content to this facet. The second most allocated facets were 'FFNI - Arrogance' and the NPI-7 and NPI-5 Superiority facets (all 44%).

Regarding the facets that were least reflected in participants' definitions, no definitions received the FFNI Acclaim-Seeking, Grandiose Fantasies, or Thrill-Seeking facet codes. Additionally, very few definitions received facet codes relating to the leadership/authority dimensions of the construct. This suggests that public understandings of narcissistic individuals as authoritative or risk-taking are less salient to most participants than notions of narcissistic individuals' arrogance and self-entitlement.

Endorsement of the NPI-13

Participants rated each NPI-13 item for how well it reflected their own personal definition of narcissism. The mean score across all items was 6.44 (*SD* = 1.39). The item receiving the highest rating was: "Finding it easy to manipulate people" (*M* = 7.24; *SD* = 1.93), and the lowest rating item was: "Feeling as though you are a good person because everybody keeps telling you so" (*M* = 4.63; *SD* = 2.24).

Next, we conducted a repeated measures ANOVA to compare levels of endorsement across facets. There was a significant effect of facet type, $F(1.70, 334.07) = 27.79$, $p < .001$, $\eta_p^2 = .097$. Pairwise comparisons revealed that the NPI-EE facet ($M = 6.72$; $SD = 1.51$) was perceived as more representative of narcissism compared to the NPI-GE facet ($M = 6.08$; $SD = 1.72$; $p < .001$; Cohen's $d = 0.39$). No differences were found between scores on the NPI-LA facet ($M = 6.61$; $SD = 1.65$) and the NPI-EE facet ($p = .589$), however, the NPI-LA facet was seen as more representative than the NPI-GE facet ($p < .001$, Cohen's $d = 0.33$).

Opposite of Narcissism

We conducted a repeated measures ANOVA to examine which term (selfless, altruistic, generous, modest) was perceived as best representing the opposite of narcissism. There was a significant effect, $F(2.85, 558.83) = 17.01$, $p < .001$, $\eta_p^2 = .080$. Post-hoc pairwise comparisons revealed that 'selfless' ($M = 4.26$; $SD = 1.24$) and 'modest' ($M = 4.10$; $SD = 1.19$), were seen as significantly more representative of the opposite of narcissism than 'generous' ($M = 3.82$; $SD = 1.10$), and 'altruistic' ($M = 3.74$; $SD = 1.19$; all ps $< .001$; Cohen's ds 0.24 – 0.45), with no difference in ratings between 'selfless' and 'modest' ($p = .231$).

To assess what other words might be representative of the opposite of narcissism, we conducted a frequency analysis on all words offered by participants. Of the 112 unique words generated, those listed by 10 or more were: Kind (28), Empathetic (21), Caring (15), Humble (12), and Considerate (12). Participants who offered additional terms ($n = 128$) still rated the term 'Selfless' ($M = 4.29$; $SD = 1.21$) as more representative of the opposite of narcissism than their suggested alternatives ($M = 3.98$; $SD = 1.05$; $t(127) = 3.18$, $p < .001$, Cohen's $d = 0.28$). Furthermore, there was a significant difference between the terms

participants selected as best representing the opposite of narcissism ($X^2(4) = 159.53$, $p < .001$), with 55% of respondents selecting selfless, and less than a quarter selecting modest (16%), altruistic (13%), generous (4%), or 'other' (12%).

Table 3.1: *Percentages of Participant Definitions Allocated Each Narcissism Code*

	Code Name	Example definition	%
1	Social Selfishness	*"Someone who only thinks about themselves"*	60
2	Vanity	*"Being vain; loving yourself"*	41
3	Impaired Empathy	*"Struggling to see from others' points of view"*	29
4	Relational Grandiosity	*"Someone who feels they are superior to others"*	27
5	Social Aggression	*"Gets enjoyment from putting others down"*	21
6	Stubbornness	*"Refuses to see flaws in their behavior"*	9
7	Obliviousness	*"Self-obsessed but unaware"*	9
8	Attention-Seeking	*"Having the desire to be the center of attention"*	8
9	Deservingness	*"Narcissism is characterized by self-entitlement"*	5
10	Emotional Fragility	*"...it comes from a place of deep-seated insecurity"*	4

Note. Percentages exceed 100 as some participant definitions mentioned multiple codes. $N = 198$.

Table 3.2: *Top and Bottom Three Facets of Each Narcissism Measure Allocated to Definitions*

Measure	Top Facets (%)	Bottom Facets (%)
FFNI	Entitlement (51)	Thrill-Seeking (0)
	Arrogance (44)	Grandiose Fantasies (0)
	Lack of Empathy (32)	Acclaim-Seeking (0)
GNS	Superiority (44)	Self-Sufficiency (0)
	Exploitativeness (23)	Authority (4)
	Exhibitionism (10)	Vanity (6)

NPI-7	Superiority (44)	Self-Sufficiency (2)
	Exploitativeness (17)	Authority (4)
	Exhibitionism (11)	Vanity (6)
NPI-5	Superiority (44)	Leadership (5)
	Manipulativeness (16)	Vanity (7)
	Exhibitionism (10)	Exhibitionism (10)
NPI-3	E/E (25)	L/A (5)
	GE (15)	GE (15)
	L/A (5)	E/E (25)

Note. FFNI = Five Factor Narcissism Inventory; GNS = Grandiose Narcissism Scale; NPI-7, NPI-5 and NPI-3 = Narcissistic Personality Inventory seven-, five-, and three-factor solutions, respectively. E/E = Entitlement/Exploitativeness; GE = Grandiose Exhibitionism; LA = Leadership/Authority. Percentages exceed 100 as participant definitions could mention multiple codes.

Discussion

Using a bottom-up approach, Study 1 revealed that the most commonly mentioned aspect of narcissism was social selfishness, followed by vanity, relational grandiosity, and impaired empathy. That this constellation of traits was most prominent in the minds of laypeople converges with research demonstrating that people tend to view grandiose (vs. vulnerable) aspects of narcissism as more prototypical (e.g., Carlson et al., 2011; Miller et al., 2018). Furthermore, that social selfishness was the trait most frequently mentioned by participants suggests some level of consensus between the public views of narcissism and contemporary models of the construct that propose the underlying narcissistic nucleus to be antagonism/entitlement (Campbell, 2022; Miller et al., 2021).

That said, our findings also signaled areas of non-overlap between lay conceptualizations of narcissism and the content of widely used narcissism scales. For

example, although the majority of participants' narcissism definitions focused on social selfishness, items *explicitly* capturing this aspect across the measures we examined were scarce. Indeed, only the FFNI and GNS contain items that *directly* tap into this theme (e.g., "I sacrifice my own needs for those of others" [FFNI-Entitlement] and "I deserve more out of life than other people" [GNS – Entitlement]). Moreover, more than two-fifths of the participants emphasized vanity in their definitions of narcissism. Yet, of the 40 items that comprise the NPI, only three directly relate to narcissistic vanity (e.g., "I like to show off my body"), with the FFNI completely lacking in items directly denoting vanity.

Likewise, regarding the theme of relational grandiosity – another prominent aspect of participants' narcissism concepts – only the FFNI and GNS specifically address the comparative nature of this feature (i.e., feeling special *in comparison to* others) with items such as "I only associate with people of my caliber" (FFNI-Arrogance) and "I'm more talented than most other people" (GNS – Superiority). Conversely, the NPI (ratings version) measures superiority via items such as "I will be a success" and "I like to be complimented", which may not necessarily reflect the relational element of narcissistic grandiosity emphasized by our participants.

In addition to the scarcity of items directly capturing key aspects of lay definitions, we also found that many scale items captured phenomena absent from participants' concepts. For example, participants scantly mentioned leadership/authoritative tendencies in their personal definitions, yet the Leadership/Authority facets of the NPI-40 include the largest proportion of items relative to all other facets. It should be noted, however, that previous research has found both lay raters and professionals with expertise in these constructs (e.g., clinicians, academicians) rate traits such as assertiveness and ambitions as

prototypical of narcissism (Miller et al., 2018). Nonetheless, these aspects were not *spontaneously emphasized* by our participants. Additionally, three facets of the FFNI (Thrill-Seeking, Acclaim-Seeking, and Grandiose Fantasies), as well as the GNS Self-Sufficiency facet, were found to share minimal, if any, conceptual similarity with lay definitions, suggesting that these aspects are not readily salient in public conceptualizations of narcissism.

Further, participant narcissism was positively associated with the perceived desirability of narcissistic traits. These findings support and extend the narcissistic tolerance hypothesis. Whereas past research has found that narcissistic (vs. non-narcissistic) individuals perceive hypothetical characters possessing narcissistic traits as more likeable (Burton et al., 2017; Hart & Adams, 2014), the present study demonstrates that the same effect is replicated when using a bottom-up, concept level approach.

Study 1 also provided further knowledge regarding the relationship between conceptualizations of narcissism and demographic variables. While gender was found to be unrelated, age represented a significant factor in one's concept of narcissism, such that older participants were more likely to emphasize vanity when defining the construct and also more greatly endorsed the NPI as representative of their own narcissism concept. This indicates potential generational differences in public perceptions of narcissism; indeed, age represents a negative predictor of vanity (Wetzel et al., 2020). Consequently, younger participants may be more likely to normalize the trait, which accordingly becomes less readily salient in their narcissism conceptualizations.

Overall, Study 1 provides initial evidence that lay conceptualizations of narcissism tend to emphasize its social selfishness and vanity aspects. However, while Study 1

represents a novel, bottom-up approach of public understandings of the *concept* of narcissism, it did not address how people conceptualize narcissism at the *person* level. Thus, Study 2 focuses on perceptions of narcissistic individuals and the personal values, personality traits and interpersonal qualities that people associate with narcissistic individuals.

Study 2 – How do people perceive narcissistic (vs selfless) people?

While Study 1 analyzed personal definitions of narcissism, Study 2 explores a different question – how do people conceptualize narcissism at the *person* level? Specifically, we asked the following questions: what freely listed words do people generate when asked to describe a narcissistic (vs. selfless) acquaintance? How desirable do people perceive these words to be? How do people evaluate narcissistic (vs. selfless) targets across a range of attributes, such as their personal values, Big Five, and interpersonal traits [warmth, competence, liking, and success]? And, finally, to what extent might one's own narcissism influence evaluations of narcissistic (vs. selfless) acquaintances?

We randomly assigned participants to think about an individual they knew that they would consider to be either very narcissistic or very selfless (the label most perceived as the opposite of narcissism, from Study 1). We asked participants to list five words that they associated with that individual's character, and how desirable they rated their chosen terms to be, before indicating their perceptions of that individual's attributes and personal values.

Based on extant theoretical frameworks and research, we focused on perceptions of a set of outcomes: personal values, interpersonal traits [warmth, competence, liking and success], Big Five traits, self-esteem, and political orientation. First, *values* represent trans-

situation goals and ideals that serve as guiding principles in an individual's life (Schwartz et al., 2012). Research has positively linked all facets of narcissism to self-enhancement values (e.g., wealth, ambition, personal success), and antagonistic, neurotic, and communal narcissism negatively to self-transcendent values (e.g., equality, honesty; see Nowak et al., 2022). Additionally, agentic narcissism (the sub-facet of grandiose narcissism typified by self-enhancement in the agentic domain [e.g., ambition, drive; see Sedikides, 2021]) has been found to be positively correlated with openness to change values (e.g., freedom, curiosity, adventurousness) and negatively correlated with conservation values (e.g., politeness, respect for tradition, obedience). However, to the best of our knowledge, research has not yet examined the types of values people *perceive* to be important for narcissistic individuals.

Second, regarding perceptions of *interpersonal traits*, we focused on warmth, competence, liking, and success. Although NPI scores have been significantly related to perceptions of greater agency (e.g., being seen as having high aspirations and being productive), but not communion (e.g., being seen as sympathetic, considerate, and giving; see Park & Colvin, 2014), to our knowledge research is yet to explicitly assess perceptions of narcissistic individuals' warmth and competence. This is important because, as per the Stereotype Content Model (SCM; for a review see Fiske, 2018), warmth and competence represent fundamental aspects of social perception. Additionally, we focused on perceptions of liking, as previous research has found that perceiver narcissism predicts perceived tolerance for others' narcissism. For example, narcissism was positively associated with liking fictional characters described as possessing narcissistic traits (Hart & Adams, 2014). Lastly, we focused on perceptions of success, as research has positively

associated grandiose narcissism with greater academic and occupational success throughout one's life (O'Reilly & Pfeffer, 2021).

Third, regarding the Big 5, research has linked narcissism positively to perceived extraversion and negatively to perceived agreeableness, as rated by close others (Carlson et al., 2011). However, the literature on other-perceptions of narcissism has heavily relied on the use of procedures where participants are asked to recruit friends to serve as raters. Research examining the relationships between participant raters and their targets found that participants tend to nominate raters who like them and are more likely to describe the target's personality in positive ways (Leising et al., 2010).

Finally, at an exploratory level, we examined perceptions of *self-esteem* and *political orientation*. Although self-esteem and grandiose narcissism are phenotypically distinct, they are positively correlated (Hyatt et al., 2018a). Yet, research has demonstrated that people generally hold the belief that narcissism is linked to covert insecurity (Stanton et al., 2018). Regarding political orientation, perceptions of others' political ideologies predict important social outcomes (Westwood et al., 2018). While perceptions of narcissistic individuals' political orientations are yet to be empirically examined, people on both sides of the political spectrum have been found to be equally narcissistic (Hatemi & Fazekas, 2018).

A number of predictions were made. First, to the extent that narcissistic individuals attach greater importance to self-enhancement values and lower importance to self-transcendence values relative to non-narcissistic individuals, we predict that narcissist acquaintances will be perceived as attaching greater importance to self-enhancement values and lower to self-transcendence values compared to selfless acquaintances. Further,

given our previous findings regarding evaluations of narcissism, we expect narcissistic acquaintances to be evaluated more negatively than selfless acquaintances. We made no predictions on perceived self-esteem and political orientation. Finally, based on the narcissistic tolerance hypothesis (Hart & Adams, 2014) and the results of Study 1, we expected that evaluations of narcissistic acquaintances would be positively correlated with participants' own narcissism.

Method

Participants

We recruited 682 UK participants, via Prolific (who each received 94p for their participation) and a University participant panel (who each received course credit). A mixed sample was guided by affordability. Participants from Study 1 were unable to participate in Study 2. Forty-two respondents were excluded for failing the honesty check or attention check; the final sample was 640 (317 from Prolific; 323 from university panel; 448 females, 181 males, 9 other, 2 did not to say; 29% with a college degree; M_{age} = 29.38; SD = 14.45).

Based on guidelines by Sommet et al. (2023) for detecting patterns of moderated regression effects (in our case, a mixed design with a predicted significant simple slope in one condition), a sample size of 624 was required to achieve 80% power at α = .05. Further, a post-hoc sensitivity analysis using G*Power (Faul et al., 2009) confirmed that our final sample (N = 640) was sufficient to detect an interaction effect of f^2 = 0.012.

Materials and Procedure

Word Generation Task

Materials were presented via Qualtrics. Participants were randomly assigned to consider someone that they knew to be either very *narcissistic* or very *selfless*. In both cases, participants were asked to name their chosen acquaintance and list five words that they would use to describe that person's character. They were requested to limit their responses to single words or two-word phrases and to resist using tools such as an online dictionary or thesaurus.

Following this, participants completed an honesty check (i.e., asking them to confirm whether they generated all words themselves) before evaluating each of their listed traits for valence (1 = extremely negative; 7 = extremely positive).

Perceptions of Targets' Values

Next, participants completed a series of tasks regarding their named acquaintance. First, to measure perceived values, participants completed a shortened version of the Schwartz's Value Survey (SVS; Schwartz, 1992). Participants rated the extent to which they perceived Schwartz's four primary value types (self-transcendence, self-enhancement, openness, and conservation) as important to their named acquaintance (0 = not at all, 100 = a great deal). Four values were used for each main value type (e.g., perceived self-transcendence was measured with the following item: "Please rate how important you feel honesty, equality, forgiveness, and protecting the environment is to [named person]").

Perceptions of Targets' Personality Traits

Participants evaluated their target's Big 5 personality traits using the Ten-Item Personality Inventory (TIPI), a measure with acceptable psychometric properties (Gosling et al., 2003). Participants rated their target on various traits (e.g., extraverted, enthusiastic; 0 = not at all, 100 = a great deal). Additionally, participants rated their target across four

interpersonal dimensions (warm, competent, likeable, and successful; 0 = not at all, 100 = extremely), and reported their perception of their target's self-esteem (0 = extremely low, 100 = extremely high). Lastly, participants indicated their perceptions of their target's political orientation (0 = extremely liberal, 100 = extremely conservative).

Narcissistic Personality Inventory – Likert version

Participants completed the Likert rating NPI (Gentile et al., 2013). Our university participants completed the NPI-40; for reasons of economy our Prolific participants completed the NPI-13. For all participants, an NPI score was derived based on the NPI-13 items (M = 3.18; SD = 0.94; both $\alpha > .87$).

Participant Personality Traits

Next, participants completed the Ten-Item Personality Inventory (TIPI; Gosling et al., 2003; "I see myself as anxious, easily upset"; 1 = strongly disagree, 7 = strongly agree). Following this, participants completed two one-item measures of self-esteem. As an indirect measure of self-esteem, participants completed the Name-Liking measure (Gebauer et al., 2008), whereby they indicated how much they liked their own name (1 = not at all, 7 = very much). As a direct measure of self-esteem, participants completed the Single-Item Self-Esteem Scale (Robins et al., 2001), by indicating their agreement with the statement: "I have high self-esteem" (1 = not very true of me, 7 = very true of me). All of these measures have acceptable psychometric properties.

Familiarity and Confidence

Participants then reported their familiarity with, and confidence in, their understanding of their assigned term (e.g., "narcissism" or "selflessness") using a slider scale (0 = Not at all familiar/confident, 100 = extremely familiar/confident). As familiarity

and confidence scores strongly positively correlated in both the narcissistic ($r(317) = .80$, $p < .001$) and selfless ($r(323) = .73$, $p < .001$) conditions, we computed an index of the two scores labelled 'knowledge'.

Following this, we asked participants to define their assigned term. Participants were told that they could provide as much detail as they wished and reminded not to use any tools to assist them. There was no time limit given for the task. The percentages of narcissism definitions receiving each Narrative Narcissism Code from Study 2 can be found in Table A3. Lastly, participants reported their age, gender and political orientation (0 = extremely liberal, 100 = extremely conservative).

Results

We start by describing participants' self-reported knowledge about narcissism and selflessness, before highlighting the most frequently listed words used to describe narcissistic and selfless acquaintances. Next, we report the effects of participant narcissism, experimental condition (i.e., allocation to the narcissistic or selfless condition) and their interaction on perceptions of acquaintances' desirability, values, favorability, and Big 5. As they were exploratory, findings on self-esteem and political orientation are reported in Appendix A.

Self-Reported Knowledge

Participants reported significantly less knowledge of 'narcissism' compared to 'selflessness' ($M_{narc} = 72.09$, $M_{self} = 85.91$; $t(588.88) = -10.69$, $p < .001$, Cohen's $d = 0.85$). There was a small but significant correlation between participant NPI scores and knowledge of narcissism, $r(317) = .166$, $p = .003$.

Descriptions of Narcissistic and Selfless Acquaintances

The most frequently listed words used to describe narcissistic and selfless targets are shown in Table 3.3. Participants listed 555 words to describe narcissistic acquaintances, and 327 to describe selfless acquaintances. 'Selfish' was chosen most often to describe a narcissistic acquaintance, followed by 'self-centered', aligned with the thematic analyses in Study 1, which focused on the concept of narcissism.

Table 3.3: *Words Listed Ten or More Times to Describe Narcissistic and Selfless Targets*

Narcissistic	**Selfless**
Selfish (170)	Kind (240)
Self-centered (85)	Caring (165)
Rude (65)	Generous (153)
Arrogant (63)	Thoughtful (78)
Manipulative (63)	Loving (71)
Vain (54)	Giving (64)
Egotistical (34)	Helpful (52)
Self-absorbed (33)	Empathetic (41)
Mean (29)	Considerate (37)
Self-obsessed (25)	Compassionate (37)
Controlling (23)	Friendly (35)
Confident (21)	Humble (21)
Annoying (21)	Happy (20)
Fake (16)	Reliable (20)
Cold (16)	Nice (18)

Perceptions of Narcissistic and Selfless Acquaintances

First, we conducted analyses of absolute differences on mean ratings (i.e., the degree to which narcissistic and selfless acquaintances were perceived as actively evincing a specific attribute, value, etc.; see Table 3.4). This was achieved via one-sample t-tests on

differences between participants' ratings on each outcome and the scale midpoint.[1] Narcissistic acquaintances were seen as significantly less endorsing of self-transcendence and conservation values and significantly more endorsing of self-enhancing values than the scale mid-point. Furthermore, in line with the trifurcated model of narcissism, narcissistic individuals were seen as significantly less agreeable and conscientious, and significantly more extraverted and neurotic relative to the scale midpoint. Narcissistic individuals were also perceived less favorability (on an index of warmth, likeability, competent and successful) relative to the scale midpoint.

Next, to examine the effect of condition, participant NPI, and their interaction on perceptions of acquaintances' desirability, values, Big Five traits, interpersonal traits, self-esteem, and political orientation, we ran a series of moderated regression analyses using Hayes' (2022) PROCESS macro (95% confidence intervals based on 10,000 bootstrap samples; see Table 3.4). We mean-centered predictor variables and used simple slopes analysis to estimate the effect of the independent variable (participant NPI) on perception ratings at each level of the moderator variable.[2] Across all models, we also tested whether results were influenced by sample type (Prolific vs. student participants). Including sample type as a covariate did not alter the significance of any main or interaction effects, and the covariate itself was not significant in any analysis. Full model outputs are available on the project's OSF repository.

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[1] The Benjamini-Hochberg (B-H; 1995) procedure, which controls for false discovery rates, was used to correct for multiple comparisons of means. After applying the correction, adjusted p-values were derived for each analysis, with the false discovery rate controlled at a 5% threshold. All significant differences remained significant after applying the correction.

[2] The B-H procedure was applied on main and interaction regression effects. Adjusted p-values are presented in the text and Table 3.4.

Desirability of Listed Attributes

To begin, we examined the effect of condition, participant NPI, and their interaction on the perceived desirability of listed attributes (we computed an average valence rating for each participant). As expected, we found a significant main effect of condition, b = -4.37, SE = 0.056, t = -77.70, p = .003. Overall, attributes linked with narcissistic acquaintances (M = 2.10; SD = 0.81) were evaluated more negatively than attributes linked with selfless acquaintances (M = 6.48; SD = 0.61). The main effect of participant NPI was non-significant (b = 0.14, SE = 0.030, t = 0.47, p = .642). The interaction was significant, b = 0.19, SE = 0.060, t = 3.13, p = .005 (ΔR^2 = .0015). NPI scores were positively linked with perceived desirability of a narcissistic acquaintance (b = 0.11, SE = 0.045, t = 2.41, p = .016) and negatively linked with perceived desirability of a selfless acquaintance (b = -0.080, SE = 0.040, t = -2.00, p = .046).

Perceptions of Warmth, Liking, Competence, and Success

As the perceived warmth, liking, competence, and success variables demonstrated moderate to large intercorrelations in both conditions (rs = .27-.88), we examined their underlying factor structure using exploratory factor analysis (Direct Oblimin rotation). All items loaded onto a single factor (see Table A4), so we computed a 'favorability' rating for each participant comprised of their average scores on all four items. For brevity, we report the favorability index analyses. Analyses on individual items are reported in the Supplemental Materials (see Table A5).

As expected, the main effect of condition was significant, b = -43.49, SE = 1.31, t = -33.31, p = .003. Overall, narcissistic acquaintances (M = 40.02, SD = 20.28) were rated less favorably than selfless acquaintances (M = 83.56; SD = 11.81). The main effect of

participant NPI was non-significant (b = 0.04, SE = 0.70, t = -0.058, p = .954). The interaction was significant, b = 3.84, SE = 1.40, t = 2.74, p = .012 (ΔR^2 = .0043). NPI scores were positively (but not significantly) linked with favorability ratings of narcissistic acquaintances (b = 1.98, SE = 1.05, t = 1.88, p = .061) and negatively linked with favorability ratings of selfless acquaintances (b = -1.86, SE = 0.92, t = -2.02, p = .044).

Value Importance

We examined the effect of participant NPI, experimental condition and their interaction on Schwartz's four value types. For self-transcendence values, we found a significant main effect of condition, b = -46.35, SE = 1.68, t = -27.67, p = .003. Overall, narcissistic acquaintances (M = 29.50, SD = 24.39) were judged as less likely to perceive self-transcendence values as important relative to selfless acquaintances (M = 76.02; SD = 17.59). The main effect of participant NPI was non-significant (b = 1.28, SE = 0.90, t = -1.43, p = .153). The interaction was significant, b = 4.61, SE = 1.79, t = 2.57, p = .017 (ΔR^2 = .0047). NPI scores were positively linked with perceiving narcissistic acquaintances as placing more importance on self-transcendence values (b = 3.61, SE = 1.35, t = 2.67, p = .008). There was no effect of NPI scores on judgments of selfless acquaintances (b = –1.00, SE = 1.18, t = –0.85, p = .397).

For self-enhancement values, we found a significant main effect of condition, b = 37.51, SE = 1.86, t = 20.15, p = .003. Overall, narcissistic acquaintances (M = 76.31, SD = 22.86) were rated as more likely to perceive self-enhancement values as important relative to selfless acquaintances (M = 39.00; SD = 24.34). The main effect of participant NPI was non-significant (b = 1.60, SE = 1.00, t = 1.60, p = .109). The interaction was significant, b = -4.59, SE = 2.00, t = -2.30, p = .036 (ΔR^2 = .0051). NPI scores were positively linked with

perceiving selfless acquaintances as placing more importance on self-enhancement values (*b* = 3.87, *SE* = 1.31, *t* = 2.95, *p* = .003). There was no effect of NPI scores on judgments of narcissistic acquaintances (*b* = –0.72, *SE* = 1.50, *t* = –0.48, *p* = .658).

For openness values, we found a significant main effect of condition, *b* = -14.30, *SE* = 2.02, *t* = -7.08, *p* = .003. Overall, narcissistic acquaintances (M = 50.66, SD = 28.51) were rated as less likely to perceive openness values as important relative to selfless acquaintances (*M* = 65.33; *SD* = 22.25). The main effect of NPI was significant, *b* = 2.70, *SE* = 1.08, *t* = 2.50, *p* = .013, such that higher NPI scores were associated with higher openness ratings overall. The interaction was non-significant (*b* = 1.15, *SE* = 2.16, *t* = 0.53, *p* = .678).

For conservation values, we found a significant main effect of condition, *b* = -29.77, *SE* = 1.95, *t* = -15.23, *p* = .003. Overall, narcissistic acquaintances (M = 32.04, SD = 24.89) were rated as less likely to perceive conservation values as important relative to selfless acquaintances (*M* = 62.15; *SD* = 24.64). The main effect of NPI was significant, *b* = 2.51, *SE* = 1.05, *t* = 2.40, *p* = .017, indicating that higher NPI scores were associated with higher perceived conservation values across conditions. The interaction was non-significant (*b* = -2.10, *SE* = 2.09, *t* = -1.00, *p* = .402).

Perceptions of Big Five Attributes

For agreeableness, we found a significant main effect of condition, *b* = -53.65, *SE* = 1.27, *t* = -42.22, *p* = .003. Overall, narcissistic acquaintances (M = 23.79, SD = 15.68) were rated as less agreeable than selfless acquaintances (*M* = 77.40; *SD* = 16.70). The main effect of NPI was not significant, *b* = –3.42, *SE* = 0.68, *t* = –0.50, *p* = .62. The interaction was significant, *b* = 5.23, *SE* = 1.36, *t* = 3.84, *p* = .003 (ΔR^2 = .0060). NPI scores were positively linked with perceived agreeableness of narcissistic acquaintances (*b* = 2.30, *SE* = 1.02, *t* =

2.24, p = .025) and negatively linked with perceived agreeableness of selfless acquaintances (b = –2.93, SE = 0.90, t = –3.27, p = .001).

For conscientiousness, we found a significant main effect of condition, b = -28.41, SE = 1.63, t = -17.47, p = .003. Overall, narcissistic acquaintances (M = 47.37, SD = 23.88) were rated as less conscientious than selfless acquaintances (M = 75.60; SD = 16.69). The main effect of participant NPI (b = -1.32, SE = 0.87, t = -1.52, p = .130) and interaction (b = 2.65, SE = 1.74, t = 1.52, p = .176) were non-significant.

For extraversion, we found a significant main effect of condition, b = 5.12, SE = 1.74, t = 2.95, p = .007. Overall, narcissistic acquaintances (M = 67.82; SD = 20.21) were rated as more extraverted than selfless acquaintances (M = 62.67; SD = 23.43). The main effect of participant NPI (b = -0.18, SE = 0.93, t = -0.19, p = .847) and interaction (b = -1.86, SE = 1.86, t = -1.00, p = .402) were non-significant.

For neuroticism, we found a significant main effect of condition, b = 27.54, SE = 1.90, t = 14.48, p = .003. Overall, narcissistic acquaintances (M = 62.50; SD = 21.18) were rated as more neurotic than selfless acquaintances (M = 35.16; SD = 26.48). The main effect of participant NPI (b = 1.50, SE = 1.02, t = 1.47, p = .141) and interaction (b = -0.51, SE = 2.04, t = -0.25, p = .804) were non-significant.

For openness, we found a significant main effect of condition, b = -23.91, SE = 1.73, t = -13.80, p = .003. Overall, narcissistic acquaintances (M = 50.18; SD = 20.29) were rated as less open than selfless acquaintances (M = 74.17; SD = 23.25). The main effect of participant NPI (b = 0.59, SE = 0.93, t = 0.64, p = .523) and interaction (b = -0.55, SE = 1.86, t = -0.29, p = .792) were non-significant.

Table 3.4: *NPI, Condition and NPI × Condition Predictors of Perception Ratings*

	Narcissistic		Selfless		Predictors	*B (SE)*	*t*	*BS CI*
	M	SD	M	SD				
Attributes								
Listed Attributes	2.10***	0.81	6.48***	0.61	NPI**	-0.27 (0.09)	-2.93	[-0.45, -0.09]
					Cond***	-4.37 (0.06)	-77.70	[-4.48, -4.26]
					NPI × Cond**	0.19 (0.06)	3.13	[0.07, 0.31]
Favorability	40.02***	20.28	83.56***	11.81	NPI**	-5.74 (2.12)	-2.70	[-9.90, -1.57]
					Cond***	-43.53 (1.31)	-33.30	[-46.10, -40.96]
					NPI × Cond**	3.87 (1.40)	2.77	[1.13, 6.62]
Values								
Self-Transcendence	29.50***	24.39	76.02***	17.59	NPI	-5.61 (2.72)	-2.06	[-10.96, -0.27]
					Cond***	-46.35 (1.68)	-27.67	[-49.64, -43.06]
					NPI × Cond*	4.61 (1.79)	2.57	[1.09, 8.14]
Self-Enhancement	76.31***	22.86	39.00***	24.34	NPI**	8.46 (3.03)	2.80	[2.53, 14.41]
					Cond***	37.52 (1.86)	20.15	[33.86, 41.17]
					NPI × Cond*	-4.59 (1.99)	-2.30	[-8.51, -0.68]
Openness	50.66	28.51	65.33***	22.25	NPI	0.98 (3.27)	0.30	[-5.46, 7.42]
					Cond***	-14.30 (2.02)	-7.08	[-18.26, -10.33]
					NPI × Cond	1.15 (2.16)	0.53	[-3.10, 5.39]
Conservation	32.04***	24.89	62.15***	24.64	NPI	5.65 (3.18)	1.78	[-0.59, 11.89]
					Cond***	-29.77 (1.95)	-15.23	[-33.61, -25.93]
					NPI × Cond	-2.10 (2.09)	-1.00	[-6.22, 2.01]
Big 5								
Agreeableness	23.79***	15.68	77.40***	16.70	NPI***	-8.16 (2.07)	-3.95	[-12.21, -4.10]
					Cond***	-53.65 (1.27)	-42.22	[-56.15, -51.16]
					NPI × Cond***	5.23 (1.36)	3.84	[2.55, 7.90]
Conscientiousness	47.37*	23.88	75.60***	16.69	NPI	-5.28 (2.64)	-2.00	[-10.47, -0.10]
					Cond***	-28.41 (1.63)	-17.47	[-31.60, -25.21]
					NPI × Cond	2.65 (1.74)	1.52	[-0.77, 6.08]

Extraversion	67.82***	20.21	62.67***	23.43	NPI	2.61 (2.82)	0.92	[-2.94, 8.15]
					Cond**	5.12 (1.74)	2.95	[1.70, 8.53]
					NPI × Cond	-1.86 (1.86)	-1.00	[-5.52, 1.79]
Neuroticism	62.50***	21.18	35.16***	26.48	NPI	2.26 (3.09)	0.73	[-3.81, 8.33]
					Cond***	27.54 (1.90)	14.48	[23.81, 31.28]
					NPI × Cond	-0.51 (2.04)	-0.25	[-4.51, 3.50]
Openness	50.18	20.29	74.17***	23.25	NPI	1.41 (2.82)	0.50	[-4.12, 6.94]
					Cond***	-23.91 (1.73)	-13.80	[-27.31, -20.51]
					NPI × Cond	-0.55 (1.86)	-0.29	[-419, 3.10]

Note. Mean values are compared versus scale midpoint. Standard errors are given in parenthesis. NPI = Narcissistic Personality Inventory. Cond refers to 'selfless' (0) vs. 'narcissistic' (1) acquaintance experimental manipulation. *p < .05; ** p < .01; *** p <.001.

Discussion

Directly paralleling our thematic analysis in Study 1, the most frequently listed term to describe narcissism was selfish. This provides further evidence that the selfishness dimension of narcissism is particularly salient when laypersons are asked to consider narcissism at the concept and person levels. Overall, the valence of participants' self-reported attributes of a narcissistic acquaintance were more negative than those of a selfless acquaintance. Similar to Study 1, we found a positive association between participant narcissism and perceived desirability of self-reported narcissist-relevant attributes, such that participants scoring higher in narcissism were less negative in their ascriptions of a narcissistic acquaintance. A similar pattern was observed on the favorability index.

Regarding perceptions of narcissistic (vs. selfless) acquaintances' values, narcissistic acquaintances were perceived as placing greater importance on self-enhancement values and less importance on self-transcendence values, relative to selfless acquaintances. These perceptions reflect the pattern of associations between narcissism and personal values examined by Nowak et al. (2022). Further, more narcissistic participants perceived a narcissistic acquaintance as placing greater importance on self-transcendence values relative to less narcissistic participants, as well as perceiving a selfless acquaintance as placing greater importance on self-enhancement values.

Similarly, in terms of Big Five ratings, narcissistic (vs. selfless) individuals were rated as less open and conscientious and as more neurotic, disagreeable, and extraverted. This suggests consensus between public perceptions their narcissistic acquaintances and the

narcissistic personality profile posited by trifurcated model of narcissism (Miller et al., 2016; 2017).

General Discussion

Narcissism fosters significant public interest and cultural fascination in contemporary society. This is especially true within the landscape of social media such as YouTube and TikTok, with a plethora of online influencers sharing content claiming to help viewers diagnose themselves, or their partners, co-workers and family members. Yet, despite its cultural magnetism, lay conceptualizations of narcissism – and their (non-) convergence with academic models of the construct - are not well understood. This is important, as examinations of other psychological phenomena have revealed notable differences between academic and public understandings of core constructs (Hall et al., 2019; 2021). As such, broadening our knowledge of public conceptualizations of narcissism can offer important theoretical and psychometric insights, from aiding the development of measurement scales to predicting important social outcomes. Accordingly, across two studies, we examined public definitions of narcissism at the concept level (Study 1) and perceptions of narcissistic individuals (Study 2).

Across our studies we observed many novel findings with important implications. Regarding the content of respondents' perceptions, selfishness emerged as the most frequent theme associated with narcissism and narcissistic individuals. Whilst the prominence of selfishness suggests conceptual overlap between social-personality models and lay understandings (e.g., the trifurcated model posits antagonism, which includes low levels of altruism, as core to narcissism), it also indicates a degree of non-overlap with the contents of widely used measures of the construct. Understanding the content of lay

perceptions of narcissism has important consequences. First, divergences between layperson and academic conceptualizations of narcissism have implications regarding academics' communications with the public on this topic (e.g., via online psychology websites). For example, to the extent that lay and clinical understandings of narcissism differ, researchers publicly disseminating their findings might consider explicitly detailing the specific facets of narcissism (e.g., entitlement, exhibitionism) associated with their outcome(s) of interest, rather than broadly referring to the term. Indeed, experts often fail to value and recognize lay perceptions and knowledge when disseminating their work (Koizumi & Yamashita, 2021). Second, from a psychometric perspective, narcissism measures that explicitly use the term narcissism or narcissist (e.g., "To what extent do you agree with this statement: I am a narcissist"; Konrath et al. 2014), require a strong consensual understanding of the concept, something that can be questioned given our findings. Such differences in construal can impact how respondents answer questions.[3]

At the person-level, narcissistic acquaintances are seen as highly extraverted, disagreeable, and albeit to a lesser degree, neurotic and unconscientious (see Table 3.4). These findings broadly converge with Miller et al.'s (2016; 2017) trifurcated model of narcissism which posits that narcissism is a hierarchal construct comprised of three interrelated maladaptive personality facets (agentic extraversion, antagonism, and neuroticism). That lay people rated narcissistic acquaintances as lower on neuroticism relative to extraversion and disagreeableness also support previous research suggesting that people tend to emphasis the grandiose (vs. vulnerable) aspect of narcissism in their personal concepts of the trait (e.g., Carlson et al., 2011; Miller et al., 2018). This may be

[3] We thank a reviewer for highlighting this important point.

because the personality features associated with grandiose narcissism are comparably outward focused (e.g., extraversion, assertiveness, risk-taking) relative to traits associated with vulnerable narcissism, which tend to be more internalized (e.g., shame, envy, self-consciousness). Overall, however, narcissistic individuals are seen as possessing more negative personality traits, and as being more (less) likely to hold self-enhancement (self-transcendent) values. That narcissistic individuals are generally perceived unfavorably support past findings suggesting that their popularity wains significantly after first-meeting (Carlson et al., 2011).

Further, across both studies, evaluations of narcissism and narcissistic individuals varied as a function of the participant's own self-reported narcissism. In accordance with the narcissistic tolerance hypothesis, high (vs. low) narcissism participants perceived narcissistic attributes and acquaintances more positively. As such, we were able to replicate the effects of narcissistic tolerance using a bottom-up methodological approach bolstering its external validity.

Limitations and Future Directions

Across our studies, we used UK-based respondents. Future research could examine potential cross-cultural differences in perceptions of narcissism. Interestingly, there is evidence that narcissism can manifest in different forms across cultures, with its grandiose form (e.g., exhibitionism, dominance) more prevalent in independent cultures, and its vulnerable form (e.g., withdrawal, hypersensitivity) more prevalent in interdependent cultures (Jauk et al., 2021).

Further, although our comparison between lay definitions of narcissism and common narcissism measures in Study 1 utilizes widely used scales (e.g., the NPI, the

FFNI), future research may benefit from directly assessing (non-) convergence between lay definitions and the content of additional scales, particularly those that capture facets of narcissism beyond grandiosity and vulnerability (e.g., antagonistic, communal). Regarding measurement, some of our measures (e.g., Big 5) used brief, though psychometrically sound, measures of these constructs. Future research could use different measures of these constructs to further enhance generalization.

While Study 2 offers novel evidence that extend our knowledge of perceptions of narcissistic individuals, it should be noted that with our bottom-up approach it was not feasible to directly control for any potential effects of relationship type (e.g., parental, romantic, collegial) or duration. This is relevant because narcissists' likeability has been found to decrease over time, ranging from first impressions to close-other relationships (Carlson et al., 2011; Paulhus, 1998). Future research could therefore account for relationship status and length when examining acquaintance perceptions. That said, our research represents an innovative approach to understanding perceptions of narcissism at the concept and person level; broadening investigations beyond abstract vignette ratings and peer-nomination procedures.

Finally, adopting a bottom-up approach to study narcissism offers other unique insights. In a separate line of work, we used another bottom-up method – reverse correlation (Dotsch & Todorov, 2012) – to study how people visually represent narcissists when the selfish and vain components of narcissism are made salient, and the implications of these visual representations (Smith et al., 2025b). In this work, we found that people have very different visual representations (i.e., provide distinct classification images) of selfish and vain narcissistic individuals, and that when naïve participants are shown these

images, they make very different judgments about them, with the vain narcissist image judged as more agentic and attractive than the selfish narcissist image.

Concluding summary

In the age of social media and social influencers, narcissism has cultivated strong public interest and usage within the cultural sphere. In seconds, anyone can access a vast array of social media posts highlighting topics such as what people think narcissism is, the types of attributes and behaviors that people think make someone a narcissist, and guides on how to detect whether or not one's romantic partner is a narcissist. As we experience what might be referred to a cultural moment of narcissism, it is important to understand how people think about narcissism and narcissists, how these understandings overlap (or not) with social-personality psychology definitions, and the implications of such lay understandings.

In this paper, we demonstrated that, at both the construct and person level, people most strongly associate narcissism and narcissists with social selfishness and vanity. These associations show clear convergence with contemporary theoretical models of the narcissism that emphasize both agentic self-enhancement and antagonistic tendencies. . Notably, this distinction maps closely onto the Admiration-Rivalry framework (Back et al., 2013) and its operationalization in the Narcissistic Admiration and Rivalry Questionnaire (NARQ; Leckelt et al., 2018). However, although the NARQ aligns most closely with lay conceptions, it was developed to capture self-reported motivational tendencies rather than everyday relational experience. More broadly, commonly used measures of narcissism (e.g., the NPI, FFNI, and GNS), tend to underrepresent core relation and behavioral content that

is central to lay conceptualizations, underscoring the value of bottom-up approaches for understanding how narcissism is understood in everyday social life.

We also found that people perceive narcissism as undesirable, as measured across a range of interpersonal dimensions and behavioral intentions, however perceiver narcissism moderated such judgments for evaluations of abstract narcissistic attributes. And as fascination with narcissism continues to flourish, our findings suggest that the underlying theme of vain self-absorption that fortified Ovid's Narcissus 2,000 years ago is meaningfully represented in contemporary lay conceptualizations.

Chapter 4 – Paper 2: Lay Conceptions of Narcissism: A Prototype Approach

Preface to Chapter 4

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Candidate's contribution. The candidate developed the rationale and methodology, ran all four studies and collected data, conducted all statistical analyses, and drafted the full manuscript.

Estimated contribution. 80%

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Context within the thesis. This paper addresses RQ2 by applying prototype analysis to identify trait centrality, and contributes to RQ3 by examining whether narcissism shapes these perceptions. It builds on Paper 1 by formalising themes identified in lay definitions into structured trait models, and provides framing for the trait-based definitions used to generate visual representations of narcissism in Paper 3.

Overview of Paper 2

Paper 2 applied a prototype approach to further examine how laypeople conceptualize narcissism. Prototype analysis identifies the features regarded as most central or peripheral to a concept and tests whether this structure shapes judgments and cognition. Across four studies (total N = 718), we generated a set of narcissism features from free-listed responses (Study 1), derived their centrality and valence ratings to categorize them as central, peripheral, or marginal (Study 2), validated this structure in an impression formation task (Study 3), and tested its cognitive accessibility using a response latency classification paradigm (Study 4). Across studies, we examined whether individual differences in participant narcissism shaped perceptions of centrality, valence, and judgments of narcissistic targets.

Abstract

Despite over a century of theorizing, the nature of narcissism's fundamental qualities remains somewhat debated. This research adopted a bottom-up prototype approach to examine how people conceptualize the features most representative of narcissism. Study 1 established a list of 49 features of narcissism generated by a non-student sample. Study 2 allocated each feature to one of three categories - central, peripheral, or marginal - depending on how often they were classified as related to narcissism. Studies 3-4 tested the validity of these category divisions, demonstrating that central (vs. peripheral) and peripheral (vs. marginal) features were seen as more prototypical of narcissism in an impression formation task (Study 3) and were classified as features of narcissism more quickly (Study 4). Broadly, more central features related to aspects of grandiosity (e.g., vanity, attention-seeking) and egocentrism (e.g., selfishness, self-centeredness). Further, participants high (vs. low) in narcissism judged the features as more desirable and ascribed the central (vs. peripheral) and peripheral (vs. marginal) features more positive valence. The findings are discussed in relation to social-personality and clinical understandings of narcissism.

Lay Conceptions of Narcissism: A Prototype Approach

The *Cambridge Dictionary* (*n.d.*) defines narcissism as "too much interest and admiration for your own appearance and/or your own abilities". Intriguingly, despite a century long discordancy among scholars regarding the definition of narcissism (i.e., which traits comprise the structure of the construct; Crowe et al., 2019; Krizan & Herlache, 2018; Miller et al., 2017; Sedikides, 2021), this dictionary definition shares remarkable overlap with early clinical conceptualizations of the construct, which centered on vanity and self-admiration (see Levy et al., 2011). Contemporary research, however, has shifted toward multidimensional models, and while there is broad consensus on this, scholars differ in which quality they view as central to narcissism's defining core. Sedikides (2021), for example, highlights egocentric exceptionalism and interpersonal selfishness; Miller et al. (2016; 2017) emphasize antagonism as the binding feature; while Krizan and Herlache (2018) argue that entitlement typifies narcissism's foundational ontology.

Surprisingly, however, there is limited research examining public understandings of narcissism and what features are considered prototypical of the construct. Identifying this structure is important because it can help clarify which features people see as core to narcissism, highlights where everyday conceptions diverge from academic models, and reveals the traits most likely to shape recognition and judgment in everyday contexts. To address this gap, we conducted what we believe to be the first prototype analysis of laypersons' conceptualizations of narcissism. This bottom-up approach allowed for the generation of features empirically categorized according to their perceived centrality, providing insight into which qualities are regarded as core to the construct and enabling

direct comparisons between lay conceptualizations, contemporary social–personality models, and clinical accounts.

Conceptual Models of Narcissism

Although historically psychologists have grappled to achieve consensus about the nature of narcissism, the past couple of decades have seen meaningful progress regarding how to conceptualize and assess the construct (Miller et al., 2021). Narcissism is now generally accepted among researchers as a multidimensional construct minimally comprised of two distinct dimensions – typically labelled as grandiose narcissism and vulnerable narcissism (Campbell, 2022; Dickinson & Pincus, 2003; Weiss & Miller, 2018; Wink, 1991). Grandiose narcissism is typically associated with extraversion, exhibitionism, dominance, and risk-taking (see Sedikides, 2021 for a review). Conversely, vulnerable narcissism is typically characterized by introversion, low and fluctuating self-esteem, and defensiveness (Miller & Campbell, 2008; Thomas et al., 2012). These two dimensions diverge in emotionality; grandiose narcissists report higher self-esteem and subjective wellbeing in relation to their vulnerable counterparts, who are more prone to negative affectivity (e.g., anxiety, depression, shame; see Sedikides, 2021).

Recently, conceptual models of narcissism comprising of three, rather than two, distinct factors, have emerged. These models include the Trifurcated Model of Narcissism (Crowe et al., 2019; Miller et al., 2016), the Narcissistic Spectrum Model (NSM; Krizan & Herlache, 2018), and, most recently, the Unified Conceptualization of Narcissism (Sivanathan et al., 2023). These models share a conceptualization of narcissism as constituting (a) a '*grandiosity/admirative/agentic extraversion'* factor which characterizes grandiose narcissists' assertive self-enhancement, self-promotion, and interpersonal

dominance, (b) a *'vulnerability/neuroticism'* factor which is central to vulnerable narcissism and its associated emotional fragility, contingent self-esteem, and self-consciousness, and (c) a third factor that binds features of the grandiose and vulnerable subtypes (Miller et al., 2021). Here, models diverge in their conceptualization of this binding factor.

The trifurcated model identifies *antagonism* as the binding factor (Miller et al., 2016; 2017), whereas the NSM (Krizan & Herlache, 2018) and Sivanathan et al.'s (2023) unified model both postulate *entitlement* as the shared core. In line with the trifurcated model, Crowe et al.'s (2019) meta-analysis of 46 narcissism scales and subscales revealed the model with self-centered antagonism as a joining factor to be the most parsimonious. However, recent network analyses examining the facets common to both grandiose and vulnerable narcissism supported the notion of entitlement, rather than the broader antagonism trait, as their shared connected feature (Dinić et al., 2022). Nevertheless, this third factor is generally termed '*antagonism/rivalry/entitlement*' and is characterized by callousness, deceit, exploitation, and entitlement regardless of whether the individual's narcissism manifests in a more grandiose or vulnerable form (Miller et al., 2021).

Clinical Descriptions of Narcissism

Having featured in the Diagnostic and Statistical Manual of Mental Disorders since 1968, the DSM-5-TR (APA, 2022) currently defines Narcissistic Personality Disorder as "a pervasive pattern of grandiosity (in fantasy or behavior), need for admiration, and lack of empathy, beginning in early adulthood and present in a variety of contexts..." (p. 761). For a formal diagnosis to be administered, the presence of the disorder must be indicated by five (or more) of the following summarized criteria: 1) grandiose self-importance (e.g., exaggeration of achievements/talents); 2) preoccupation with grandiose fantasies (e.g.,

success, power); 3) a belief that one is special or high-status; 4) need for excessive admiration; 5) a sense of entitlement; 6) interpersonal exploitation (e.g., taking advantage of others), 7) lacking empathy; 8) envy towards others or a belief that others are envious of them; and, 9) arrogant behaviors or attitudes.

While social-personality psychology scholarship on narcissism explicitly focuses on narcissism at the trait-level rather than at the level of personality pathology or disorder, clinical understandings of narcissism, such as the formal diagnostic criteria for Narcissistic Personality Disorder (NPD), have formed the basis of many influential personality trait-level measures of narcissism (Pincus et al., 2009; Raskin & Hall, 1988). Indeed, Weiss and Miller's (2018) review of expert ratings and meta-analyses examining the relations between NPD, grandiose, and vulnerable narcissism found substantial overlap between the five-factor trait correlates of NPD and grandiose narcissism. Specifically, academic and clinicians alike conceptualized the prototypical person with NPD as scoring very low on agreeableness (e.g., modesty, altruism) and high traits of extraversion related to the agentic domain (e.g., assertiveness, excitement-seeking).

Contrastingly, the data revealed that vulnerable narcissism was understood to be largely disparate from NPD aside from their shared central locus of interpersonal antagonism. Nonetheless, it should be noted that the latest version of the DSM does allude to some more vulnerable narcissistic traits under the 'Associated Features' section such as fluctuating self-confidence, low self-esteem, and feelings of inferiority, vulnerability, shame, envy, humiliation and insecurity.

Public Perceptions of Narcissism

Interestingly, in accordance with academic and clinical understandings of the construct, previous research suggests that public perceptions of narcissism are consistent with empirical accounts of both grandiose narcissism and NPD. Indeed, Miller et al. (2018) found that when participants were instructed to rate a prototypical narcissistic individual on the 30 facets of the Five Factor Model Rating Form (FFMRF; Mullins-Sewatt et al., 2006), they demonstrated strong consensus on trait agreement, viewing grandiose aspects as being most prototypical (e.g., low scores on the agreeableness facets of modesty, altruism, and compliance, and high scores on the extraversion facets of assertiveness, activity, and excitement-seeking) and vulnerable aspects as less indicative of narcissism (e.g., high scores on the neuroticism facets of anxiousness, self-consciousness, vulnerability). While Miller et al.'s (2018) study focuses exclusively on ratings of researcher-selected traits, approaches examining lay definitions of narcissism using a bottom-up, participant-driven approaches have also revealed that people most commonly define narcissism in terms of its antagonistic dimensions (e.g., social selfishness) and agentic extraversion dimensions (e.g., vanity; Smith et al., 2025a).

It is possible that the inherent view of narcissism as primarily associated with grandiose traits could partly explain why, in certain contexts, narcissistic individuals appear to be perceived neutrally or even favorably by the public, especially at zero acquaintance (Back et al., 2010; Carlson et al., 2011; Paulhus, 1998; Smith et al., 2025b). For example, in contrast to other 'dark trait' individuals, who are judged largely negatively, narcissists are initially perceived neither favorably nor unfavorably by low-level acquaintances (Rauthmann & Kolar, 2013). Further, while friends and family members of both grandiose and vulnerable narcissists rate both types highly on entitlement, the

positive link between perceived entitlement and perceived aggression was only established for vulnerable narcissists (Malkin et al., 2013).

This grandiose narcissism-popularity link was also demonstrated in Smith et al.'s (2025b) investigation of social perceptions of narcissistic and non-narcissistic facial images. Specifically, while the face of an antagonistic (i.e., selfish) narcissist was judged as wholly negative (e.g., less warm, likeable, competent, successful) relative to its non-selfish counterpart, the face of a grandiose (i.e., vain) narcissist was judged as more competent, successful, attractive and suitable for political leadership relative to both its non-vain counterpart and the antagonistic narcissist. Furthermore, participants who themselves scored highly on narcissism ascribed the grandiose narcissist face more positive traits (e.g., warmth, competence, attraction) relative to those low on narcissism, with this pathway mediated by perceived similarity. This pattern, in support of the narcissistic tolerance hypothesis – the tendency for narcissists (relative to non-narcissists) to demonstrate greater tolerance of other narcissists (Hart & Adams, 2014), aligns with the findings of several previous studies (Burton et al., 2017; Hart & Adams, 2014; Wallace et al., 2015).

However, thus far, no research has directly investigated the effect of the perceiver's own narcissism on perceptions of feature centrality (i.e., whether narcissistic individuals see the same features as central to the construct as non-narcissistic individuals), or the potential effect of narcissistic tolerance on valence judgements regarding feature centrality (i.e., whether narcissistic individuals see central, peripheral, and marginal traits more positively relative to non-narcissistic individuals). Further, while previous research has examined public perceptions of narcissism using both top-down (e.g., assessing lay ratings of researcher-selected traits; Miller et al., 2018) and bottom-up approaches (e.g., assessing

lay definitions of narcissism; Smith et al., 2025a), utilizing a prototype approach provides the opportunity to generate and test an empirically valid set of features ordered by their centrality to the construct. This offers valuable ecologically and culturally relevant insights that could further improve the content validity of narcissism conceptual models and measurement tools.

Prototype Analysis

Prototype theory postulates that people categorize objects or concepts based on their similarity to a mental representation known as a "prototype" (Rosch, 1978). Accordingly, prototype analysis is a method of eliciting lay understandings of a concept by generating various indices demonstrating the centrality of features to that given concept (Fehr & Russell, 1984).

The approach is unique in that, in contrast to approaches such as factor analysis, which identifies underlying patterns in a set of researcher-determined variables, prototype analysis adopts a purely bottom-up, participant-driven approach. Typically, the procedure involves generating prototypical features and examining their frequency via a free-listing task, gathering explicit ratings of each feature's centrality to the concept, and demonstrating that the prototypical structure is reflected in impression formation and/or fundamental cognitive tasks (e.g., examining automatic categorization speeds). Features that are commonly mentioned in free-response lists are rated as central to the concept, and impact basic cognitive responses central to the concept. For example, Reynolds et al. (2023) found that *truthfulness* was deemed to be more central to the concept of *honesty* than *faithfulness,* as indicated via several centrality indices (frequency among responses

and participants, consensus across participants) and reflected in faster categorization of truthfulness than faithfulness as relevant to honesty (via response time measurements).

Researchers have utilized prototype analysis to examine lay conceptualizations of core socio-psychological phenomena, including nostalgia (Hepper et al., 2012), love (Thorne et al., 2021), self-gratitude (Tachon et al., 2022), solitude (Weinstein et al., 2021) and hope (Luo et al., 2022). Such work has meaningful implications for further developing theories of psychological constructs. For example, Luo et al.'s (2022) findings revealed that unlike influential theories of hope - that emphasized individual ability or goal-related aspects of the concept - lay conceptualizations tended not to consider personal agency or determination as important features of hope. Instead, hope was perceived as most related to themes of faith, belief and desire – categories overlooked in scholarly theorizing.

Important questions can be addressed by applying a prototype approach to lay-understandings of narcissism. First, it allows for an examination of the (non)-overlap between social-personality and clinical descriptions of narcissism and lay people's understandings. Uncovering concordance and discrepancies between academic and lay conceptualizations could help clarify the nature of the construct, but also impact models and measures of narcissism (see Paper 1, as an example). Prototype findings can indicate whether instruments capture the features laypeople see as central, or risk overlooking important elements of the construct. For example, measures such as the Single Item Narcissism Scale (Konrath et al., 2014) assume that respondents share a common understanding of what "narcissism" entails. Prototype analysis can help to clarify the content of that shared understanding. Second, unlike a definitional approach to examining lay concepts, prototype analysis generates a set of prototype divisions that can be

tested/retested empirically to ensure the proposed structure's validity. Third, generating a narcissism prototype has methodological implications by providing researchers with a set of features that could be used to manipulate or measure narcissism without needing to explicitly use the term, thus feasibly reducing any potential demand characteristics.

The Present Research

This paper describes four studies that generated and validated a prototype structure of lay perceptions of narcissism. Study 1 focused on generating the prototypical features of narcissism. Participants listed traits and behaviors that they associated with narcissism, which were then categorized by independent coders into a list of prototypical narcissism features, along with the frequencies with which these features were listed. Study 2 examined the extent to which each feature was classified by an independent sample as central (or not) to their personal concept of narcissism. Following Shi et al.'s (2021) procedure, we algorithmically combined Study 1's frequency index and Study 2's centrality index to categorize each feature into one of three divisions: central, peripheral, or marginal features of narcissism.

Next, to test the ordinal validity of our proposed narcissism prototype structure, we examined the effect of feature centrality on people's ratings of hypothetical characters ascribed central, peripheral, or marginal traits (Study 3), and speed of classifying features from each of these centrality divisions as examples of narcissism (Study 4). It was predicted that central (vs. peripheral), and peripheral (vs. marginal) traits would elicit greater target ratings on narcissism and faster classification speeds. Across studies, exploratory analyses were carried out examining the effect of participants' own narcissism on their ratings of feature centrality and valence (Study 2), hypothetical characters (Study

3) and prototype feature classification speeds (Study 4). All studies were approved by the Cardiff University School of Psychology Ethics Committee. Studies 3 and 4 were pre-registered via AsPredicted (Study 3: https://aspredicted.org/u8kv9.pdf; Study 4: https://aspredicted.org/u8kv9.pdf).

Study 1

The aim of Study 1 was to generate a set of prototypical features of narcissism using a bottom-up approach. Participants were asked to freely list the traits and behaviors that they associated with narcissism. These characteristics were classified into higher-order features based on their lexical and semantic relatedness and we computed the number of times each feature was mentioned in participants' responses.

Method

Participants

We recruited 212 UK participants through Prolific (www.prolific.co), who received £1.24 for their participation. Six participants were excluded for failing an honesty check, four others were excluded for demonstrating an inaccurate/nonsensical understanding of narcissism (see Materials and Procedure). This resulted in a final sample of 202 (96 males, 103 females, 1 other, 2 prefer not to say; 57% with a college degree; M_{age}=38.01; SD_{age}=14.95). Details of the participants' education status and political orientation is presented in the Supplementary Materials. Previous research indicates that a sample of 200 is sufficient to generate a prototypical structure (e.g., Hepper et al., 2011; Thorne et al., 2021).

Materials and Procedure

Data were collected via Qualtrics. The questions relevant to this study were part of a larger project on public conceptualizations of narcissism (see Smith et al., 2025a). Only two components of the survey were relevant to the present study. First, participants were asked to provide their personal definition of narcissism. Participants who provided a definition that was inaccurate/nonsensical (e.g., 'someone that dislikes something a lot'), or who indicated that they were unfamiliar with the term (e.g., 'I don't know') were not considered further.

Second, participants were asked to list the traits and behaviors they associated with narcissism. These responses were used to generate the list of features associated with narcissism. The instructions for this task read:

*"Using the text boxes below, please tell us **FIVE** traits and/or behaviors that you would associate with the term narcissism. There is no time limit for this task, and you may give as much detail as you wish. Please do not use a dictionary or thesaurus - we are interested in your own personal ideas in your own words."*

Following this, participants were asked to confirm whether they generated their listed traits/behaviors themselves or used another source (e.g., a dictionary). Participants who failed this honesty check were excluded from analyses conducted to derive features. The remaining components of the method are described in Smith et al., 2025a; Study 1).

Results and Discussion

Following standard procedures (Hepper et al., 2012), the lead author (SS) and a research assistant (AR) parsed participants' responses into distinct items (N=1,058; M=5.23, SD=.67). Each item represented a distinct "unit of meaning" (Joffe & Yardley, 2004), and responses containing more than a unit of meaning were divided into separate

items. For example, the response: “being self-centered and requesting attention from others” was separated into two unique items which were later coded under ‘self-centered’ and ‘attention-seeking’.

Second, both coders collaborated to group items into broader categories, or *prototypical features,* based on shared meaning. Items were classified as belonging to the same category based on their (1) lexical similarity (e.g., ‘vanity’ and ‘vain’), (2) alteration only by the addition of an adjective or adverb (e.g., ‘very selfish’ and ‘always selfish’), and (3) semantic relatedness (e.g., ‘egotistical’ and ‘bigheaded’ were grouped into the ‘arrogance’ category). In accordance with other prototype studies (Shi et al., 2021; Thorne et al., 2021), we excluded unique items (e.g., ‘trend-setter’ and ‘boredom’) generated by only one participant that could not be grouped under any category (n = 10). Following standard procedures in prototype research (e.g., Shi et al., 2021), the two coders met regularly to resolve discrepancies through discussion and generate a final set of prototypical features, assigning each item to one feature (see Table B1 [Appendix B]) for coding manual). In line with Shi et al. (2021), a third coder assessed reliability by reviewing the coding decisions and indicating agreement or disagreement. Agreement was reached on 98.3% of items, reflecting a high level of consistency in the final categorization.

As shown in Table 4.1, the features most frequently mentioned in participants responses were arrogant (n = 121), selfish (n = 106), and self-centered (n = 74). These aspects neatly correspond to contemporary social psychological features of narcissism predominantly reflected by egocentrism and social selfishness (Campbell, 2022; Sedikides, 2021). Notably, vanity also featured prominently (n = 71), suggesting that the public image of narcissism tends to favor the more *grandiose* aspects of the construct. Nevertheless,

traits associated with the more *vulnerable* subtype of narcissism – characterized by introversion, neuroticism and defensiveness (Miller et al., 2011) - were also present, albeit less prominently. For instance, participants related narcissism to being insecure (*n* = 19), unsociable (*n* = 4), and pessimistic (*n* = 2). As such, these results support previous findings that lay individuals, academic, and clinicians conceptualize traits associated with narcissistic grandiosity as opposed to vulnerability as more prototypical (Miller et al., 2018; Weiss & Miller, 2018).

The finding that arrogance, selfishness, and vanity represent the primary prototypical features of narcissism also aptly corresponds to previous investigations of public conceptualizations of narcissism at the concept- and person-level. For instance, narrative coding of lay definitions of narcissism revealed that people most frequently define narcissism as characterized by selfishness, vanity, and relational grandiosity, and most commonly associate their narcissistic acquaintances with being selfish, self-centered, arrogant, and vain (Smith et al., 2025a).

In summary, lay conceptions characterize narcissism as a multifaceted trait primarily defined in accordance with contemporary social-personality depictions of the grandiose aspects of construct as rooted in agentic extraversion (e.g., arrogance, vanity) and interpersonal antagonism/entitlement (e.g., selfishness). Additionally, while some features relate to the more vulnerable aspect of narcissism (e.g., insecurity, pessimism), participants tended to emphasis these far less relative to grandiose features.

Study 2

Study 1 generated a set of 49 prototypical narcissism features and the frequency with which lay-people associate each feature with the construct. Study 2, following

procedures from past research (see Fehr, 1988, Luo et al., 2022, Shi et al., 2021), was designed to establish a centrality hierarchy of the features (e.g., how closely each feature relates to the concept of narcissism). This was done by presenting the 49 prototype features to an independent sample, who rated each feature for how closely it related to their own personal view of narcissism. This allows for the derivation of a centrality index, which – following Shi et al.'s protocol (2021) – was algorithmically integrated with the frequency index from Study 1 to determine three prototype divisions: central, peripheral, and marginal (see below for details on how this was derived). Additionally, we explored whether rater's own narcissism moderated their judgements of each feature's centrality and valence across the three divisions.

Method

Participants

202 students from Cardiff University completed the study for course credit. Two participants were excluded for failing an attention check. This resulted in a final sample of 200 (170 females, 22 males, 8 other; M_{age} = 19.26; SD_{age} = 1.77). A sensitivity power analysis (G*Power 3.1; Faul et al., 2009) indicated that our sample was sufficiently powered (power = .80, α = .05, two-tailed) to detect correlations of r = |.20| and higher.

Materials and Procedure

Relatedness and Valence Ratings

First, participants rated how closely they thought each of the 49 prototype features was related to their personal concept of narcissism (1 = not at all related, 9 = extremely related). The features were presented in random order. Following this, participants

evaluated the valence of each feature (1 = very negative, 9 = very positive) before completing the measures outlined below.

Concept Breadth Measures

Participants also completed two measures of concept breadth, included to explore whether individual differences in how broadly people define concepts relate to how broadly they construe narcissism. The first was the Brief Harm Concept Breadth Scale (B-HCBS; McGrath & Haslam, 2020), which assesses individual differences in the expansiveness of four harm-related concepts (bullying, mental disorder, prejudice, and trauma). Higher scores indicate a broader harm concept. We calculated participants' total scores across all items (M = 5.30; SD = 0.66; α = .69), as well as their sub-facets scores: bullying (M = 5.46; SD = 1.03; α = .52), mental disorder (M = 4.82; SD = 0.99; α = .47), prejudice (M = 5.70; SD = 1.00; α = .63), and trauma (M = 5.25; SD = 0.95; α = .48). Internal consistencies for the subscales were relatively low, which is consistent with McGrath and Haslam's (2020) original validation. This likely reflects the scale's scenario-based design, which assesses judgments across diverse scenarios rather than latent attributional traits.

Participants also completed ten items adapted from McGrath and Haslam's (2020) and McCloskey and Glucksberg's (1978) research on perceptions of natural categories, to assess variability in an individual's tendency to judge marginal examples of a concept as instances of that concept. Unlike the B-HCBS, this scale assessed non-harm related concepts, providing a more neutral counterpart. Participants indicated their agreement with ten statements (e.g., architecture could be an example of a science [1 = strongly disagree, 7 = strongly agree; M = 3.12; SD = 0.81; α = .66]).

Participant Narcissism

Finally, participants completed the NPI-13 (Gentile et al., 2013; *M* = 3.02; *SD* = 0.94; α = .85), the NARQ (Leckelt et al., 2018; *M* = 2.72; *SD* = 0.94; α = .70), and demographic information. We calculated average scores for each participants of the three NPI facets: Leadership/Authority (*M* = 2.80; *SD* = 1.20; α = .80), Grandiose Exhibitionism (*M* = 3.10; *SD* = 1.17; α = .77), and Exploitativeness/Entitlement (*M* = 3,14; *SD* = 1.12; α = .65), as well as the two NARQ facets: Admiration (*M* = 2.99; *SD* = 1.18; α = .67), and Rivalry (*M* = 2.45; *SD* = 1.09; α = .58).

The study concluded with a short face-rating task and three brief measures relating to values and self-esteem, which were included for purposes unrelated to the present study.

Results and Discussion

Rating results

Mean relatedness (along with mean valence) ratings of the 49 narcissism features are presented in Table 4.1. First, we examined the consistency of feature ratings across participants using an intraclass correlation. Participant ratings were highly correlated across the 49 features, ICC = .98, p <.001, 95% CI [.975, .989], indicating strong consistency in relatedness across participants. Second, we calculated the grand mean of relatedness across all items (*M* = 6.57; *SD* = 0.99) and compared it to the scale mid-point (5). Overall, the features were judged as significantly more representative of narcissism than not, $t(48) = 11.06$, p <.001, Cohen's d = 0.99. Finally, further attesting to the validity of the categories, the frequency index from Study 1 correlated strongly with the relatedness rating index, $r(49) = .46$, p <.001.

Narcissism Concept Factors

Next, following Hall et al. (2021), we grouped participants' item relatedness ratings empirically by theme by conducting a principal component analysis (PCA) with Varimax rotation (see Table 4.2). To ensure distinctness between factors, we used two criteria when classifying items as pertaining to a factor: (a) an item factor loading of ≥ |.50| and (b) a difference of ≥ |.10| between cross-loading items.

The analysis revealed a two-factor structure comprised of 29 items that accounted for 45.98% of the total variance (Factor 1 = 33.47%; Factor 2 = 12.51%). The first factor, *Interpersonal Antagonism* (19 items; α = .93) captured some qualities akin to the antagonism facet of Miller et al.'s (2016, 2017) trifurcated model of narcissism (e.g., manipulativeness, exploitativeness, lack of empathy). That said, the factor did not include aspects of narcissistic entitlement or arrogance. Indeed, the inclusion of features such as *aggression*, *control*, and *abuse* signaled conceptual parallels between this factor and the rivalry dimensions of the Narcissistic Admiration and Rivalry Concept (NARC; Back et al., 2013) which is driven by antagonistic, self-protective social strategies characterized by aggressive and devaluing interpersonal qualities, and strongly linked to other dark traits such as Machiavellianism and psychopathy.

The second factor, *Grandiose Egocentricity* (10 items; α = .87) also captures some elements of the Antagonism (e.g., entitlement, arrogance), but also includes items such as *vanity*, *admiration-seeking* and *boastfulness*, which more parsimoniously overlapped with the admiration dimension of the NARQ which is driven by self-enhancement social strategies characterized by grandiose self-promotion to induce admiration from others.

To compare the relative relatedness and valence scores between the two factors, we first computed indices of averaged rating scores across participants for both factors before

conducting two paired *t*-tests. In terms of feature relatedness, items comprising *Interpersonal Antagonism* (*M* = 6.18, *SD* = 1.30) were rated as significantly less related to narcissism relative to items comprising *Grandiose Entitlemen*t (*M* = 7.72, *SD* = 1.03), *t*(199) = -17.28, *p* <.001, Cohen's *d* = -1.22. In terms of valence, *Interpersonal Antagonism* items (*M* = 2.27, *SD* = 0.58) were ascribed significantly lower valence ratings relative to *Grandiose Entitlemen*t items (*M* = 2.81, *SD* = 0.83), *t*(199) = -12.73, *p* <.001, Cohen's *d* = -0.90). This pattern of findings suggests that lay individuals tend to associate narcissism with qualities more prototypical of the grandiose/admirative dimension of the construct, relative to the antagonistic/rivalrous dimension, a theme we return to in the General Discussion.

Frequency, Relatedness, and Prototype Structure

As outlined by Shi et al. (2021), the frequency and relatedness indices differ in the type of information that they represent. While the frequency index captures more spontaneous perceptions (i.e., exemplars of narcissism that come to mind), the relatedness index portrays more deliberative perceptions (i.e., judgments concerning the extent to which an item reflects narcissism). Further, both indices reflect different levels of measurement; the former nominal level-counts, and the latter interval-level ratings. As neither index necessarily predominates the other in terms of its explanatory power, combining them enables researchers to maximize the validity of their prototype structure.

Accordingly, we adopted an algorithm developed by Shi et al. (2021) that integrates the two indices, in order to categorize each feature as central, peripheral or marginal. This involved first converting both the frequency and relatedness indices to *z*-scores. Next, following Shi et al. (2021), we classified a feature as central if both *z*-scores were positive, peripheral if one *z*-score was positive and the other negative, and marginal if both *z*-scores

were negative. However, in line with Shi et al.'s procedure, a peripheral feature could become central or marginal if it had a positive or negative z-score exceeding |1| (this latter criterion impacted one of the 49 features). This process resulted in 13 features classified as central, 17 features as peripheral, and 19 features classified as marginal (see Table 4.1).

Consistent with Study 1, central features (e.g., arrogance, selfishness, self-centeredness) tended to largely capture the entitled/antagonistic dimension proposed in contemporary models to represent the core of narcissism (Krizan & Herlache, 2018; Miller et al., 2016; Sivanathan et al., 2023). Further, features related to the FFM facet of agentic extraversion, characteristic of narcissistic grandiosity, tended to be classified in the central (e.g., vanity, attention-seeking) and peripheral divisions (e.g., competitive, confident). Contrastingly, features associated with the FFM facet of neuroticism, characteristic of vulnerable narcissism, tended to be categorized in the marginal division (e.g., insecure, pessimistic, unsociable, mentally ill). Nonetheless, 'admiration-seeking' - a feature associated with 'need for admiration' facet of vulnerable narcissism was indexed as central to the construct, with 'driven' - a feature associated with the 'achievement-striving' facet of grandiose narcissism, are seen as marginal.

Associations with Concept Breadth

We next explored whether variability in participants' narcissism relatedness scores related to broader concept-breadth tendencies. Narcissism relatedness was unrelated to general category inclusiveness (r = .004, p = .958). By contrast, it showed a small but significant positive correlation with harm concept breadth overall (r = .178, p = .012), driven primarily by breadth of prejudice (r = .272, p < .001). Other harm subscales were not significantly associated (rs = .032–.123, ps > .05). This pattern suggests that expansive

views of narcissism may align more with moralized harm judgments than with a general tendency toward category inclusiveness.

Influence of Rater Narcissism on Relatedness and Valence Ratings

Finally, to examine whether raters' own narcissism moderated the effect of feature division on relatedness and valence ratings, we ran two moderated regression analyses using Hayes' (2022) PROCESS macro (model 1; 95% confidence intervals based on 10,000 bootstrap sample). In these models, rater NPI was entered as the predictor variable, feature division (central = 0, peripheral = 1, marginal = 2) was specified as the moderator, and the dependent variable was either participants' relatedness ratings (Model 1) or valence ratings (Model 2). We mean-centered predictor variables prior to analysis, and used simple slopes tests to probe significant interactions. We utilized NPI ratings given their stronger internal consistency in this sample relative to the NARQ (see Table B2, Appendix B, for all main effect and interaction analyses).

We found no interaction between rater NPI and division on relatedness ratings (b = -.002, SE = 0.06, t = -0.05, p = .960), suggesting that rater narcissism did not influence perceptions of which features more or less closely resemble narcissism. However, we did find an interaction between rater NPI and division on valence ratings (b = -0.09, SE = 0.03, t = -2.62, p = .009). Simple slopes analysis revealed that greater participant narcissism predicted more positive valence ratings when evaluating central (b = 0.23, SE = 0.04, t = 6.01, p < .001) relative to peripheral features (b = 0.16, SE = 0.03, t = 5.87, p < .001), and peripheral relative to marginal features (b = 0.09, SE = 0.04, t = 2.30, p = .021). Thus, in line with narcissistic tolerance theory (Hart & Adams, 2014), the most closely a feature is consensually perceived as being related to narcissism, the more desirable that feature is

seen to be by high (vs. low) narcissist raters.

In summary, participants demonstrated strong agreement in their relatedness ratings, with the most central features reflecting selfish, entitled, and antagonistic qualities. Factor analysis distinguished two coherent dimensions: *Interpersonal Antagonism* and *Grandiose Egocentricity*. Across these, grandiose–admirative traits were rated as more related to narcissism and more positively-valenced than antagonistic–rivalrous traits. Integrating frequency and relatedness indices confirmed this pattern, with vulnerable features generally falling into marginal categories. Exploratory analyses indicated that broader conceptions of narcissism were modestly associated with broader harm-based concept breadth, particularly prejudice, but not with general category inclusiveness. Finally, rater narcissism did not influence relatedness perceptions, but higher narcissism predicted more favorable evaluations of features judged as central, in line with narcissistic tolerance theory.

Table 4.1: *Frequency, Centrality and Valence Ratings of Narcissism Features*

Feature	Scores of indices		z-Scores of indices		Combined	
	Frequency	***Rating***	***Frequency***	***Rating***	***Mean***	***Division***
Arrogant	121	7.18	3.80081	1.24256	2.52	Central
Selfish	106	7.70	3.22847	1.132	2.18	Central
Self-centred	74	8.26	2.00748	1.69482	1.85	Central
Vain	71	7.62	1.89301	1.0516	1.47	Central
Self-obsessed	31	8.18	0.36677	1.61442	0.99	Central
Manipulative	57	7.18	1.35882	0.60938	0.98	Central
Self-important	33	7.94	0.44308	1.37321	0.91	Central
Unempathetic	61	6.69	1.51145	0.11691	0.81	Central
Attention-seeking	31	7.37	0.36677	0.80034	0.58	Central
Entitled	24	7.48	0.09967	0.91089	0.51	Central
Admiration-seeking	18	7.58	-0.12926	1.0114	0.44	Central
Controlling	27	7.13	0.21414	0.55913	0.39	Central
Boastful	14	7.53	-0.28189	0.96114	0.34	Peripheral
Over-confident	16	7.41	-0.20558	0.84054	0.32	Peripheral
Uncaring	46	6.11	0.93911	-0.46601	0.24	Peripheral
Power-seeking	7	7.56	-0.54898	0.9913	0.22	Peripheral
Blame-shifting	14	7.28	-0.28189	0.70989	0.21	Peripheral
Status-seeking	5	7.58	-0.62529	1.0114	0.19	Central
Self-righteous	11	7.34	-0.39636	0.77019	0.19	Peripheral
Rude	33	6.35	0.44308	-0.2248	0.11	Peripheral
Condescending	11	7.05	-0.39636	0.47873	0.04	Peripheral
Deceptive	22	6.55	0.02336	-0.02379	0.01	Peripheral
Stubborn	20	6.62	-0.05295	0.04656	0.00	Peripheral
Confident	6	7.03	-0.58714	0.45863	-0.06	Peripheral
Competitive	6	6.81	-0.58714	0.23752	-0.17	Peripheral
Greedy	11	6.60	-0.39636	0.02646	-0.18	Peripheral
Ignorant	9	6.60	-0.47267	0.02646	-0.22	Peripheral

Exploitative	6	6.72	-0.58714	0.14706	-0.22	Peripheral
Obsessive	5	6.69	-0.62529	0.11691	-0.25	Peripheral
Shallow	6	6.64	-0.58714	0.06666	-0.26	Peripheral
Delusional	9	6.47	-0.47267	-0.1042	-0.29	Marginal
Exaggerative	7	6.53	-0.54898	-0.04389	-0.31	Marginal
Self-unaware	6	6.52	-0.58714	-0.05394	-0.32	Marginal
Unstable relationships	5	6.55	-0.62529	-0.02379	-0.32	Marginal
Narrow-minded	6	6.43	-0.58714	-0.1444	-0.37	Marginal
Abusive	29	5.34	0.29045	-1.23989	-0.47	Marginal
Critical	4	6.14	-0.66345	-0.43586	-0.55	Marginal
Envious	4	6.08	-0.66345	-0.49616	-0.58	Marginal
Insecure	19	5.46	-0.09111	-1.11928	-0.61	Marginal
Annoying	4	5.79	-0.66345	-0.78762	-0.73	Marginal
Impatient	2	5.77	-0.73976	-0.80772	-0.77	Marginal
Driven	2	5.65	-0.73976	-0.92833	-0.83	Marginal
Aggressive	13	5.16	-0.32004	-1.4208	-0.87	Marginal
Charming	4	5.49	-0.66345	-1.08913	-0.88	Marginal
Emotionless	13	5.09	-0.32004	-1.49115	-0.91	Marginal
Mentally ill	4	5.07	-0.66345	-1.51125	-1.09	Marginal
Evil	9	4.70	-0.47267	-1.88311	-1.18	Marginal
Pessimistic	2	4.56	-0.73976	-2.02382	-1.38	Marginal
Unsociable	4	3.90	-0.66345	-2.68714	-1.68	Marginal

Table 4.2: *Rotated Factor Matrix for Feature Ratings*

	Factor Loading	
Prototype Feature	1	2
Factor 1 – Interpersonal Antagonism (α = .93)		
1. Manipulative	**.78**	.14
2. Abusive	**.76**	.01
3. Controlling	**.75**	.23
4. Deceptive	**.73**	.03
5. Aggressive	**.72**	-.08
6. Unempathetic	**.68**	.24
7. Blame-shifting	**.67**	.24
8. Uncaring	**.67**	.29
9. Exploitative	**.65**	.30
10. Evil	**.64**	-.08
11. Emotionless	**.61**	-.01
12. Stubborn	**.59**	.34
13. Impatient	**.58**	.04
14. Rude	**.58**	.34
15. Unstable relationships	**.57**	.34
16. Critical	**.57**	.17
17. Pessimistic	**.55**	-.05
18. Power-seeking	**.53**	.30
19. Envious	**.53**	.17
Factor 2 – Grandiose Egocentricity (α = .87)		
20. Self-obsessed	.10	**.81**
21. Self-important	.06	**.80**
22. Self-centered	.06	**.70**
23. Arrogant	.27	**.63**
24. Over-confident	-.03	**.63**
25. Boastful	.18	**.59**
26. Entitled	.43	**.59**
27. Vain	.03	**.58**
28. Admiration-seeking	.07	**.58**
29. Attention-seeking	.14	**.60**

Note. Factor loadings > .50 are in boldface. Bartlett's test of sphericity, $x^2(406) = 3030.62$, $p < .001$; Kaiser-Meyer-Olkin = .90).

Study 3

The primary aim of Study 3 was to test the ordinal validity of the prototype divisions created by combining the frequency and relatedness indices. This was tested in two ways. First, we had participants rate the narcissism of targets described as possessing central, peripheral or marginal traits. To do this, participants completed an impression formation task, where they read about a series of targets (see Shi et al., 2021, Study 3). We constructed the targets' *personalities* to be comprised of features drawn exclusively from one of the three divisions. For example, a central target would only be described as exhibiting traits previously ranked as central to the prototype of narcissism (e.g., selfish, manipulative, entitled, and status-seeking). Additionally, we included a fourth 'non-diagnostic' target described by characteristics that were not listed in Study 1 as related to narcissism (e.g., punctual, lucky, serious, and quiet).

Participants rated the narcissism of each hypothetical target, so that average levels of narcissism could be compared across different divisions. We hypothesized that central targets would be evaluated as more narcissistic than peripheral targets, and that peripheral targets would be evaluated as more narcissistic than marginal targets. We hypothesized that the central, peripheral, and marginal targets would be perceived as more narcissistic on average than non-diagnostic targets. This pattern of prototypicality would support the validity of the previous procedures utilized to estimate prototypicality of narcissism features.

Second, we examined the extent to which participants ascribed each of the features to a facial image than depicted a vain narcissist. This image was generated in other research (Smith et al., 2025b, Study 2), using the reverse correlation method (Dotsch &

Todorov, 2012). In the current study, participants were shown this image (see Figure 4.1) and indicated the extent to which they believed the target possessed each of the 49 narcissism features. We hypothesized that participants would ascribe this image higher ratings of central (vs. peripheral), and peripheral (vs. marginal) features. Furthermore, we hypothesized that the face would be ascribed higher ratings of all three division features relative to non-diagnostic features. Finally, we conducted exploratory analyses examining whether participants' own narcissism (i.e., total NPI score) interacted with feature division (central, peripheral, marginal) to predict similarity ratings. The study was preregistered via AsPredicted as #147668 https://aspredicted.org/u8kv9.pdf.

Method

Participants

104 students from Cardiff University completed the study for course credit. Four participants were excluded from analyses for failing an attention check item, resulting in a final sample of 100 (90 females, 10 males; M_{age} = 19.00; SD_{age} = 1.47). A sensitivity power analysis (G*Power 3.1; Faul et al., 2009) indicated that our sample was sufficiently powered (power = .80, α = .05, two-tailed) to detect Cohen's *F* effect sizes of .12 and higher.

Materials and Procedure

Impression Formation Task

In line with Shi et al. (2021), we presented participants with descriptions of 12 hypothetical targets. We constructed the descriptions so that each target was described as exhibiting four of the prototype features generated in Study 1. Importantly, all features used to describe one target were within the same division. For example, one *central* target

was described as “selfish, manipulative, status-seeking, and entitled”; one *peripheral* target as “competitive, greedy, rude, and confident”; one *marginal* target as “self-unaware, critical, annoying, and emotionless; and one *non-diagnostic* target as “logical, busy, active, and fair”. Three targets were ascribed features from each of the four divisions, resulting in 12 targets (see Appendix B for a complete list of target descriptions). Participants were presented with each target individually in a random order.

Participants evaluated each target on several personality traits. The item confirming the ordinal validity of our narcissism prototype structure was: “How narcissistic is person X?” (1 = not at all, 7 = extremely). Participants also rated how similar each target was to themselves on the same 7-point scale. In addition, participants rated each target’s perceived warmth, competence, self-esteem; these were primarily included as filler items, we later examined warmth and competence in exploratory analyses as described below.

Rating Narcissistic Face on Features

Next, we asked participants to rate the likelihood that the facial image (see Figure 4.1) possessed each of the 49 attributes used to describe the 12 targets (1 = extremely unlikely, 7 = extremely likely). No information was provided about the face or how it was created. The features were presented in a random order.

Finally, participants completed the NPI-13 (Gentile et al., 2013; M = 3.06; SD = 0.93; α = .85), the NARQ (Leckelt et al., 2018; M = 2.89; SD = 0.96; α = .73), and demographic information.

Figure 4.1: *Vain-Narcissistic Facial Image*

Results and Discussion

Prototypicality of Hypothetical Characters

First, we created an index for each of the four category divisions by averaging the narcissism ratings of the three individuals ascribed features from each division (e.g., the *central* index was comprised by averaging the narcissism rating of the three central targets). We conducted a one-way repeated measures ANOVA to test for the effect of feature division on perceived narcissism. There was a significant effect of feature division, $F(3, 297) = 431.50$, $p < .001$, $\eta_p^2 = .813$. Follow-up pairwise comparisons revealed that, as hypothesized, (i) targets ascribed central features ($M = 5.99$, $SD = 0.91$) were rated as more narcissistic than those ascribed peripheral features ($M = 5.54$, $SD = 0.92$), $t(99) = 6.24$, $p < .001$, $d = 0.72$; (ii) targets ascribed peripheral features were rated as more narcissistic than those ascribed marginal features ($M = 4.79$, $SD = 1.17$), $t(99) = 6.23$, $p < .001$, $d = 1.20$; and (iii) targets ascribed marginal features were rated as more narcissistic than those ascribed non-diagnostic features ($M = 2.21$, $SD = 0.66$), $t(99) = 19.82$, $p < .001$, $d = 1.30$).

Additionally, we conducted exploratory analyses comparing mean narcissism ratings of each feature division to the item mid-point (4). A series of one-sample t-tests found that targets ascribed central, peripheral, and marginal features elicited mean narcissism ratings that were significantly above the scale midpoint – ts = 21.95, 17.79, and 6.78, all ps $< .001$, ds = 2.20, 1.68, 0.68). Conversely, targets described using non-diagnostic features elicited mean narcissism ratings that were significantly below the scale midpoint, $t(99) = -27.25$, $p < .001$, $d = -2.73$.

Prototypicality of the Narcissistic Facial Image

Next, to examine whether the narcissistic facial image would be ascribed higher rating of central (vs. peripheral), peripheral (vs. marginal), and marginal (vs. non-diagnostic) features, we created an index for each feature division by averaging ratings on each feature across each division (e.g., averaging ratings of all central traits to create a 'central' index). A one-way repeated measures ANOVA revealed a significant effect of feature division, $F(2.06, 180.48) = 131.17$, $p < .001$, $\eta_p^2 = .570$. Follow-up pairwise comparisons revealed that participants rated the face as equally likely to possess central ($M = 5.34$, $SD = 1.00$) and peripheral features ($M = 5.29$, $SD = 0.91$), $t(99) = 0.77$, $p = .443$, $d = 0.08$. Importantly, both central and peripheral features were rated as more likely than marginal features ($M = 4.80$, $SD = 0.89$; central vs. marginal: $t(99) = 6.22$, $p < .001$, $d = 0.62$; peripheral vs. marginal: $t(99) = 6.93$, $p < .001$, $d = 0.69$). In turn, marginal features were rated as more likely than non-diagnostic features ($M = 3.67$, $SD = 0.55$; $t(99) = 9.79$, $p < .001$, $d = .98$).

Together, these results support the validity of our prototype structure; with the broad prototype categories used to characterize targets demonstrating the predicted prototypicality hierarchy. Notably, this study represents the first application of the reverse correlation paradigm to test prototype divisions using facial images. This offers a more nuanced way of examining feature models of narcissism compared to traditional approaches that rely solely on providing trait lists.

Exploratory Analysis of Rater Narcissism and Character Judgements

Finally, we conducted exploratory analyses examining whether rater narcissism (predictor: total NPI score) interacted with feature division (moderator: central, peripheral, and marginal) to predict greater perceived similarity with the targets

(dependent variable). Similarity ratings were averaged across the three narcissistic target types to create a composite similarity index, which we then tested in a moderated regression analysis.

The analysis revealed a main effect of rater narcissism (b = 0.23, SE = 0.04, t = 5.76, p < .001), suggesting that higher levels of rater narcissism predicted greater perceived similarity with the targets overall. We found no main effect of feature division on similarity ratings (b = 0.01, SE = 0.04, t = 0.11, p = .911). Although the overall interaction between rater NPI and feature division was not significant (b = -0.08, SE = 0.05, t = -1.67, p = .100), simple slopes analyses revealed that greater rater narcissism predicted greater similarity when evaluating central targets (b = 0.29, SE = 0.06, t = 5.25, p < .001) and peripheral targets (b = 0.23, SE = 0.04, t = 5.76, p < .001), as well as a weaker but still significant effect for marginal targets (b = 0.16, SE = 0.06, t = 2.89, p = .004).

Next, to examine whether the positive link between rater narcissism and perceived similarity drives more favorable perceptions of narcissistic targets, we conducted two exploratory mediation analyses using Hayes' (2022) PROCESS macro model 4 (95% confidence intervals based on 10,000 bootstrap samples). In both analyses, the predictor was rater narcissism (participants' total NPI scores), the mediator was perceived similarity, operationalized as the composite index of perceived similarity ratings averaged across the three narcissistic targets(central, peripheral, and marginal). The two outcome variables tested were warmth and competence, each created by averaging participants' ratings of the three narcissistic targets on these dimensions.

For warmth, although rater narcissism did not directly predict ratings (b = -.05, SE = .04, BS 95% CI [-.12, .03]), we found significant indirect effects of rater narcissism on

warmth ratings (*b* = .12, SE = .03, BS 95% CI [.08, .18]). Regarding competence, while rater narcissism directly predicted negative ratings (*b* = - .15, SE = .06, BS 95% CI [-.27, -.03]), it simultaneously indirectly predicted positive ratings when its effect was mediated by perceived similarity (*b* = .13, SE = .03, BS 95% CI [.08, .20]). This suggests, in line with previous research (Burton et al., 2017; Smith et al., 2025b), that narcissists' perceptions of narcissistic targets as both warmer and more competent are meaningfully driven by perceived similarity.

In sum, Study 3 provided strong evidence for the validity of the narcissism prototype divisions. Participants rated central targets as more narcissistic than peripheral targets, who in turn were rated higher than marginal targets, with all three exceeding non-diagnostic traits. A similar hierarchy emerged for the narcissistic facial image, with central and peripheral features rated equally but both exceeding marginal and non-diagnostic features. Exploratory analyses showed that participants higher in narcissism perceived greater similarity with narcissistic targets, and mediation analyses indicated that this similarity explained more favorable warmth and competence judgments.

Study 4

Study 4 was designed to offer further evidence regarding the ordinal validity of our narcissism prototype structure by examining the effect of feature relatedness on the speed of classifying narcissistic features. Previous research has demonstrated that the more central the features of a prototype, the easier they are to access, leading people to more quickly identify and classify words that are central (vs. peripheral) to the prototype (Hepper et al., 2012; Luo et al., 2022; Thorne et al., 2021). However, to our knowledge, research has not examined the impact of feature relatedness on classification speed across three levels of prototype divisions (i.e., differences in classification speed among central, peripheral and marginal features).

Under the premise that central features of narcissism are more cognitively accessible, we hypothesized that: (a) people will be *more likely* to classify central features (vs. peripheral) and peripheral (vs. marginal) as features of narcissism, and (b) people will be *quicker* to classify central features (vs. peripheral) and peripheral (vs. marginal) as features of narcissism. To test our hypotheses, we presented participants with each of the 49 prototype features across the three divisions along with unrelated neutral words and asked them to judge as quickly as possible whether each word is a feature of narcissism. In addition, we conducted exploratory analyses examining whether participants' own level of narcissism predicted classification accuracy or speed. We preregistered this study via AsPredicted as #147835, https://aspredicted.org/4p3dw.pdf.

Method

Participants

Following from previous prototype reaction time studies (e.g., Gregg et al., 2008; Luo et al., 2022) we aimed to recruit 200 participants. 219 students from Cardiff University completed the study in return for course credit. Three participants were excluded from analyses failing an attention check item. This resulted in a final sample of 216 (194 females, 20 males, 2 prefer not to say; M_{age} = 19.19; SD_{age} = 1.04). A sensitivity power analysis (G*Power 3.1; Faul et al., 2009) indicated that our sample was sufficiently powered (power = .80, α = .05, two-tailed) to detect Cohen's *F* effect sizes of > .09.

Materials and Procedure

Participants viewed 69 words: 13 central features, 17 peripheral features, 19 marginal features, and 20 unrelated neutral words. We instructed participants that they were to classify a series of words as features or not features of narcissism as quickly as possible. Following 12 practice trials (that used unrelated words), the 49 prototype features and 20 neutral words were randomly presented one-by-one in the center of the computer screen below the question: "Is this a feature of NARCISSISM?" For each trial, participants pressed the 'A' key for "YES" and the 'L' key for "NO". We recorded participants' classification response and response latency (in *ms*) for each feature.

Following the classification task, participants completed the NPI-13 (Gentile et al., 2013; *M* = 3.04; *SD* = 0.95; α = .86), the NARQ (Leckelt et al., 2018; *M* = 2.82; *SD* = 0.99; α = .77), and demographic information.

Results and Discussion

To test our hypotheses, we began by comparing the percentage of words

classified as features of narcissism across the three division classes. Following this, as we were only interested in the reaction time speed for features classified as a narcissism feature, we compared the average reaction speed of 'yes' responses across the three division classes (see Luo et al., 2022). Consistent with past research (Luo et al., 2022; Thorne et al., 2021), we recoded extremely slow latencies (> 3000 ms; n = 480, 3.3% of trials) to 3000 and extremely fast latencies (< 300 ms; n = 181, 1.2% of trials) to 300 and logarithmically transformed the latencies to correct for skewness.

First, we compared the classification percentages between feature divisions using a one-way repeated measures ANOVA. We found a significant main effect, $F(2, 10483) = 313.30$, $p < .001$. A post-hoc Tukey test demonstrated that, as predicted, the classification rate was significantly higher for central (93.6%) relative to peripheral (88.5%) features, and peripheral relative to marginal (73.2%) features (all $p < .001$).

Second, following previous research, we compared the classification speed for 'yes' responses across the three divisions. Once again, a one-way repeated ANOVA revealed a significant effect, $F(2, 8796) = 47.90$, $p < .001$. Consistent with our hypothesis, a Tukey test found that the classification speed was significantly faster for central (M = 995 *ms*, SD = 504 *ms*) relative to peripheral (M = 1058 *ms*, SD = 534 ms) features, and peripheral relative to marginal (M = 1127 *ms*, SD = 581 *ms*) features (all $p < .001$).

Finally, using exploratory Pearson's tests, we tested whether raters' own level of narcissism (i.e., total NPI score) was associated with classification rates and

speeds. While we found no relationship between rater narcissism and overall classification rates (r = -.03, p = .670), we did find that rater narcissism negatively predicted classification speeds across the central, peripheral and marginal divisions (r = -.14, p = .040), but not the neutral division (r = -.09, p = .120). This suggests that, relative to non-narcissists, narcissistic individuals are faster to categorize features consensually considered as related to narcissism.

In summary, classification rates and response latencies followed the predicted prototypicality hierarchy, with central features identified more readily than peripheral features, and peripheral features more readily than marginal features. Exploratory analyses further indicated that higher rater narcissism was associated with faster classification of narcissism-related features.

General Discussion

Although the academic community has begun to reach greater consensus regarding its theorizing of narcissism, the nature of its core underlying features remains somewhat contested. To better understand the features people associate with narcissism, we examined lay perceptions of narcissism, using a prototype approach. Following this procedure, we determined 49 features of narcissism from freely listed responses of traits and behaviors from a non-student sample (Study 1) before classifying each feature into one of three divisions (central, peripheral, marginal), marking how related to narcissism that feature is perceived to be (Study 2). Generally, lay conceptualizations of features central to narcissism focused primarily on aspects of grandiosity (e.g., arrogance, vanity, attention-seeking status-seeking) and having a self-focused interpersonal orientation (selfishness, self-

centeredness, self-important, entitled, lack of empathy). This aligns with previous research on lay perceptions of narcissism (Smith et al., 2025; Paper 1). Subsequently, we validated the ordinal structure of our prototype divisions, demonstrating that central (vs. peripheral) and peripheral (vs. marginal) features were rated as more prototypical of narcissism when ascribed to hypothetical individuals (Study 3) and were classified as features of narcissism more frequently and quickly (Study 4).

Comparison to social-personality and clinical literature

Our findings identify important areas of overlap and discrepancy between social-personality and clinical conceptual models of narcissism. Consistent with previous research (Miller et al., 2018; Weiss & Miller, 2018), features our participants perceived as closely related to narcissism tended to characterize the more grandiose dimension of the construct (e.g., vanity, attention-seeking, status-seeking) relative to the vulnerable dimension, which although present in the public image of narcissism, were more marginal to the construct (e.g., insecure, pessimistic, unsociable). In relation to the trifurcated model (Miller, 2016; 2017), we found both overlap and non-overlap between lay perceptions of narcissism's central traits and the underlying antagonistic core of narcissism proposed by the model. In terms of overlap, the trifurcated model and central prototype division features converge in their inclusion of *manipulativeness*, *entitlement*, *lack of empathy*, and *arrogance*. However, *exploitativeness,* which is seen as a central facet of narcissism's antagonistic core, was viewed by participants as more peripheral to the construct. Moreover, while the trifurcated model emphasizes *reactive anger, distrust*, and

thrill-seeking as key to narcissistic antagonism, features related to anger and distrust (e.g., abuse, aggression, impatience, insecurity) were seen by lay individuals as only marginally related to narcissism, with no prototypical features analogous to thrill-seeking.

Further, we identified features seen as central to narcissism by lay-people that appear to be explicitly underdefined in the trifurcated model, even if they may be implicitly captured within related facets. For example, the inter-related features of *self-obsessed* (persistent ruminating about oneself), *self-centered* (centering oneself in public interactions), and *selfish* (exhibiting behaviors that prioritize the self over others) - which collectively could be said to capture *narcissistic egocentricity* - were judged as central to narcissism by lay individuals. While these features are not emphasized within the factors of the trifurcated model, they may nonetheless intersect with facets such as entitlement or agentic extraversion. Their prominence in lay conceptions suggests that egocentric self-focus may represent a more salient component of the public image of narcissism than is currently reflected in the trifurcated model.

This finding parallels the results reported in Paper 1, where people most frequently defined their real-world narcissistic acquaintances in relation to *selfishness* (Smith et al., 2025a). While the *entitlement* sub-facet of the 'antagonism' factor – defined as "presumptuousness, and expectations of special and self-serving treatment" (Miller et al., 2013, p. 751) could be argued to somewhat capture these egocentric elements, entitlement is semantically distinct from the egocentric, self-focused aspects of narcissism that are heavily captured in the minds of the public.

Indeed, the 'Entitlement' facet of the Five Factor Narcissism Inventory (Glover et al, 2011) - which is based on the FFM understanding of narcissism which inform the trifurcated model – includes only one item pertaining to selfishness ("I sacrifice my own needs for others" - reversed). In addition to themes of egocentricity dominating the central narcissism prototype division, aspects of narcissistic grandiosity were also common - namely *vanity*, *attention-seeking*, and *status-seeking*. This differs from the trifurcated model's proposition of narcissism as fundamentally defined in terms of antagonism, and instead shares commonality with the 'Agentic Extraversion' sub-facet of the model which characterizes the more grandiose aspects of narcissism.

The notion that lay individuals tend to conceptualize narcissism primarily in terms of grandiosity and egocentricity was further supported by the results of the PCA analysis of centrality ratings. This revealed that lay conceptualizations of narcissism grouped into two factors*: grandiose egocentricity* and *interpersonal antagonism*, with the former perceived overall as more prototypical of narcissism and as relatively more positive than the latter. In relation to conceptual models of narcissism, this two-factor solution crudely resembles the NARC (Back et al., 2013), which divides narcissism into two interrelated dimensions characterized by self-promoting (narcissistic admiration) and self-protecting (narcissistic rivalry) interpersonal strategies. Although, as with the trifurcated model, the NARC also places less emphasis on egocentricity aspects of narcissism (e.g., self-obsession, self-centeredness, selfishness) relative to public perceptions.

Regarding comparisons between lay individuals' versus clinical conceptualizations of narcissism, seven of the central prototypical features directly

map onto the nine criteria listed in the DSM-5-TR (APA, 2022) as indicative of NPD: *self-importance*, *vanity*, *status-seeking, admiration-seekin*g, *entitlement*, *lack of empathy*, and *arrogance*. The remaining two criteria pertain to high levels of exploitativeness and envy – features perceived by the public as more peripherally and marginally related to narcissism, respectively. As such, the public image of narcissism's core features suggest greater overlap with clinical relative to social-personality understandings of the trait. This finding might allay concerns that, in the minds of the public, the concept of narcissism has lost its 'ground truth' having been unmoored from its clinical origin and reduced to an over-simplified weapon of insult (Freestone et al., 2022).

Narcissistic Tolerance Effects

Across our studies, perceptions of narcissism were influenced by participants' own level of narcissism. In line with narcissistic tolerance hypothesis, high (vs. low) narcissism participants rated narcissistic features as more positive, with central traits seen as more desirable than peripheral, and peripheral as more desirable than marginal (Study 2). Furthermore, high (vs. low) narcissism participants perceived hypothetical characters ascribed narcissistic prototype features as more similar to themselves, with this narcissism-similarity link driving higher ratings of warmth and competence (Study 3). Finally, participants higher in narcissism were quicker in classifying narcissism-related features, suggesting greater cognitive accessibility of these traits among narcissistic individuals (Study 4). These findings extend previous understandings of narcissistic tolerance, demonstrating that its effects become magnetized according to the consensual

status of the trait in question as central to the construct, and can be replicated using a bottom-up methodological approach.

Limitations and Future Directions

While the current research offers novel insights into the lay conceptualizations of narcissism, there are some limitations that could be addressed in future research. First, the use of student population samples for Studies 2-4 could potentially limit generalizability. That said, the prototype features and frequency index were generated using a general population sample. Nonetheless, further research might consider further investigating the validity of the prototype structure using a general population sample and/or additional experimental designs (e.g., feature recall tasks).

Second, we focused on one conceptual model of narcissism from the social-personality literature – the trifurcated model of narcissism (Miller et al., 2016; 2017) from which to draw comparisons with lay conceptualizations. Although this model is currently regarded as the most accurate and insightful model within the social-personality literature (Campbell, 2022; Crowe et al., 2019; Dinić et al., 2022, Miller et al., 2021), there are other models that could be compared with the prototype features, such as the Narcissism Spectrum Model (NSM; Krizan & Herlache, 2018). Relatedly, given the historical consensus in the academic community regarding the presence of two narcissistic sub-types – grandiose and vulnerable (Dickinson & Pincus, 2003; Miller et al., 2011; Wink, 1991), we focused our attention on examining the (non-)overlap between the prototype features and these two sub-facets. However, it could prove insightful for future research to

examine communalities and discrepancies between lay perceptions and additional facets of narcissism, such as communal narcissism – a form of narcissism characterized by inflated self-views in the communal domain (Gebauer et al., 2012).

Third, our data were obtained from participants in one Western country, potentially limiting generality. Future research would benefit from using a protype approach to narcissism across cultures. One asset of prototype analysis is that it offers the opportunity to understand and directly compare cross-cultural differences in lay conceptions of traits by delineating the relative importance of various sub-traits to the broader concept across cultures. For example, Shi et al. (2021) found that lay conceptions of *modesty* in China were only partly congruous with those in Western samples, with several central features such as *steadiness*, and *cautiousness* unique to Chinese participants' concepts. As applied to narcissism, research has found that manifestations of narcissism can vary cross-culturally, with grandiose narcissism more prevalent in independent cultures and vulnerable narcissism more prevalent in interdependent cultures (Jauk et al., 2021). Thus, prototype analysis of narcissism across culture would offer valuable insights into similarities and differences in narcissism's features and instantiations across culture.

Conclusion

Narcissism has moved beyond its clinical origins to become a familiar term in media, politics, and everyday discourse. In light of this mainstream fascination, these studies demonstrate that public conceptions of narcissism are neither diffuse nor superficial, but structured around a coherent prototype. By applying a

prototype approach across multiple methods, we showed that central, peripheral, and marginal divisions hold across trait ratings, face perception, and classification speed, with laypeople viewing grandiose and egocentric traits as most characteristic of the narcissistic nucleus. These findings clarify how narcissism is understood in everyday life and provide a foundation for linking lay perceptions with theoretical and clinical models, helping to explain why narcissism remains such a prominent feature of mainstream discourse.

Chapter 5 – Paper 3: What Narcissists Look Like and Why It's Important

Preface to Chapter 5

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Candidate's contribution. The candidate conducted the pre-registration and data collection, generated the reverse correlation images, analyzed the experimental and mediation data, and drafted the full manuscript.

Estimated contribution. 80%

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Context within the thesis. This paper addresses RQ4, RQ5, and RQ6. It draws from traits identified as central to public concepts of narcissism in Papers 1 and 2 (e.g., selfishness, vanity) to generate mental images. It extends Papers 1 and 2 by testing the social impact of these traits through visual representations and observer judgments. Finally, it demonstrates how visual representations influence social evaluation and how those effects vary by observer narcissism level.

Overview of Paper 3

Paper 3 consists of three studies (total *N* = 841) that explore how narcissists are mentally represented and how these representations shape social judgments. The paper addresses the following questions: What do narcissists look like according to public perception? How do these mental images influence judgments of warmth, competence, trustworthiness, leadership suitability, and attraction? And how does a perceiver's own level of narcissism affect evaluations of narcissistic individuals?

Using a reverse correlation paradigm, participants generated composite facial images of narcissistic versus non-narcissistic individuals, when either selfishness (Study 1) or vanity (Study 2) is made salient. These images were subsequently rated by independent samples on key interpersonal attributes (Studies 1 and 2) and perceived attractiveness (Study 3). Mediation analyses tested whether perceivers' narcissism influenced their evaluations indirectly via perceived similarity and familiarity. The findings provide new insight into how lay representations of narcissism shape downstream social evaluations and extend the narcissistic tolerance hypothesis.

Abstract

Prior research investigating public perceptions of narcissistic individuals has relied on participant ratings of researcher-selected dimensions or character vignettes, limiting generalizability and ecological validity. Using reverse correlation - a bottom-up, participant-driven method - we examined how people visually represent narcissists, and the consequences of these representations on attributional perceptions (e.g., trust, leadership, attraction). As narcissism is commonly perceived in terms of selfishness or vanity, participants generated facial images where the selfish (Experiment 1) or vain (Experiment 2) dimensions of narcissism were made salient – resulting in selfish-narcissistic vs. non-selfish faces and vain-narcissistic vs. non-vain faces. Experiment 3 directly compared representations of the selfish- and vain-narcissistic faces and their non-narcissistic counterparts. While narcissistic facial images were generally perceived unfavorably by naïve raters, the vain-narcissistic face was seen as more agentic (e.g., competent) and attractive than the selfish-narcissistic face. Narcissistic (vs. non-narcissistic) raters also viewed the vain-narcissistic face more favorably, an effect mediated by perceived similarity.

What Narcissists Look Like and Why It's Important

Judgments based on facial appearances are deeply ingrained. Often occurring within milliseconds (Willis & Todorov, 2006), face-based judgments are linked with increased activity in the amygdala, a brain region linked with impression formation (Rule et al., 2011). Indeed, the morphological properties in a human face can reliably signal personality and behavioral tendencies (Kachur et al., 2020). Recognizing the functional consequences of facially-signaled attributional perceptions, researchers have examined visual representations of categories such as atheists (Brown-Iannuzzi et al., 2018) and Liberals/Conservatives (Proulx et al., 2023). Yet, to our knowledge, research has not assessed lay-perceptions of narcissism at a facial level, or, simply put, what people think narcissists look like. This is despite the public's magnetism towards narcissism, and the proliferation of popular discourse regarding narcissism. For instance, a recent book (Durvasula, 2024) billed as a 'survival guide' for protecting and healing oneself from the daily harms of narcissism, became a New York Times bestseller. Further, social media is brimming with content about narcissism. On TikTok, the hashtag #narcissist had over twelve billion views as of December 2023.

Understanding how people mentally represent narcissists is important for broadening social attributions associated with narcissism and their implications. Yet, limited research has explored how people mentally represent narcissists, and the outcomes associated with these representations. Across three pre-registered experiments, we utilized reverse correlation (Dotsch & Todorov, 2012) to generate lay representations of narcissistic and non-narcissistic faces and examined

subsequent judgments of these faces on meaningful attributes (e.g., warmth, competence, personal values) and social outcomes (e.g., perceived leadership, trustworthiness, attraction).

Conceptualizations of Narcissism

Although academic conceptualizations of narcissism have often been heavily contested, it is now understood as a construct grounded by a core dimension termed antagonism, rivalry, or entitlement (Miller et al., 2021). This *selfish core* of narcissism (Campbell, 2022), is thought to represent the binding factor shared by narcissistic expressions. For example, trifactor models of narcissism (Crowe et al., 2019; Krizan & Herlache, 2018) posit that this selfish core is common to both grandiose and vulnerable narcissists, with the former characterized by arrogance and high self-esteem, and the latter by distrust and low self-esteem. This distinction has generated considerable attention, with research demonstrating that grandiose narcissists are particularly likely to self-enhance and self-promote, with behavior motivated by an approach-focused orientation. In contrast, vulnerable narcissists are more likely to endorse interpersonal hostility and defensive behavior, with actions motivated by an avoidance-focused orientation (see Miller et al., 2021; Sedikides 2021).

Research is mixed regarding whether laypersons perceive narcissists as more antagonistic (e.g., selfish), grandiose (e.g., vain) or vulnerable (e.g., insecure). Some studies suggest that participants view grandiosity as the defining characteristic of narcissism (Carlson et al., 2011; Miller et al., 2018), while other research highlights beliefs in antagonism and defensiveness (e.g., Park & Colvin,

2014; Stanton et al., 2018). More recently, Smith et al. (2025a) asked lay-participants to freely describe their definition of narcissism. A thematic analysis of these definitions revealed that, while some respondents referenced insecurity and emotional fragility – aligning their conceptualizations with vulnerable narcissism, the most frequently referenced themes associated with narcissism were *selfishness* and *vanity*, consistent with previous investigations of dominant lay-perceptions of narcissism (e.g., Miller et al., 2018).

However, missing from this work is an understanding of how people visualize narcissists. In extant research, participants rated either hypothetical narcissistic characters or real-world narcissistic acquaintances. This approach may lead participants to ascribe more negative attributes simply due to exposure to the pejorative term 'narcissist'. One way to counter this methodological limitation is via the use of reverse correlation – a method for generating facial images of a social group member - as the term 'narcissist' and any associated features are completely omitted from the rating process.

Visual Representations of Narcissists

To date, the limited research examining visualizations of narcissism has focused on how people detect narcissism in faces. These studies have examined how narcissism is manifested in facial areas (e.g., eyebrows; Giacomin & Rule, 2019) and participants' ability to detect narcissism in composite facial images (Alper et al., 2021; Holtzman, 2011). These latter studies rely on facial composites, created by morphing faces of individuals extremely high or low in narcissism. While informative, this approach has been criticized for its lack of methodological

transparency and external validity (Bovet et al., 2022). Furthermore, the faces selected represent visual representations of *researcher-selected* indices of narcissists, rather than *participant-generated* representations of the public image of narcissists.

Reverse correlation, on the other hand, represents a bottom-up, participant-driven method that offers an unconstrained visualization of facial information prototypical of social categories (Brinkman et al., 2017). This method comprises two stages: first, one sample of participants generates a facial image they perceive as representative of a group member (e.g., a narcissist). The individually generated images are then averaged across participants, creating one classification facial image emblematic of a prototypical category member. Second, another sample of participants, *unaware* of how the prototypical face was generated, evaluate the image (usually alongside its opposite, e.g., a non-narcissist) on outcome measures.

Utilizing reverse correlation to visualize representations of narcissism has important advantages. First, it allows for the unbiased generation of facial characteristics that drive meaningful social outcomes. Second, as the faces generated by one sample are *verified* as a category member by a naïve sample, it offers a more generalizable and ecologically valid method relative to facial composite procedures.

The Present Research

The focus of our research was to examine lay-perceptions of narcissism as represented facially, and the consequences of these representations on attributional evaluations. Put differently, we assessed what people think narcissistic individuals

(and non-narcissistic individuals) *look like*, and whether people differentiate between visual representations of narcissists and non-narcissists. As narcissists tend to be conceptualized as primarily antagonistic or grandiose, we assessed visual representations of narcissists in two ways, where either the selfish (Experiment 1) or vain (Experiment 2) facets were made salient. The focus on selfishness and vanity aligns with research highlighting the importance of these dimensions in how laypeople define narcissism (Smith et al., 2025a; Paper 1). As such, Experiment 1 considers representations of what we refer to as the '*selfish-narcissistic'* and the '*non-selfish'* faces. Similarly, Experiment 2 considers representations of what we refer to as the '*vain-narcissistic'* and the '*non-vain'* faces. We were interested in assessing whether focusing on selfishness or vanity would lead to different visual representations, with evaluative consequences.

Experiment 1 compared evaluations of the selfish-narcissist and non-selfish images on personality attributes, values, morality, and their suitability for various professions, whereas Experiment 2 compared evaluations of the vain-narcissist and non-vain images on the same outcomes. Experiment 3 examined perceptions of both the selfish- and vain-narcissist faces, and their non-narcissistic counterparts, on dimensions related to physical/romantic attraction. Furthermore, as narcissists tend to hold more favorable views of other narcissists (*narcissistic tolerance,* Hart & Adams, 2014), across all experiments we conducted exploratory analyses examining whether rater narcissism was positively associated with more favorable evaluations of the narcissistic faces.

We preregistered all experiments on the OSF (Experiment 1: [https://osf.io/dqmy9], 2: [https://osf.io/j5s26], 3: [https://osf.io/cs9hy]). All data, analysis code, and research materials are available at [https://osf.io/4t5az/files/osfstorage]. Data were analyzed using R, version 4.2.3 (R Core Team, 2023) and jamovi version 2.3 (The jamovi project, 2023).

Experiment 1 – What Do People Think a Selfish Narcissist Looks Like?

Experiment 1 examined how people visually represent narcissistic (vs. non-narcissistic) individuals when narcissism's *selfishness* component is salient. One sample of participants (generators) completed a task that resulted in selfish-narcissist and non-selfish classification images. Next, another independent sample evaluated both images. We examined whether people hold different mental images of selfish-narcissistic and non-selfish individuals, and whether a new sample of naïve participants would rate these images differently on a number of attributes (including perceived narcissism, selfishness, vanity, kindness, masculinity, age, political orientation, self-esteem), Big Five traits, interpersonal qualities (warmth, competence, liking and success), personal values, moral behaviors, and workplace roles.

We expected the selfish-narcissistic face to be judged less favorably than the non-selfish face. Based on prior research regarding lay-perceptions of narcissistic acquaintances (Smith et al., 2025a) we expected participants to perceive the selfish-narcissistic face as placing more importance on self-enhancement values (e.g., wealth, power) and less on self-transcendence (e.g., honesty, equality), openness

(e.g., freedom, curiosity) and conservation (e.g., politeness, obedience) values, be politically conservative, and as less moral, relative to the non-selfish face.

We also considered consequences regarding how people would interact with the selfish-narcissistic (vs. non-selfish) images. Specifically, participants indicated their likelihood of voting for each of the images to lead their country, how much they would trust each image to look after a loved one, and how comfortable they would feel if trapped in an elevator with each individual. We expected the selfish-narcissistic face to be ascribed lower ratings across these items.

Finally, participants reported how much they shared in common with each image. Faces that resemble a rater's own face are evaluated more positively relative to non-self-resembling faces (Bailenson et al., 2008). We expected the selfish-narcissistic (vs. non-selfish) face to be ascribed lower levels of perceived similarity, but that high (vs. low) rater self-reported narcissism would predict greater levels of perceived similarity with the selfish-narcissistic face. This prediction was informed by research linking similarity perception to increased tolerance of other narcissists (Burton et al., 2017).

Method

Image Generation Phase

Participants

We recruited 155 Cardiff University students. Twenty-eight participants were excluded for failing attention check trials during the reverse correlation task and/or failing an attention check item during the survey (see Materials and

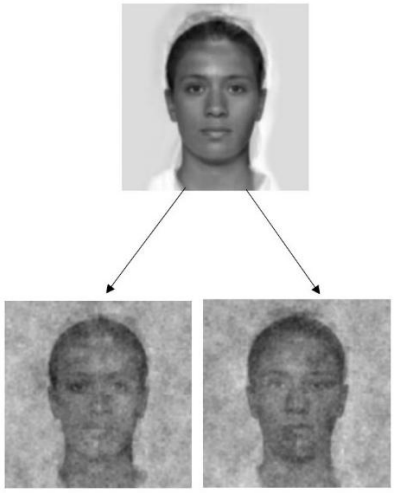
Procedure). This resulted in a final sample of 127 (109 females, 17 males, 1 prefer not to say; M_{age}=19.98), SD_{age}=2.05.

Materials and Procedure

Participants completed the reverse correlation task using PsychoPy (Peirce et al., 2019). First, participants were assigned randomly to generate the face of either a narcissistic or selfless individual. The generated selfless face was not intended to be utilized in the subsequent image rating phase, but was used in a separate line of work to confirm that the faces *not selected* as narcissistic adequately approximated the opposite of that social category (see Image Processing).

Before the task, participants in the narcissistic condition (*N*=65) were instructed that "*narcissism is a trait which reflects egocentric exceptionalism and social selfishness, that is, superiority and entitlement beliefs accompanied by indifference or apathy toward others*" (Sedikides, 2021, p. 68). The task consisted of 400 trials; participants could take a break after every 100 trials. For each trial, participants were presented with two images and asked to select the image that "best represents a narcissist to you". One image was a base face superimposed with a random white noise pattern, the second image displayed the reverse noise pattern superimposed onto the same base face (see Figure 5.1). The random noise patterns were added using the R rcicr package (v0.3.4.1; Dotsch, 2015). The base face (a morphed composite of a Black female, a Black male, a White female, and a White male) was generated using images from the Face Research Lab (DeBruine & Jones, 2017). As suggested by Brinkman et al. (2017), a Gaussian blur was used to smooth the base face image for it to best match the power spectrum of the added noise.

Figure 5.1: *The Base Image Used in the Reverse Correlation Task and Example of an Image Pair*



Ten attention checks were interspersed within the task. For each check, participants were shown the faces of an adult and a child and asked to select the child's face. Participants had to pass at least 50% of the attention checks for their data to remain in subsequent analyses. This threshold has been used in other reverse correlation research (Han et al. 2023).

Following the reverse correlation task, participants were redirected to Qualtrics to complete four narcissism scales presented in random order. These included the NPI-13 (Gentile et al., 2013), the Vulnerable Narcissism facet of the FFNI (Glover et al., 2012), the Communal Narcissism Inventory (CNI; Gebauer et al., 2012), and the NARC Short Scale (Leckelt et al., 2018). The NPI-13 included an attention check item that required participants to select a certain number on a scale. Other than the NPI-13, the inclusion of these scales was not relevant to the subsequent analyses reported here, but rather for exploratory purposes, to compare

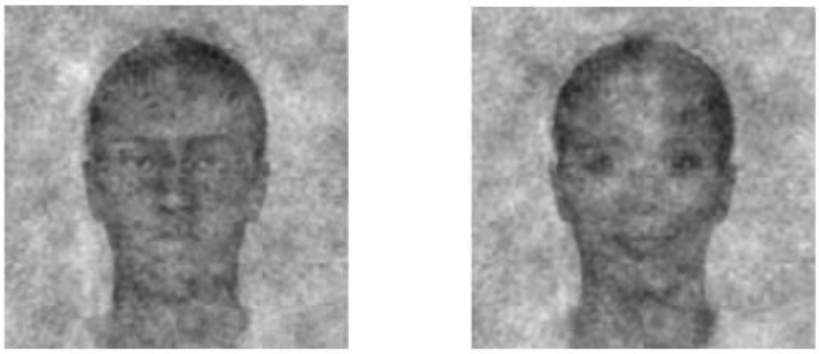
classification images generated by participants with high (vs. low) scores (see Figures C1-C4 in Appendix C).

Next, participants completed explicit (Robins et al., 2001) and implicit measures of self-esteem (Gebauer et al., 2008), and a shortened version of Schwartz's Value Survey (SVS; Schwartz, 1992). We did not analyze these data in the context of the current paper. Lastly, participants completed demographic questions.

Image Processing

Using the R rcicr package (v0.3.4.1; Dotsch, 2015), we computed the average narcissistic classification image (i.e., the selfish-narcissistic face) by superimposing the averaged noise patterns selected by individual participants across trials onto the base face image. The non-narcissistic classification image (i.e., the non-selfish face) was created using the same process, with one exception: we averaged the noise patterns across images that were *not* selected by individual participants. The resulting images are displayed in Figure 5.2. This processing method is common (e.g., Brown-Iannuzzi et al., 2018), and evidence suggests that classification images generated using non-selected images represent robust portrayals of the opposite of the given category (Dotsch & Todorov, 2012; Lick et al., 2013). Nonetheless, to ensure that the faces not selected as narcissistic sufficiently approximated a selfless face, a separate pilot study (see Figure C5 and Table C1) found that the selfless and non-selfish faces elicited identical ratings across all dimensions of interest.

Figure 5.2: *Average Classification Images of the Selfish-Narcissistic and Non-Selfish Facial Images*



Selfish-Narcissistic Image Non-Selfish Image

Image Rating Phase

Participants

We recruited Cardiff University students (*n*=114) and UK residents via Prolific (*n*=90). Seven participants were excluded for failing an attention check item, resulting in final sample of 197 (125 female, 64 male, 4 other, 4 prefer not to say; M_{age}=26.92, SD_{age}=12.18).

We conducted an a priori power analysis (G*Power 3.1; Faul et al., 2009) to determine the sample size needed to achieve enough power (.80) to detect small effect sizes (*r*=.20) between participant narcissism and perceptions of the faces at *p*<.05 (two-tailed). Results indicated that a sample of 193 was sufficient.

Materials and Procedure

Participants completed the task via Qualtrics. After providing consent, participants were informed that they would make judgments about faces. Participants evaluated each face individually; no information was provided about the faces or how they were created. The session included different phases. In all

phases, questions were presented in a random order, each on a separate screen. For the first two phases, participants rated both the selfish-narcissistic and non-selfish faces, and a filler face. The filler face was a neutral noise-altered base face image included so that the comparison of the two critical images would not be salient (Brown-Iannuzzi et al., 2018).

First, participants rated the faces on narcissism (1=not at all, 7=extremely), political orientation (1=extremely liberal, 7=extremely conservative) and age. Second, participants rated the faces on selfishness, vanity, kindness, the Big Five traits, interpersonal traits (warmth, competence, liking, and success; 1=not at all, 7=extremely), and self-esteem (1=extremely low, 7=extremely high).

Third, participants rated how important they perceived four different value types to be for both faces. We used a shortened version of the SVS (Schwarz, 1992), where participants responded for each value type using a sliding scale (0=less important to them than to the average person living in the UK; 100=more important to them than to the average person living in the UK).

Fourth, participants judged the likelihood of the selfish-narcissistic and non-selfish faces to have committed various moral and immoral acts (Brown-Iannuzzi et al., 2018). These acts included four moral (e.g., Left food out for a stray cat) and four immoral (e.g., Kicked a dog for no reason) behaviors. All items were presented in a random order (1=not at all likely, 7=extremely likely).

Fifth, participants judged the two images concerning workplace perceptions (see Han et al., 2023). Two judgments concerned career suitability, with participants indicating how well-suited each image was for a career in (a) corporate

management and (b) health services (1=not at all well suited, 7=extremely well suited). Two other judgments related to workplace relations; participants rated how desirable each image would be to work *with* and to work *for* (1=strongly disagree, 7=strongly agree).

Next, participants indicated their perceptions of the two images' leadership qualities (i.e., the likelihood that they would vote for each image to lead their country's government [1=not at all likely, 7=extremely likely], trustworthiness (i.e., the extent that they would trust each image to look after a loved one needing care [1=not at all, 7=a great deal]) , physical proximity comfort (i.e., how comfortable they would feel if trapped in an elevator with each image [1=not at all comfortable, 7=extremely comfortable], and similarity (i.e., how much they shared in common [1=nothing at all, 7=a great deal]). In all phases, questions were presented in a random order and on a separate screen.

Finally, participants completed the NPI-13 (Gentile et al., 2013; M=3.17; SD=1.06; α=.87), NARQ (Leckelt et al., 2018; M=2.77; SD=1.20; α=.74), and demographic information.

Results

We first report our preregistered testing for differences between the faces, where we used Bonferroni corrected paired t-tests. The results, along with descriptive scores and analyses of absolute differences, are presented in Table 5.1. Second, we report our preregistered testing for associations between rater narcissism and evaluations of the selfish-narcissistic face via a series of Bonferroni corrected Pearson's correlations.

Comparing the Selfish-Narcissist and Non-Selfish Faces

Attributes

As predicted, participants considered the selfish-narcissistic face as more narcissistic, selfish, and conservative, and less warm, kind, likeable, competent, successful, open, agreeable, conscientious, extraverted, and lower in self-esteem (all *p*s < .001). The selfish-narcissistic face was also rated as more masculine and younger ($p < .001$). The largest effect size differences were observed for masculinity ($d = 1.58$, 95% CI [1.35,1.81], warmth ($d = -1.55$, 95% CI [-1.78, -1.32]), and agreeableness ($d = -1.33$, 95% CI [-1.55, -1.11]), indicating especially pronounced contrasts on these attributes. We found no significant differences on ratings of vanity and neuroticism (*p*s > .013).

Values

A 2 (face type) x 4 (value type) repeated-measures ANOVA revealed a main effect of face type, $F(1, 196) = 164.43$, $p < .001$, $\eta_p^2 = .456$. Higher value importance ratings were attributed to the non-selfish than selfish-narcissistic face. There was also a significant main effect of value type, $F(2.68, 526.00) = 15.28$, $p < .001$, $\eta_p^2 = .072$. Self-transcendence and conservation values were seen as less important than self-enhancement and openness values (all *p*s < .016).

Importantly, these effects were qualified by a significant interaction, $F(2.46, 481.33) = 104.55$, $p < .001$, $\eta_p^2 = .348$. Regarding the self-transcendence and self-enhancement dimension, the selfish-narcissistic (vs. non-selfish) face was perceived as valuing self-transcendence less ($p < .001$, $\eta_p^2 = .568$), and self-enhancement more ($p < .001$, $\eta_p^2 = .178$). Regarding the openness and conservation dimension, the

selfish-narcissistic (vs. non-selfish) face was perceived as attaching less importance to openness ($p < .001$, $\eta_p^2 = .429$) and conservation values ($p < .001$, $\eta_p^2 = .311$).

Morality

We created an index of moral behavior for both faces by subtracting each face's average immorality score from their average morality score. The selfish-narcissistic (vs. non-selfish) face was judged as less moral ($p < .001$, Cohen's $d = -1.14$).

Workplace Roles

Regarding workplace suitability, the selfish-narcissistic (vs. non-selfish) face was judged as less suited for a career in health services ($p < .001$, Cohen's $d = -1.08$). We found no effect on suitability for corporate management ($p = .157$). For workplace relations, the selfish-narcissistic (vs. non-selfish) face was seen as a less desirable work colleague ($p < .001$, Cohen's $d = -0.82$) and boss ($p < .001$, Cohen's $d = -0.84$).

Leadership, Trustworthiness, Comfort with Physical Closeness, and Similarity

Participants were less likely to vote for the selfish-narcissistic (vs. non-selfish) face to be Prime Minister ($p < .001$, Cohen's $d = -0.65$) and to trust the selfish-narcissistic to look after a loved one ($p < .001$, Cohen's $d = -0.97$). Additionally, participants reported feeling less comfortable if trapped in an elevator with the selfish-narcissistic (vs. non-selfish) face ($p < .001$, Cohen's $d = -0.86$) and reported sharing less in common with the selfish-narcissistic face ($p < .001$, Cohen's $d = -0.66$).

Table 5.1: *Absolute Trait Ratings of the Selfish-Narcissistic and Non-Selfish Faces*

	Selfish-Narcissist	*Non-Selfish*	*t*-tests		
	M (*SD*)	*M(SD)*	*t*	Cohen's *d*	*p*
Attributes					
Narcissistic	4.58** (1.57)	3.15** (1.55)	9.45	0.67	<.001
Selfish	4.93** (1.47)	2.98** (1.38)	13.74	0.98	<.001
Vain	3.83 (1.78)	3.43** (1.43)	2.51	0.18	.013
Masculine	5.57** (1.41)	2.39** (1.25)	22.23	1.58	<.001
Politics	4.21* (1.43)	3.43** (1.29)	5.95	0.42	<.001
Self-esteem	3.79* (1.43)	4.75** (1.17)	-6.96	-0.50	<.001
Kind	2.47** (1.22)	5.24** (1.31)	-19.75	-1.41	<.001
Warm	2.15** (1.22)	5.26** (1.33)	-21.71	-1.55	<.001
Likeable	2.60** (1.27)	4.97** (1.50)	-15.85	-1.13	<.001
Competent	3.86 (1.35)	4.39** (1.29)	-3.83	-0.27	<.001
Successful	3.45** (1.33)	4.64** (1.20)	-9.70	-0.69	<.001
Open	2.60** (1.29)	5.15** (1.20)	-18.11	-1.29	<.001
Conscientious	3.37** (1.34)	4.49** (1.21)	-8.52	-0.61	<.001
Extraverted	2.89** (1.36)	5.09** (1.33)	-15.15	-1.08	<.001
Agreeable	2.46** (1.29)	5.13** (1.37)	-18.60	-1.33	<.001
Neurotic	4.05 (1.53)	3.76* (1.61)	1.73	0.12	.085
Age	25.44* (5.96)	27.47* (6.76)	-3.52	-0.25	<.001
Values					
Self-Transcendence	32.64 (20.43)**	64.34** (18.67)	-16.05	-1.14	<.001
Self-Enhancement	61.03 (21.59)**	46.66* (18.97)	6.50	0.46	<.001
Openness	39.68 (20.95)**	63.55** (17.77)	-12.14	-0.87	<.001
Conservation	35.82 (22.97)**	58.23** (21.31)	-9.41	-0.67	<.001
Morality	-1.01** (2.01)	2.68** (1.98)	-16.04	-1.14	<.001
Workplace					
Corporate	3.92 (1.81)	4.18 (1.43)	-1.42	-0.10	.157
Health	3.10 (1.54)**	5.39** (1.39)	-15.20	-1.08	<.001
Boss	2.81** (1.56)	4.89** (1.61)	-11.82	-0.84	<.001
Colleague	3.09** (1.57)	5.07** (1.48)	-11.48	-0.82	<.001
Behavioral					
Prime Minister	2.78** (1.55)	4.23* (1.55)	-9.07	-0.65	<.001
Trust	2.95** (1.56)	5.15** (1.56)	-13.55	-0.97	<.001
Close Proximity	3.07** (1.57)	5.04** (1.46)	-12.00	-0.86	<.001
Similarity	2.81** (1.31)	4.13 (1.39)	-9.22	-0.66	<.001

Note: ** $p < .05$ difference from scale midpoint.

Associations Between Rater Narcissism and Evaluations of the Selfish-Narcissist

Next, we assessed whether rater narcissism was linked with perceptions of the selfish-narcissistic face. Greater rater narcissism was positively associated with perceived narcissism ($r(195) = .22$, $p = .002$), neuroticism ($r(195) = .26$, $p < .001$), and vanity ($r(195) = .28$, $p < .001$). Rater narcissism was unrelated to perceptions of any other outcomes (all ps > .014). Therefore, in contrast with predictions, individuals higher in narcissism did not perceive themselves as sharing more in common with the selfish-narcissist. Accordingly, we did not conduct preregistered mediation analyses testing whether similarity mediates the relationship between rater narcissism and evaluations.

Discussion

This experiment examined visual representations of selfish-narcissistic and non-selfish individuals, testing whether naïve raters would differentially evaluate these representations. Additionally, we assessed the relationship between raters' narcissism and perceptions of the selfish-narcissistic face.

As expected, the selfish-narcissistic face was judged less favorably than the non-selfish face. The selfish-narcissistic face was seen as more narcissistic and selfish, and as less warm, likeable, kind, agreeable, open, conscientious, and moral. We also hypothesized and found that the selfish-narcissistic face would be seen as more self-enhancing and less self-transcending in terms of their value orientations.

However, raters' own narcissism was not correlated with more favorable evaluations of the selfish-narcissistic face. This could be linked with the reverse

correlation method; perhaps mutual liking between narcissists does not apply when narcissism is communicated facially. Alternatively, this pattern might reflect the definition provided to our generators, which emphasized narcissists' pejorative interpersonal qualities (i.e., selfishness), omitting the grandiose/admirative (i.e., vain) qualities that can be perceived more positively. This suggests that the inclusion of more favorable components may be important for establishing this link, potentially, as in Burton et al. (2017), via perceived similarity. Experiment 2 tested this possibility by generating new narcissistic and non-narcissistic faces using a definition of narcissism that accounts for the vain aspects of narcissism.

Experiment 2 – What Do People Think a Vain Narcissist Looks Like?

Experiment 2 utilized the same methodology as Experiment 1, with one fundamental difference: we provided generators with a definition of narcissism that emphasized the *vanity* component. The definition we used was directly adopted from the Single Item Narcissism Scale (SINS; Konrath et al., 2014) which instructs that "narcissism means being egotistical, self-focused, and vain". Thus, while both Experiment 1 and 2's definitions highlighted the superiority/egocentric aspects of narcissism, Experiment 2's definition additionally emphasized narcissistic vanity. This is important, because vanity is commonly reflected in models and lay-definitions of narcissism (Miller et al., 2021; Smith et al., 2025a).

Experiment 2 tested whether emphasizing the vanity component (a) influences visual representations of narcissism, (b) elicits distinct subsequent evaluations of vain- narcissistic and non-vain classification images, and (c) activates narcissistic tolerance among raters with greater self-reported narcissism. Our pre-

registered testing compared relative differences between the vain-narcissistic (vs. non-vain) faces generated by Experiment 2 generators, as well as relative differences between the *vain*-narcissistic and non-vain faces and the *selfish*-narcissistic and non-selfish faces (from Experiment 1). As an exploratory investigation, we examined the relationship between rater narcissism and evaluations of the vain-narcissistic face.

Method

Image Generation Phase

Participants

We recruited 130 Cardiff University students. Twenty-three participants were excluded for failing attention check criteria during the reverse correlation task, and seven for failing an attention check item during the Qualtrics survey. This resulted in a final sample of 100 (80 females, 14 males, 6 other; M_{age} = 19.38, SD_{age} = 1.43).

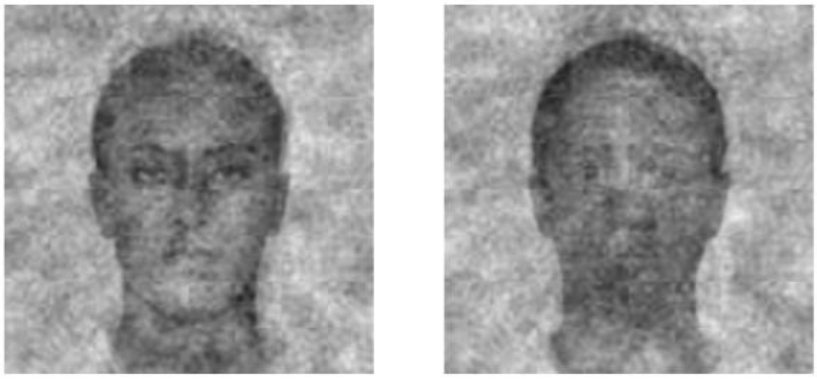
Materials and Procedure

Other than the definition provided to generators, the Materials and Procedure were identical to Experiment 1. Participants were instructed that "narcissism means being egotistical, self-focused, and vain" (Konrath et al., 2014).

Image Processing

The classification images were created in the same way as in Experiment 1. The resulting images are displayed in Figure 5.3.

Figure 5.3: *Average Classification Images of the Vain-Narcissistic and Non-Vain Facial Images*



Vain-Narcissistic Image Non-Vain Image

Image Rating Phase

Participants

We recruited Cardiff University students (n = 135) and UK residents via Prolific (n = 85). Five participants were excluded for failing an attention check item, resulting in a final sample of 215 (152 female, 60 male, 3 other; M_{age} = 26.66, SD_{age} = 11.57).

We conducted an a priori power analysis (G*Power 3.1; Faul et al., 2009) using the "ANOVA: Repeated measures, within-between interaction" method. Results suggested that 138 participants were needed to ensure 80% statistical power for a small effect size (f = 0.10; p < .05). Regarding our exploratory analyses of correlations between rater narcissism and perceptions of the narcissistic face, G*Power determined that a sample of 193 was sufficient to achieve enough power (.80) to detect small effect sizes (r = .20; p < .05; two-tailed).

Materials and Procedure

The Materials and Procedure were identical across Experiments 1 and 2. Again, the participants completed the NPI-13 (M = 3.29; SD = 0.98; α = .87), NARQ (M = 2.76; SD = 1.02; α = .76), and demographic information.

Results

First, we report our preregistered testing for relative differences between the faces via Bonferroni corrected paired t-tests. The results, along with descriptive scores and exploratory analyses of absolute differences on ratings, are presented in Table 5.2. Second, we report exploratory testing of the relationship between rater narcissism and evaluations of the vain-narcissistic face via Bonferroni corrected Pearson's correlations and exploratory mediation analyses.

Next, we present our preregistered testing of relative differences between the narcissistic and non-narcissistic faces generated using the selfish and vain definitions. We tested these via 2 (face type: narcissistic, non-narcissistic) x 2 (definition: selfish, vain) mixed ANOVAs. We follow up any significant interactions by conducting pairwise comparisons between the two narcissistic faces and the two non-narcissistic faces.

Comparing the Vain-Narcissistic and Non-Vain Faces

Attributes

Participants considered the vain-narcissist face as more narcissistic, selfish, conservative, and masculine (all ps < .001). The vain-narcissistic face was also rated as more vain and neurotic (all ps ≤ .002). Furthermore, the vain-narcissistic face was considered less kind, warm, likeable, open, agreeable, and conscientious (all ps < .001). The largest effect sizes were found on narcissism (d = 1.42, 95% CI [1.23,

1.61]), vanity and selfishness (both d = 1.38, 95% CI [1.19, 1.57]). These patterns converge with what was found (with selfishness) in Experiment 1.

However, unlike patterns from Experiment 1, the vain-narcissistic (vs. non-vain) face was seen as more competent, successful, extraverted, and as having greater self-esteem (all ps < .001). We found no significant differences between the two faces on ratings of age (p = .021).

Values

There was a significant main effect of face type, $F(1, 214) = 17.29$, $p < .001$, $\eta_p^2 = .075$. Higher value importance ratings were attributed to the non-vain than vain-narcissistic face. There was also a significant main effect of value type, $F(2.75, 587.90) = 31.20$, $p < .001$, $\eta_p^2 = .127$. Self-enhancement values were seen as more important than self-transcendence, openness, and conservation values (all ps < .005), with conservation seen as more important than self-transcendence values (p < .001).

These effects were qualified by a significant interaction, $F(2.59, 553.64) = 153.71$, $p < .001$, $\eta_p^2 = .418$. Replicating what was found with selfishness, the vain-narcissistic (vs. non-vain) face was perceived as valuing self-transcendence less (p < .001, $\eta_p^2 = .512$), and self-enhancement more ($p < .001$, $\eta_p^2 = .516$). The vain-narcissistic (vs. non-vain) face was also perceived as attaching less importance to openness ($p = .002$, $\eta_p^2 = .043$) and conservation values ($p < .001$, $\eta_p^2 = .167$).

Morality

The vain-narcissistic (vs. non-vain) face was judged as less moral ($p < .001$, Cohen's d = -1.42). This replicates what was found with selfishness.

Workplace Roles

Replicating Experiment 1, the vain-narcissistic (vs. non-vain) face was judged as less suitable for a career in health services ($p < .001$, Cohen's $d = -0.85$), and less desirable as a work colleague ($p < .001$, Cohen's $d = -0.92$) and boss ($p < .001$, Cohen's $d = -0.71$).

Unlike Experiment 1, the vain-narcissistic (vs. non-vain) face was judged as more suitable for a career in corporate management ($p = .024$, Cohen's $d = 0.53$).

Leadership, Trustworthiness, Comfort with Physical Closeness, and Similarity

The results directly paralleled Experiment 1. Participants stated they were less likely to vote for the vain-narcissistic (vs. non-vain) face to be Prime Minister ($p < .001$, Cohen's $d = -0.35$), and less likely to trust the vain-narcissistic (vs. non-vain) face to look after a loved one ($p < .001$, Cohen's $d = -0.92$). Additionally, participants reported feeling less comfortable if trapped in an elevator with the vain-narcissistic (vs. non-vain) face ($p < .001$, Cohen's $d = -0.95$) and reported lower similarity with the vain-narcissistic (vs. non-vain) face ($p < .001$, Cohen's $d = -0.49$).

Table 5.2: *Absolute Trait Ratings of the Vain-Narcissistic and Non-Vain Faces*

	*V*ain-*Narcissistic*	*Non-V*ain	*t*-tests		
	M (*SD*)	*M(SD)*	*t*	Cohen's *d*	*p*
Attributes					
Narcissistic	5.33** (1.15)	2.84** (1.35)	20.78	1.42	<.001
Selfish	5.51** (1.20)	2.87** (1.38)	20.17	1.38	<.001
Vain	5.13** (1.48)	2.33** (1.18)	20.20	1.38	<.001
Masculine	4.48** (1.46)	4.02 (1.34)	3.43	0.23	<.001
Politics	4.51** (1.45)	3.39** (1.10)	8.65	0.59	<.001
Self-esteem	4.86** (1.50)	3.09** (1.24)	12.23	0.83	<.001
Kind	2.17** (1.22)	4.67** (1.29)	-19.51	-1.33	<.001
Warm	1.88** (1.14)	4.27* (1.38)	-18.90	-1.29	<.001
Likeable	2.37** (1.02)	4.40** (1.35)	-17.17	-1.17	<.001
Competent	4.32** (1.44)	3.67** (1.26)	4.67	0.32	<.001
Successful	4.17 (1.38)	3.37** (1.24)	6.27	0.43	<.001
Open	2.80** (1.36)	3.70* (1.38)	-6.94	-0.47	<.001
Conscientious	3.36** (1.42)	4.22* (1.31)	-5.87	-0.40	<.001
Extraverted	3.76* (1.52)	2.93** (1.36)	6.10	0.42	<.001
Agreeable	2.19** (1.10)	4.53** (1.34)	-18.66	-1.27	<.001
Neurotic	4.37** (1.58)	3.87 (1.47)	3.20	0.22	.002
Age	26.92* (5.36)	25.42 (9.94)	2.33	0.16	.021
Values					
Self-Transcendence	28.30** (18.78)	56.56** (20.35)	-14.99	-1.02	<.001
Self-Enhancement	69.97** (22.45)	37.69** (18.83)	15.10	1.03	<.001
Openness	41.93** (22.74)	48.10 (21.90)	-3.09	-0.21	.002
Conservation	38.62** (26.72)	55.07* (23.26)	-6.56	-0.45	<.001
Morality	-1.57** (1.74)	2.43** (1.82)	-20.82	-1.42	<.001
Workplace					
Corporate	4.66** (1.72)	3.38** (1.40)	7.70	0.53	<.001
Health	2.90** (1.47)	4.61** (1.43)	-12.49	-0.85	<.001
Boss	2.53** (1.49)	4.01 (1.52)	-10.35	-0.71	<.001
Colleague	2.68** (1.45)	4.60** (1.42)	-13.46	-0.92	<.001
Behavioral					
Prime Minister	2.60** (1.55)	3.31** (1.54)	-5.05	-0.35	<.001
Trust	2.77** (1.44)	4.51** (1.46)	-13.51	-0.92	<.001
Close Proximity	2.78** (1.45)	4.57** (1.45)	-13.92	-0.95	<.001
Similarity	2.72** (1.27)	3.52** (1.33)	-7.12	-0.49	<.001

Note: ** $p < .05$ difference from scale midpoint.

Associations Between Rater Narcissism and Evaluations of the Vain Narcissist

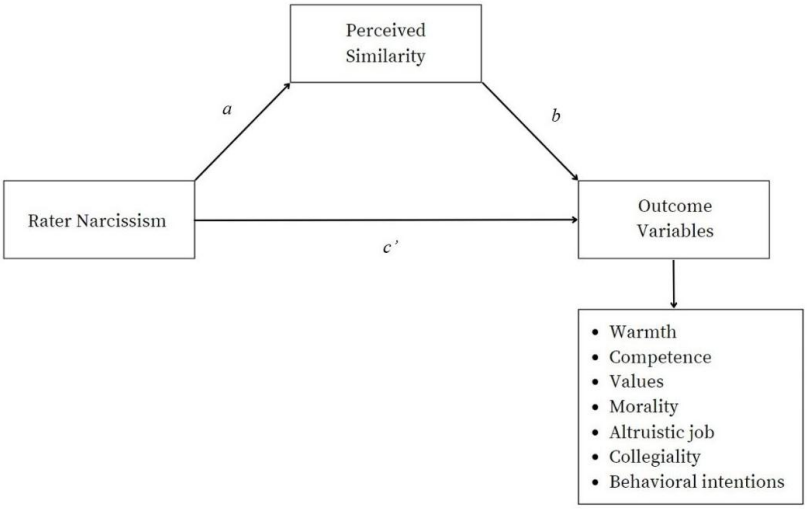
Consistent with narcissistic tolerance, greater rater narcissism was positively associated with perceived similarity with the vain-narcissistic face ($r(213) = .19$, $p = .005$), suggesting that narcissistic vanity, assessed indirectly via reverse correlation, facilitates effects of narcissistic tolerance. Rater narcissism was unrelated to perceptions of other outcomes (all ps > .030).

The Mediating Role of Perceived Similarity

We tested whether perceived similarity mediates the relationship between rater narcissism and evaluations of the vain-narcissistic face (see Figure 5.4 and Table 5.3). A sensitivity power analysis indicated that our sample size achieved 0.81 power at $\alpha = 0.05$ for mediation models detecting indirect effects as small as Cohen's $d = 0.27$ (Schoemann et al., 2017).

To minimize multiple testing, we conducted a factor analysis to assess the factor structure of the attribute items. The analyses revealed a two-factor structure that accounted for 64.52% of the total variance (Factor 1 = 41.54%; Factor 2 = 22.98%; see Table C2). Six items loaded onto the first factor 'Warmth' (factor loadings of .52 - .90); four items loaded onto the second factor 'Competence' (factor loadings of .49 - .74). Internal consistency of both factors was strong (both αs > .75), so we computed 'Warmth' and 'Competence' indices comprised of participants' average item scores.

Figure 5.4: *Conceptual Framework Illustrating Tested Indirect Effects of Rater Narcissism on Outcomes via Perceived Similarity*



Note: *c'* = direct effect of X on Y; *a***b* = indirect effect of X on Y through perceived similarity.

Our mediation analyses included the warmth and competences indices, as well as five outcome variables comprised of participants' average scores on relevant items. 'Values' represents perceptions of self-transcendent values relative to self-enhancement values. 'Morality' represents perceptions of engaging in moral behaviors relative to immoral behaviors. 'Altruistic job suitability' represents perceptions of suitability for altruistic (i.e., healthcare) relative to agentic (i.e., corporate management) job roles. 'Collegiality' represents perceptions of desirability as a work colleague/boss. Finally, 'Behavioral intentions', combines perceptions of perceived leadership, trustworthiness, and comfort with physical closeness.

The models were tested using Hayes' (2022) PROCESS model 4 (95% confidence intervals based on 10,000 bootstrap samples). Perceived narcissism did

not directly predict any of the outcomes (all *p*s ≥ .336). However, significant indirect effects of rater narcissism via perceived similarity emerged for perceived warmth, competence, values, morality, collegiality, and behavioral intentions (but not for altruistic job suitability). Rater narcissism positively predicted similarity ($p = .005$), which in turn positively predicted six of the seven outcomes (all *p*s < .001). To better quantify these effects, Table 3 reports the Proportion Mediated (PM) Adjusted Index, which avoids over-inflating estimates when proportion mediated calculations are affected by small total effect sizes, as observed in some models (MacKinnon et al., 2000).

While our mediation models indicate indirect effects, via perceived similarity, they do not establish causality, particularly in the 'b' paths (Bullock et al., 2010). While reversed models showed no significant indirect effects (see Table C3) this does not confirm directionality or eliminate confounding (Rohrer et al., 2022). The absence of direct effects suggests that confounding is less likely, though we acknowledge that power limitations could also contribute to the non-significant direct effects. Likewise, suppression would imply a reversed or strengthened predictor-outcome link when including the mediator, which was not observed. Nonetheless, we encourage future research using experimental or longitudinal designs to strengthen causal claims.

Table 5.3: *Summary of Perceived Similarity Mediation Analyses: Vain-Narcissist Face*

Outcome Measure	Direct effect	Total effect	Indirect effect	PM Adjusted Index (%)

			Effect (Boot*SE*)	BS 95% CI	
Warmth	0.017 (0.056)	0.098 (0.061)	0.080* (0.030)	[0.026, 0.14]	82.30
Competence	-0.067 (0.069)	-0.014 (0.071)	0.053* (0.023)	[0.014, 0.10]	44.17
Values	1.59 (2.14)	3.10 (2.17)	1.51* (0.70)	[0.38, 3.08]	48.71
Morality	-0.089 (0.11)	0.089 (0.12)	0.17* (0.061)	[0.058, 0.30]	65.64
Altruistic job	0.039 (0.13)	0.085 (0.12)	0.046 (0.033)	[-0.0028, 0.13]	54.12
Collegiality	0.014 (0.079)	0.17 (0.094)	0.15* (0.055)	[0.049, 0.27]	91.43
Behavioral Intentions	0.017 (0.068)	0.17 (0.085)	0.15* (0.050)	[0.051, 0.25]	89.83

Note: *$p < .05$

Comparing Selfish and Vain Classification Images

Next, we compared the selfish-narcissistic and non-selfish, and vain-narcissistic and non-vain faces via 2 (face type) x 2 (definition) mixed ANOVAs (see Table C4). Given that, unlike the selfish-narcissistic face, the vain-narcissistic face was perceived as more agentic (e.g., competent, successful, high self-esteem) relative to the non-vain face, we conducted pairwise comparisons between the selfish and vain-narcissistic faces, and between the non-selfish and non-vain faces, to examine the influence of vanity in eliciting different patterns of evaluations.

Attributes

The analyses revealed significant Face Type x Definition interactions on perceived narcissism, selfishness, vanity, masculinity, age, self-esteem, warmth, competence, success, openness, and extraversion (all *p*s < .001). The vain- (vs. selfish-) narcissistic face was seen as older, more narcissistic, selfish, vain, competent, successful, extraverted, less masculine, and as having greater self-esteem (all *p*s < .030). Furthermore, the non-vain (vs. non-selfish) face was seen as

younger, more masculine, and less warm, competent, vain, successful, open, extraverted, and as having lower self-esteem (all *p*s < .019). We found no interaction effects for perceived political orientation, kindness, liking, conscientiousness, agreeableness, and neuroticism (all *p*s ≥ .064).

Values

For values, analyses revealed significant interactions for self-enhancement and openness. The vain- (vs. selfish-) narcissistic face was seen as more strongly endorsing self-enhancement values ($p < .001$). Further, the non-vain (vs. non-selfish) face was seen as less endorsing of self-enhancement and openness values (*p*s < .001). Non-significant interactions were found for self-transcendence and conservation values (both *p*s ≥ .087).

Morality

For morality, face type did not significantly interact with definition to influence ratings ($p = .294$).

Workplace Roles

Regarding occupational suitability, interactions were found for both corporate management and health services roles (*p*s < .005). The vain- (vs. selfish-) narcissistic face was seen as more suitable for a corporate management role ($p < .001$), with the non-vain (vs. non-selfish) face seen as less suitable for corporate management and health services careers (*p*s < .001).

For workplace relations, the analyses revealed a significant interaction on ratings of the faces' desirability as bosses ($p = .009$), but not colleagues ($p = .775$). The non-vain (vs. non-selfish) face was seen as a less desirable boss ($p < .001$).

Behavioral Intentions

Here, analyses revealed significant interactions on ratings of voting intentions and trust (all ps ≥ .028) but not comfort in close physical proximity (p = .414). The non-vain (vs. non-selfish) face was ascribed both lower voting intentions and trust ratings (ps < .001).

Similarity

Finally, face type interacted with definition on perceived similarity ratings (p = .004). Participants reported sharing less in common with the non-vain (vs. non-selfish) face (p < .001).

Discussion

Experiment 2 examined visual representations of vain-narcissistic and non-vain faces, and tested the consequences of these representations. Overall, the vain-narcissistic (vs. non-vain) face was perceived less favorably (e.g., as more narcissistic, selfish, self-enhancing, and as less warm, likeable, kind). However, whereas Experiment 1's selfish-narcissistic (vs. non-selfish) face was seen as relatively lacking in agentic traits (e.g., competence, success, extraversion, self-esteem), we found contrasting results in Experiment 2. Specifically, the vain-narcissistic face was seen as more competent, successful, extraverted, suitable for corporate management, and higher in self-esteem than its non-vain counterpart.

Exploratory comparisons between (a) the selfish-narcissistic and vain-narcissistic and (b) non-selfish and non-vain faces further supported the notion that highlighting the vanity component of narcissism prompts greater inferences of agency. The vain- (vs. selfish-) narcissistic face was seen as older, more narcissistic,

selfish, vain, competent, successful, extraverted, as having higher self-esteem, more greatly endorsing self-enhancement values, and as more suitable for a career in corporate management.

Furthermore, we observed different patterns of associations between rater narcissism and evaluations of the selfish- vs. vain-narcissistic faces. In Experiment 1, rater narcissism was positively associated with pejorative evaluations of the selfish-narcissist. However, in Experiment 2, rater narcissism positively correlated with greater perceived similarity with the vain-narcissist, suggesting that vanity plays a crucial role in facilitating the narcissism-similarity link, which subsequently predicted favorable outcomes (e.g., warmth, competence, morality).

In Experiments 1 and 2, the narcissistic faces were evaluated relative to a different non-narcissist. As such, contrast effects may have influenced the relative nature of participants' judgments. Further, while our findings suggest that narcissistic vanity is important in eliciting multifaceted and more favorable perceptions of narcissists, as well as bolstering narcissistic tolerance via perceived similarity, it does not explain why. One possibility is that narcissistic vanity implies physically attractive features, promoting the impression of more desirable traits and the narcissism-similarity link. Indeed, attractive people are perceived to be high in vanity (Han & Laurent, 2023). Given these results, Experiment 3 focuses on perceptions of the facial images in the domain of sexual/romantic attraction.

Experiment 3 – Do People Find Narcissistic (vs. Non-Narcissistic) Faces Attractive?

Experiment 3 examined perceptions of the selfish- and vain-narcissistic *and* non-selfish and non-vain images on dimensions of physical attraction and sexual/romantic partnership. Understanding such perceptions is important, because narcissists demonstrate distinct qualities in their romantic relationships (Foster & Brunell, 2018), putting greater effort into their appearance and being considered attractive by others at first meeting (Holtzman & Strube, 2013). Yet, over time, narcissism elicits both self- and partner-reported relationship dissatisfaction and diminished long-term commitment (Altınok et al., 2020; Jonason & Buss, 2012; Lavner et al., 2016).

Because narcissism represents a double-edged sword in the context of romance and attraction, we were interested in perceptions of narcissistic and non-narcissistic faces on these dimensions. In Experiment 3, we focused on five facets relevant to romantic perceptions: attraction, suitability for short-term partnership, suitability for long-term partnership, friendship, and toxic relationship behaviors - dimensions linked to narcissism (Holtzman & Strube, 2013; Jauk et al., 2021).

We once again focused on evaluations of perceived similarity. As proposed by the similarity-attraction hypothesis, individuals experience greater attraction to people like themselves (Montoya & Horton, 2013). Studies of this effect have highlighted the importance of *perceived*, rather than *actual*, similarity in predicting romantic attraction (Tidwell et al., 2013). Further, we measured perceived familiarity, given its reliability as a predictor of attraction (Reis et al., 2011).

Finally, like Experiments 1 and 2, we focused on evaluations of warmth, competence, masculinity, and narcissism. Comparing the narcissistic images, Experiment 2 found that people perceived the vain-(vs. selfish-) narcissistic faces as more narcissistic; in Experiment 3 we tested if this effect would replicate. We also asked participants to indicate the extent to which they would secretly enjoy being each of the faces. This exploratory item assessed whether certain faces were seen as more appealing.

We predicted that the narcissistic faces would generally be perceived less favorably than the non-narcissistic faces. However, we explored whether the selfish vs. vain differentiation would elicit distinct judgments of attraction and suitability for friendship and short- and long-term partnership. Given that the vain- (vs. selfish-) narcissistic face was perceived more favorably, we were keen to examine whether this effect would carry over to romantic perceptions.

Method

Participants

We recruited 202 UK participants through Prolific (101 females, 99 males, 2 prefer not to say; M_{Age} = 38.06, SD_{Age} = 12.71; see Table C5 for further details).

An a priori power analysis (G*Power 3.1; Faul et al, 2009) using the "ANOVA: Repeated measures, within factors" method suggested that 138 participants were required to ensure 80% statistical power for a small effect size (f = 0.10). We conducted an additional a priori power analysis to determine the sample size needed to achieve enough power (80%) to detect a small to moderate effect size (r =

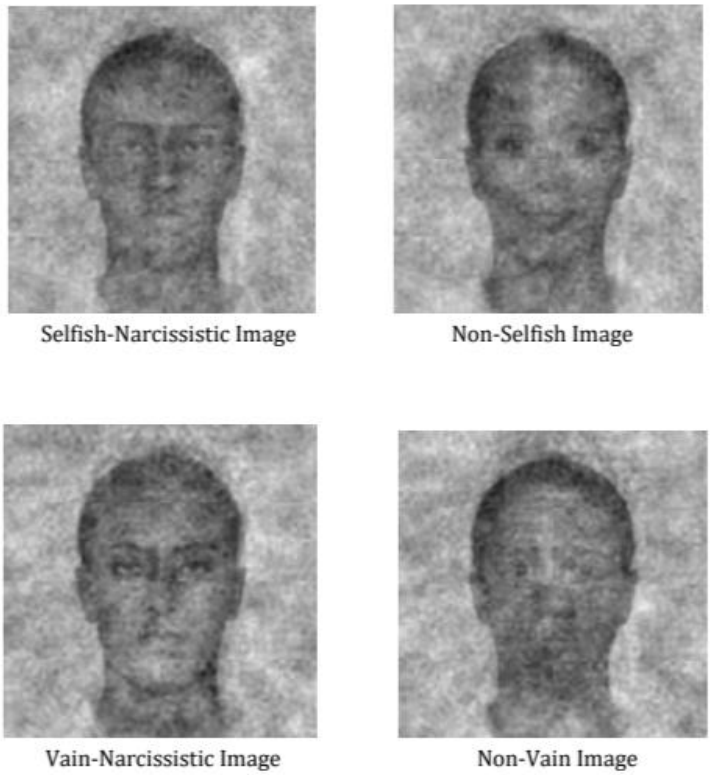
.20; p < .05; two-tailed) for correlations between individual difference measures and face evaluations. Results indicated that a sample of 193 was sufficient.

Materials and Procedure

Face Rating Task

Participants completed the task via Qualtrics. After providing consent, participants made judgments about the faces (Figure 5.5) on various dimensions. As in Experiments 1 and 2, participants evaluated each face individually on a separate screen, and no information was provided about the faces or how they were generated.

Figure 5.5: *Narcissistic and Non-Narcissistic Facial Images*



First, participants evaluated the faces on a series of dimensions (presented in a random order). These comprised measures of friend value ("To what extent would

you desire this person as a platonic friend?"), desirability as a short-term partner ("To what extent would you, personally, desire this person for a short-term sexual encounter [e.g., a one-night stand?]"), and long-term partner ("To what extent would you, personally desire this person for a long-term committed relationship [e.g., to marry, raise children with, etc.?]") (from Rauthmann & Kolar, 2013), and perceived attractiveness ("To what extent do you, personally, find this person physically attractive?"). For the latter three questions, participants also indicated how much they thought that people, *in general*, would find the faces attractive and desirable as a short/long-term partner. We included these *general* perspectives to mitigate against potential effects of participant gender, sexual orientation, and/or relationship status on appraisals of perceived personal attraction and sexual/romantic desirability.

Additionally, these dimensions included perceived toxic relationship behaviors, adapted from Frederick and Hasleton (2007). Participants were asked "How likely is it that this person: (a) has a bad temper; (b) would ignore their partner's emotional needs; (c) would be abusive to their partner; and (d) would be unfaithful to their partner. We also measured participants' perceptions of the faces' perceived warmth, competence and masculinity ("How X does this person look?"), perceived familiarity ("To what extent does this person feel familiar to you?"), and a three-item measure of perceived similarity (from Burton et al., 2017).

Next, we presented participants with each face in a random order and asked "Secretly, how much would you enjoy being this person?", followed by "How narcissistic does this person look?". Perceived narcissism was included last to

ensure that the concept of narcissism was not made salient prior to participants' evaluations. Across all dimensions, participants responded on seven-point scales (1 = Not at all, 7 = Extremely).

Following this task, participants completed the SINS (M = 2.09; SD = 1.33). Participants also completed several additional individual differences measures presented in random order that were included for exploratory purposes and not reported below. These measures, and their relationship to evaluations of all four faces can be found in Tables C6-C29. Finally, participants completed demographic information.

Results

We begin by presenting our preregistered testing for relative differences between the faces. We conducted 2 (face type) x 2 (definition) repeated-measures ANOVAs testing for differences between the narcissistic and non-narcissistic faces, the selfish and vain faces, and their interaction, on ratings of outcome variables. Significant main and interactions effects were interpreted via Bonferroni corrected pairwise comparisons. Descriptive statistics for each face, along with their absolute differences on all ratings, are presented in Table 5.4. For parsimony, we focus on comparing (a) the Narcissistic and Non-Narcissistic Faces, (b) the Vain- (vs. Selfish-) Narcissistic Faces and (c) the Non-Vain (vs. Non-Selfish) faces. Other analyses are presented in Appendix C.

We then report our preregistered testing for associations between rater narcissism and evaluations of the narcissistic and non-narcissistic faces' perceived similarity and familiarity. Finally, we report additional post-hoc exploratory testing

of the mediating role of perceived similarity and familiarity on the relationship between rater narcissism and romantic perceptions of the vain-narcissistic face.

Comparing the Narcissistic and Non-Narcissistic Faces

Overall, the narcissistic (vs. non-narcissistic) faces were seen as less attractive (general and personal), less suitable for platonic friendship, short- and long-term partnership (general and personal), and as more likely to engage in toxic relationship behaviors (*p*s ≤. 009). The narcissistic (vs. non-narcissistic) faces were also ascribed lower similarity, familiarity, warmth, competence, secret enjoyment scores, and judged as more masculine, and narcissistic (*p*s < .001).

Comparing the Vain- (vs. Selfish-) Narcissistic Faces

Comparing between the two narcissistic faces, the vain- (vs. selfish-) narcissist was seen as less suitable for friendship, but as more *personally* physically attractive and *personally* suitable for short-term partnership (*p*s ≤ .017). The vain- (vs. selfish-) narcissist was also seen as less masculine and more narcissistic (*p*s < .001). No differences emerged on other variables (*p*s ≥ .072).

Comparing the Non-Vain (vs. Non-Selfish) Faces

Comparing between the two non-narcissistic faces, the non-vain (vs. non-selfish) face was seen as less attractive (general and personal), less suitable for platonic friendship and short- and long-term partnership (general and personal), and as more likely to engage in toxic relationship behaviors (*p*s ≤ .006). The non-vain (vs. non-selfish) face was also ascribed lower similarity, familiarity, warmth, competence, secret enjoyment scores (*p*s < .001). The non-vain (vs. non-selfish)

non-narcissist was seen as more masculine ($p < .001$), but no more or less narcissistic ($p = 1.00$).

Summary

Overall, the results broadly support our hypothesis that the narcissist (vs. non-narcissist) faces would be perceived less favorably in the context of sexual/romantic attraction. That said, these effects were not uniform, and were qualified by a number of meaningful interactions reflecting both the facet of narcissism (i.e., vanity or selfishness) that was visually salient and the evaluative context. In line with Experiment 2, the vain (vs. selfish) narcissistic face was judged as more desirable on specific outcomes – most notably personalphysical attractiveness and personal suitability for short-term partnership (i.e., ratings reflecting the rater's own judgement, as distinct from perceptions of how a general member of the public would evaluate the face. Conversely, the non-vain (vs. non-selfish) face was judged as less desirable (e.g., less attractive). These interactive patterns are illustrated in Figures 5.6 and 5.7. Together, these findings further support the notion that emphasizing the vanity aspect of narcissism elicits distinct (and more favorable) evaluations of narcissists.

Associations Between Rater Narcissism and Perceptions of Similarity and Familiarity

We tested associations between raters' self-reported narcissism and perceptions of perceived similarity and familiarity with the narcissistic faces via Bonferroni corrected Pearson's correlations.

Replicating Experiments 1 and 2, rater narcissism was significantly associated with perceived similarity with the vain-narcissist ($r(202) = .19$, $p = .008$), but not the selfish-narcissist ($r(202) = .07$, $p = .321$). Similarly, rater narcissism was significantly associated with perceived familiarity with the vain-narcissist ($r(202) = .22$, $p = .002$), but not the selfish-narcissist ($r(202) = .13$, $p = .065$).

The Mediating Roles of Perceived Similarity and Familiarity with the Vain-Narcissistic Face

To explore the association between rater narcissism and perceived similarity and familiarity with the vain-narcissist, we tested whether perceived similarity and familiarity mediated the relationship between rater narcissism and evaluations of the face's sexual/romantic suitability. This was done using Hayes' (2022) PROCESS model 4 (95% confidence intervals based on 10000 bootstrap samples).

The model predictor was rater narcissism and the mediators were perceived similarly and perceived familiarity. The two outcome variables tested were 'sexual/romantic suitability', which was an index created using participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship ($\alpha = .84$), and toxic relationship behaviors.

We found significant indirect effects of rater narcissism on sexual/romantic suitability via both perceived similarity ($b = .030$, SE = .014, 95%CI [.0053, .059]) and familiarity ($b = .059$, SE = .023, 95%CI [.021, .11]). Rater narcissism did not directly predict sexual/romantic suitability ($b = -.048$, SE = .039, $t = -1.24$, $p = .217$). Using the PM Adjusted Index, perceived similarity and familiarity mediated 64.78 %

of the positive relationship between rater narcissism and perceptions of greater sexual/romantic suitability.

For toxic relationship behaviors, the indirect of effect of rater narcissism via perceived similarity was significant (*b* = -.066, SE = .029, 95%CI [-.13, -.013]), while the indirect effect via perceived familiarity was non-significant (*b* = -.0042, SE = .015, 95%CI [-.036, .025]). As with sexual/romantic suitability, rater narcissism did not significantly directly predict perceptions of toxic relationship behaviors (*b* = .066, SE = .066, *t* = 0.99, *p* = .324). Using the PM Adjusted Index, perceived similarity mediated 50.27% of the negative relationship between rater narcissism and perceptions of toxic relationship behaviors.

Table 5.4: *Descriptive statistics and ANOVA Results*

	Narcissist		Non-Narcissist		Repeated Measures ANOVA			
	Selfish[a]	Vain[b]	Selfish[c]	Vain[d]	Predictor	F	η_p^2	p
Friend	2.52**[bcd]	2.23**[acd]	3.92[abd]	3.00**[abc]	Face	163.22	.448	<.001
					Definition	89.59	.308	<.001
					Face x Definition	21.95	.098	<.001
Attraction (G)	3.12**[cd]	3.17**[cd]	4.15[abd]	2.83**[abc]	Face	20.38	.092	<.001
					Definition	109.90	.353	<.001
					Face x Definition	109.52	.353	<.001
Attraction (P)	1.64**[bc]	1.91**[acd]	3.26**[abd]	1.64**[bc]	Face	90.66	.311	<.001
					Definition	123.56	.381	<.001
					Face x Definition	149.77	.427	<.001
ST Partner (G)	3.05**[cd]	3.25**[cd]	4.18[abd]	2.55**[abc]	Face	6.94	.033	.009
					Definition	100.38	.333	<.001
					Face x Definition	158.35	.441	<.001
ST Partner (P)	1.43**[bc]	1.65**[acd]	2.33**[abd]	1.40**[bc]	Face	21.27	.096	<.001
					Definition	28.84	.125	<.001
					Face x Definition	54.54	.213	<.001
LT Partner (G)	2.81**[c]	2.89**[c]	4.41**[abd]	3.01**[c]	Face	118.62	.371	<.001
					Definition	94.16	.319	<.001
					Face x Definition	105.40	.344	<.001
LT Partner (P)	1.50**[cd]	1.50**[cd]	2.49**[abd]	1.73**[abc]	Face	71.87	.263	<.001
					Definition	34.75	.147	<.001
					Face x Definition	23.17	.103	<.001
Toxic Behaviors	4.38**[cd]	4.28*[cd]	2.78**[abd]	3.04**[abc]	Face	278.23	.581	<.001

					Definition	2.34	.012	.127
					Face x Definition	11.04	.052	<.001
Familiar	2.07**c	1.94**cd	2.78**abd	2.30**bc	Face	46.64	.188	<.001
					Definition	23.23	.104	<.001
					Face x Definition	7.65	.037	.006
Similar	2.58**cd	2.55**cd	3.56**abd	2.82**abc	Face	86.00	.300	<.001
					Definition	48.28	.194	<.001
					Face x Definition	40.07	.166	<.001
Warm	1.93**cd	1.91**cd	5.02**ab	3.03**ab	Face	552.69	.733	<.001
					Definition	184.59	.479	<.001
					Face x Definition	195.84	.494	<.001
Competent	3.40**c	3.60**cd	4.36**abd	3.33**bc	Face	20.25	.092	<.001
					Definition	62.38	.237	<.001
					Face x Definition	80.96	.287	<.001
Masculine	5.23**bcd	4.15ac	1.88**abd	4.50**ad	Face	380.00	.654	<.001
					Definition	135.26	.402	<.001
					Face x Definition	359.61	.641	<.001
Secret	1.94**c	1.98**c	3.23**abd	2.05**c	Face	61.16	.233	<.001
					Definition	85.73	.299	<.001
					Face x Definition	70.31	.259	<.001
Narcissistic	4.15bcd	4.94**acd	2.63**ab	2.49**ab	Face	249.51	.554	<.001
					Definition	19.33	.088	<.001
					Face x Definition	31.68	.136	<.001

Note: ** p<.05 difference from scale midpoint. Superscripts with a different letter differ at p<.05.

Figure 5.6: *Mean personal physical attractiveness rating: Face type x narcissism facet interaction*

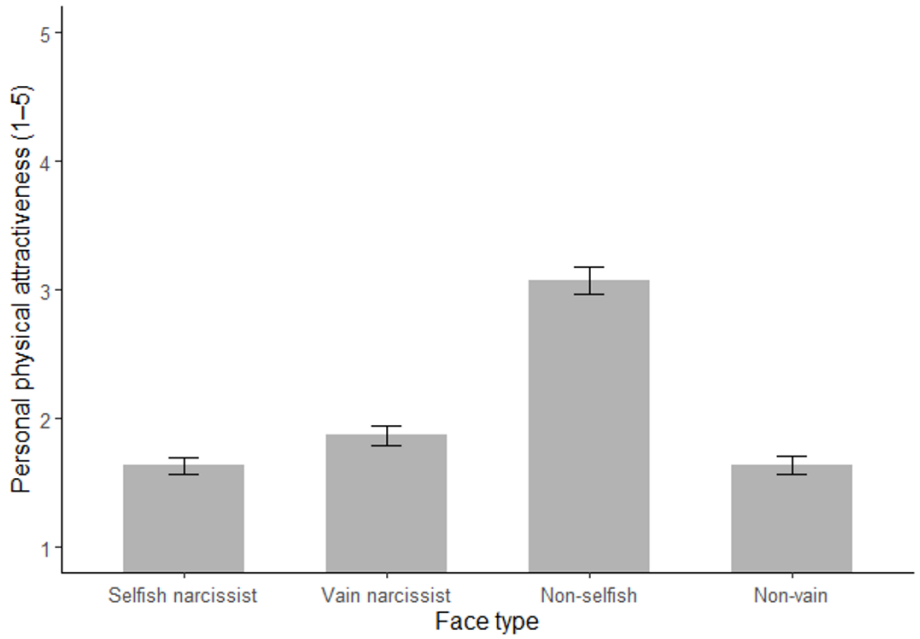
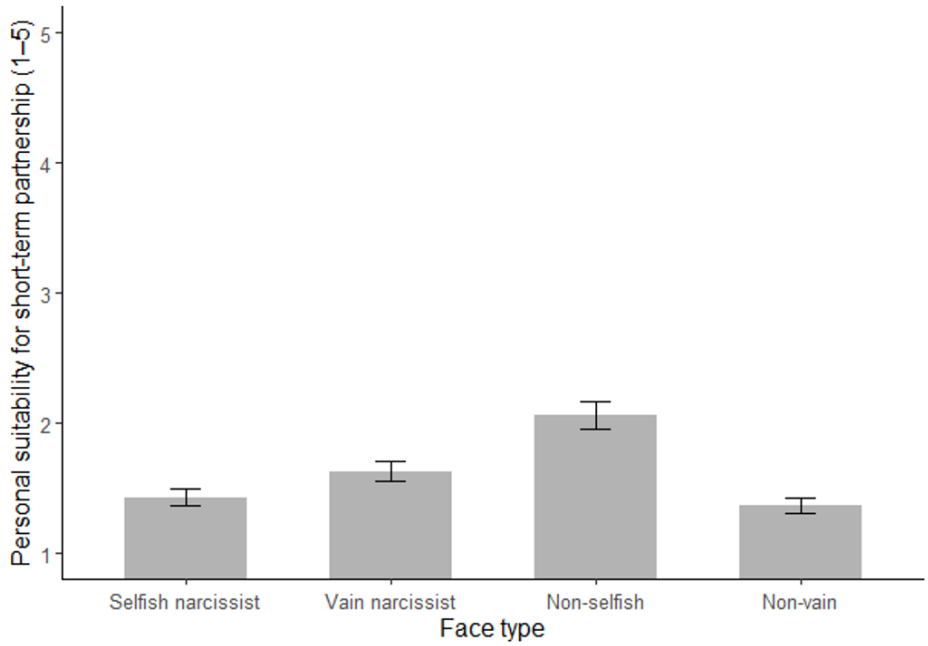


Figure 5.7: *Mean personal short-term partnership suitability rating: Face type x narcissism facet interaction*



Discussion

Building upon Experiments 1 and 2, Experiment 3 explored romantic perceptions of selfish-and vain-narcissistic and non-selfish and non-vain faces. Overall, the narcissistic (vs non-narcissistic) faces were seen as less suitable for friendship and romantic partnership (short- and long-term), less attractive, and as more likely to engage in toxic relationship behaviors. They were also seen as less warm, competent, familiar, similar, and as more narcissistic. However, consistent with the Experiment 1 and 2 comparison, the vain-narcissist was more romantically favored relative to the selfish-narcissist. Further, the non-selfish face was perceived more favorably than the non-vain face. Thus, highlighting the vanity aspect of narcissism prompts greater interferences of agentic traits and also elicits more favorable judgments regarding romance and attraction.

Finally, replicating the Experiment 1 and 2 comparison, the vain-narcissist was seen as significantly more narcissistic relative to the selfish-narcissist. That this effect was found when the faces were rated separately (Experiment 2) *or* together (Experiment 3) is noteworthy, suggesting that vanity, along with selfishness tendencies, is fundamental to lay-conceptualizations of narcissism.

General Discussion

Judging people based on their facial features influences our daily interactions and decisions. While previous research has focused on individuals' ability to detect facially-signaled narcissism (Alper et al., 2021; Holtzman, 2011), or physical manifestations of narcissism (Giacomin & Rule, 2019), we adopted a novel and theoretically-based perspective: visual representations of narcissists and their

consequences. Based on conceptual models showing that people view narcissism in relation to entitlement/antagonism (i.e., selfishness) and grandiosity (i.e., vanity), we utilized a bottom-up approach to generate faces prototypical of both these dimensions (and their non-narcissistic counterparts). Subsequently, three naïve samples rated these faces on personal attributes, values, and behaviors (Experiments 1 and 2) and perceived attractiveness and romantic suitability (Experiment 3).

While narcissistic (vs. non-narcissistic) faces were broadly perceived unfavorably, the vain- (vs. selfish-) narcissist was seen as more agentic and suitable for romantic partnership, suggesting that the inclusion of vanity has positive interpersonal outcomes. Indeed, previous research has linked narcissistic vanity with increased popularity (Back et al., 2010). Relatedly, when evaluating narcissistic targets/traits in the absence of physical appearance cues, participants tend to demonstrate particularly negative perceptions (Hart & Adams, 2014), suggesting that the inclusion of vanity within narcissism elicits a more positive conceptualization of what it means to be narcissistic.

Importantly, rater narcissism was positively associated with perceived similarity with the vain- (but not selfish-) narcissistic face, suggesting that inferences of vanity are crucial in fostering the narcissism-similarity link. Furthermore, this link mediated favorable impressions of the vain-narcissist (e.g., warmth, competence, leadership qualities) and increased perceptions of their attraction and romantic suitability. This extends our knowledge of narcissistic tolerance in several ways. First, our findings demonstrate that narcissistic tolerance

can be replicated via facially communicated narcissism, even when overt aspects of narcissism remain undisclosed. Previously, narcissistic tolerance had only been observed when narcissistic raters were exposed to explicit expressions of narcissistic traits (Adams et al., 2015; Burton et al., 2017; Hart & Adams, 2014).

Second, our findings highlight the importance of narcissistic vanity in supporting narcissistic tolerance. Notably, however, our research focused on the effects of narcissistic tolerance of grandiose (i.e., vain) expressions of narcissism from individuals scoring high on grandiose measures of the traits (i.e., NPI/SINS score). Future research may investigate whether highlighting antagonistic aspects of narcissism (e.g., selfishness) might heighten the effect of narcissistic tolerance among individuals high in antagonistic narcissism.

Third, we found that narcissistic tolerance is largely mediated via perceived similarity. This demonstrates that effects of narcissistic tolerance, underpinned by perceived similarity, can be manifest across multiple domains (e.g., perceived values, career suitability, attraction) via faces. This may represent an instantiation of false consensus, whereby narcissistic individuals perceive vain narcissists as sharing their own attributes and values (see Marks & Miller, 1987). Which particular factors drive and affect similarity perceptions represents a worthy endeavor for future investigations.

Limitations and Future Directions

There are some limitations of the present research. First, we focused on participants' visual representations of two core facets of narcissism - selfishness and vanity – because of their prominence in how people define narcissism (Smith et al.,

2025a). Future research could consider how people mentally represent other dimensions of narcissism, such as vulnerable narcissism. Second, as our designs were cross-sectional, future research could more directly test causal pathways in our mediation models.

Third, our stimulus sample approach imposes some limitations. Classification images were derived from a single representative face per condition, capturing shared mental representations but necessarily limiting stimulus-level generalizability (Judd et al., 2012). In addition, our designs primarily contrasted opposing narcissistic facets (e.g., selfish vs. vain) rather than comparing narcissistic representation to a neutral baseline. Although this contrast was theatrically motivated – allowing us to examine how lay perceivers differentiate between distinct expressions of narcissism – it limits conclusions about which features are uniquely diagnostic of narcissism per se, as opposed to features that emerge only in relative comparison. Future research could therefore incorporate multiple base faces (e.g., varying in gender or age) alongside neutral comparison conditions to improve generalizability across facial identities and more precisely isolate visual features associated with narcissism.

Fourth, we did not collect data from generators nor raters about their race. Future research might consider assessing such data, given findings on cross-race face perception (Singh et al., 2022). Fourth, our classification images reflect public perceptions rather than the facial structures of individuals high in trait narcissism. Comparing our images to Faceaurus (Holtzman, 2018), a dataset of composite faces derived from individuals high vs. low in various traits, could help evaluate whether

perceived and actual facial features align.[4] Fifth, our generators were university students. Future research might assess how more diverse adult samples mentally represent selfish and vain narcissists. That said, research has demonstrated that lay-conceptualizations of narcissism are relatively stable across age (Smith et al., 2025a). Similarly, our samples were from a WEIRD nation (Henrich et al., 2010). Future research could explore visual representations of narcissism cross-culturally. Research has demonstrated cross-cultural differences in levels of narcissism (Fatfouta et al., 2021). Given these differences, and cross-cultural differences in how facial areas are used to perceive expressions (e.g., Jack et al., 2012), future research could address potential differences in representations of narcissism across cultures.

Concluding summary

Use of the term narcissist has infiltrated the cultural zeitgeist. Across three experiments, we demonstrate that observing the image of a shared representation of a narcissistic face drives meaningful interpersonal inferences and social outcomes, even when that representation is purposefully isolated from information that might link it with narcissism. These outcomes are distinctly predicted by the aspect of narcissism emphasized when generating these representations, with the vain- (vs. selfish-) narcissistic face generally perceived more favorably. Further, we demonstrated effects of narcissistic tolerance using a novel method, across multiple measures (e.g., NPI, SINS) and outcome variables (e.g., workplace perceptions, political leadership, sexual/romantic attraction), bolstering the generality of narcissistic tolerance effects.

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[4] We thank a reviewer of highlighting this interesting point.

Chapter 6 – General Discussion and Conclusion

Chapter Overview and Purpose

This chapter draws together findings from the three empirical papers to demonstrate how narcissism is conceptualized in lay beliefs, structured into prototypes, and translated into visual forms that shape interpersonal evaluations. It highlights the theoretical, methodological, and practical contributions of the work, acknowledges limitations, and outlines directions for future research. The chapter concludes with broader reflections on narcissism as a public image with tangible social consequences.

Synthesis of Key Findings Across Papers

This section synthesizes the findings from the three empirical papers in relation to the two overarching aims and six research questions introduced in Chapter 1.

- Aim 1: To investigate public conceptualizations of narcissism.
- Aim 2: To examine the psychosocial implications of these lay conceptions.

The synthesis is organized into two main parts. First, it considers findings relating to Aim 1, which focused on identifying the features people associate with narcissism (RQ1), determining which features are regarded as central or peripheral to narcissism (RQ2), and assessing whether these conceptualizations vary depending on the perceiver's own level of narcissism (RQ3). Second, it examines findings relating to Aim 2, which addressed how public beliefs about narcissism are expressed in visual representations (RQ4), how these representations shape key

interpersonal judgements (RQ5), and how individual differences influence these judgements and through which mechanisms (RQ6).

The section concludes with an integrative summary that brings together the findings across all three papers and highlights the central themes that run across the program of research. These themes provide the foundation for the subsequent sections, which consider the theoretical, methodological, and practical implications of the work.

Aim 1: Public conceptualizations of narcissism

In relation to RQ1, concerning the themes, traits, and values associated with narcissism, Paper 1 showed that lay conceptualizations consistently converge on a cluster of traits centered on selfishness, vanity, entitlement, and arrogance. At the concept level, participants most often described narcissism in terms of self-focus and disregard for others, with selfishness, self-centeredness, and arrogance dominant, but with vanity also emerging as a salient theme. Comparable patterns appeared at the person level: when describing narcissistic acquaintances, participants again emphasized selfishness, arrogance, and manipulativeness, yet also included references to vanity and, on occasion, confidence. Acquaintances were further judged to be low in warmth and to prioritize self-enhancement over self-transcendent values. Taken together, these findings indicate a coherent public view of narcissism as selfishness expressed in both interpersonal behavior and value orientation, while also pointing to a secondary, more socially appealing dimension linked to vanity and confidence.

These findings were also evident when narcissistic individuals were situated within the Big Five personality framework. Narcissistic acquaintances were perceived as high in extraversion and disagreeableness, with somewhat elevated neuroticism and lower conscientiousness. This profile aligns with major social-personality models of narcissism, including the Trifurcated Model (agentic extraversion, antagonism, neuroticism; Miller et al., 2016), the Narcissism Spectrum Model (entitlement/antagonism as the core; Krizan & Herlache, 2018), and the admiration–rivalry framework (Back et al., 2013). Across these accounts, visible agentic cues and interpersonal antagonism are positioned at the center of grandiose narcissism, whereas vulnerability is linked more closely to neuroticism (see also Campbell, 2022; Weiss & Miller, 2018).

In the present research, lay conceptions were especially likely to emphasize the grandiose, outward-facing elements of narcissism, such as extraversion and assertiveness, while downplaying less observable features such as insecurity or hypersensitivity, which align with theoretical account of vulnerable narcissism (Cain et al., 2008; Pincus & Roche, 2011). This pattern reflects prior work showing that lay impressions are shaped primarily by these visible, agentic cues (Back et al., 2010; Carlson et al., 2011), and supports evidence that grandiose traits are judged as more prototypical than vulnerable ones (Miller et al., 2018).

Another novel and important insight from Paper 1 was the identification of discrepancies between lay conceptions of narcissism and their representation in widely used psychometric measures of narcissism. Prominent features such as vanity and relational grandiosity were judged as central by laypeople yet are

underrepresented in scales such as the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979; Raskin & Terry, 1988) and the Five-Factor Narcissism Inventory (FFNI; Glover et al., 2012). Such omissions raise questions about the content validity of existing instruments, since the traits most salient in everyday understanding are not fully captured within some common measures. This pattern mirrors findings from other domains, such as empathy, where inductive work has shown clear discrepancies between lay and academic definitions (Hall et al., 2019).

Turning to RQ2, which examined the structure of these lay beliefs, Paper 2 showed that conceptualizations of narcissism are not diffuse but organized in a prototype structure. Traits generated through participant freely generated listings were classified as central, peripheral, or marginal according to how frequently they were mentioned and how typical they were judged to be. Broadly, central features reflected grandiosity (e.g., vanity, attention-seeking, admiration-seeking) and egocentrism (e.g., selfishness, self centeredness, self-obsessed), whereas traits reflecting vulnerability (e.g., insecurity, pessimism, withdrawal) were consistently relegated to the margins. This structural pattern reinforces the findings from Paper 1, showing that narcissism is consistently understood in terms of self-enhancing and antagonistic qualities, while vulnerable elements are perceived as peripheral.

Convergent evidence supported the robustness of this prototype organization. Targets described as possessing central traits were judged as more narcissistic compared to targets described with peripheral or marginal traits, and central traits were categorized more quickly as belonging to the construct. Furthermore, exploratory factor analysis of the relatedness ratings revealed two

underlying dimensions: Grandiose Egocentricity (e.g., vanity, admiration-seeking, boastfulness) and Interpersonal Antagonism (e.g., manipulativeness, lack of empathy, abusiveness). The former cluster of attributes was perceived as more prototypical and somewhat more positive than the latter cluster, suggesting that lay conceptions not only coalesce into a structured representation but also differentiate between self-promoting and antagonistic forms of narcissism (cf. Back et al., 2013).

Comparisons with existing academic models highlight both overlap and nuance. Lay conceptions converged with the trifurcated model in emphasizing traits such as entitlement, arrogance, lack of empathy, and manipulativeness as central to narcissism (Miller et al., 2016). However, traits positioned by the trifurcated model as core, such as exploitativeness, anger, and distrust, were viewed as more peripheral or marginal by lay participants. At the same time, features such as *self-obsessed*, *self-centered*, and *selfish* were strongly central in public conceptions. While these are not always explicitly highlighted in dominant models, they resonate with recent theoretical accounts framing narcissism as fundamentally characterized by egocentric exceptionalism and social selfishness (Sedikides et al., 2021).

Finally, in relation to RQ3, which examined whether perceivers' own narcissism shapes their conceptualizations of narcissism and narcissistic individuals, Papers 1 and 2 provided consistent support for narcissistic tolerance. In Paper 1, participants higher in narcissism evaluated narcissistic traits and targets less negatively than participants lower in narcissism. In Paper 2, this effect tracked the prototype hierarchy: central traits were rated more positively than peripheral traits, and peripheral traits more positively than marginal ones. Participants scoring

higher in narcissism also judged characters described with central features as more similar to themselves, with this similarity accounting for warmer and more competent evaluations of narcissistic targets. These findings extend the narcissistic tolerance hypothesis (Burton et al., 2017; Hart & Adams, 2014; Wallace et al., 2015) by showing that tolerance is not uniform but amplified for features consensually regarded as central to narcissism. Importantly, whereas prior research relied on experimenter-selected descriptors, the present studies demonstrate that tolerance emerges when using lay-defined features and real-world referents, offering a more ecologically valid account.

Overall, findings related to Aim 1 show that public conceptions of narcissism are moralized (i.e., narcissists are evaluated negatively and are judged as less moral than non-narcissists), structured, and evaluatively shaped by individual differences. Selfishness and vanity dominate as defining features, vulnerable traits are largely marginalized, and individuals higher in narcissism consistently appraise narcissistic features more favorably. These results highlight both the content and organization of lay conceptions, providing a foundation for examining their social consequences.

Aim 2: Psychosocial implications of lay conceptions

Aim 2 addressed the consequences of these conceptualizations for visual representations and interpersonal judgements regarding narcissism. In relation to RQ4, Paper 3 used reverse correlation to translate trait prompts into consensual facial images. Participants generated faces of a “selfish narcissist” or a “vain narcissist,” reflecting the two dimensions consistently identified in Papers 1 and 2: interpersonal antagonism (selfishness) and grandiose egocentricity (vanity). These

classification images were then shown to naïve raters, allowing the study of lay-generated visual stereotypes independent of direct categorization. This method demonstrated that lay conceptions of narcissism are not only verbal and cognitive but also embodied as visual prototypes. The findings extend earlier work based on researcher-generated composites of narcissistic individuals (e.g., Giacomin & Rule, 2019; Holtzman, 2011), addressing calls for more ecologically valid, participant-led methods (Bovet et al., 2022), and align with broader research using reverse correlation to show that consensual visual stereotypes of social categories play a central role in shaping social judgement processes (Brown-Iannuzzi et al., 2018; Han et al., 2023; Magazin et al., 2025; Proulx et al., 2023).

Addressing RQ5, which asked about the interpersonal consequences of these representations, results showed that narcissistic faces were judged more negatively than non-narcissistic faces on dimensions such as warmth and trustworthiness. However, evaluations depended strongly on the facet being represented. The vain-narcissistic face was judged as more agentic, competent, attractive, and even more romantically suitable than the selfish-narcissistic face, which was evaluated far more negatively. These findings emerged when the narcissistic faces were evaluated separately or together. This contrast between evaluations of the vain- and selfish-narcissistic faces underscores the ambivalence that characterizes cultural perceptions of narcissism: while narcissism is broadly associated with social costs, some facets - particularly vanity - can convey competence, social appeal, and attractiveness.

This pattern aligns with prior research on first impressions of narcissists, which indicates that narcissistic traits may initially foster social appeal and leadership potential (Back et al., 2010; Carlson et al., 2011; Grijalva et al., 2015), even as they lead to reputational decline over time (Malkin et al., 2013; Paulhus, 1998). The present findings extend this literature by showing that such ambivalence is not only evident in behavioral encounters but also emerges spontaneously in lay-generated visual stereotypes. That is, facet-specific impressions of narcissism (selfish vs. vain) arise even when observers are presented with purely visual prototypes, absent behavioral cues - a process with clear implications for domains where narcissism has been shown to influence first impressions and early evaluations, including leadership (Watts et al., 2013), politics (Nai & Maier, 2020), and romantic attraction (Back et al., 2010).

Finally, in relation to RQ6, which considered individual differences and mechanisms, Paper 3 provided novel evidence that narcissistic tolerance extends to visual stimuli. Individuals higher in narcissism evaluated the vain-narcissistic face more positively than those lower in narcissism, and crucially, these effects emerged even without any explicit reference to the target's narcissism. Participants higher in narcissism also perceived this face as more similar to themselves, and this perceived similarity predicted warmer, more competent, and more attractive evaluations of this face. In contrast, tolerance effects were not observed for the selfish prototype. These findings build directly on earlier evidence that perceivers high in narcissism are more tolerant of narcissistic traits in others (Burton et al., 2017; Hart & Adams,

2014; Wallace et al., 2015) but extend this line of work into ecologically valid, participant-generated stimuli that make no reference to narcissism.

Taken together, Aim 2 showed that lay conceptions of narcissism extend beyond verbal definitions to shape visual prototypes, which in turn influence interpersonal judgements. These facial images conveyed both the social costs and the ambivalent appeal of narcissism: while narcissistic faces were generally judged negatively, the vain narcissistic face projected competence and attractiveness in contrast to the derogated selfish narcissistic face. Moreover, narcissistic tolerance extended to visual stimuli, with individuals higher in narcissism evaluating the vain narcissistic face more positively through a mechanism of perceived similarity. Collectively, these findings demonstrate that public conceptions of narcissism have an element of embodiment, are evaluatively consequential, and moderated by individual differences, highlighting their significance for understanding how narcissism is perceived and enacted in everyday life.

Integrative summary

Considered collectively, the three empirical papers provide a coherent account of how narcissism is understood, represented, and evaluated in everyday life. Public conceptions emerged as structured and consistent, centering on selfishness and vanity while relegating more vulnerable features to the margins. These beliefs were shown to organize into prototype structures, become embodied in visual representations, and shape how people form and evaluate social judgements. Across all studies, individual differences in narcissism further

moderated evaluations, with higher narcissism linked to more favorable impressions of narcissistic traits and targets.

This integrative perspective highlights narcissism as both a psychological construct and a socially enacted category: it is shaped not only by academic theory and measurement but also by the ways in which the public conceptualizes and reproduces it in social perception. Recognizing this *dual-status* provides an important foundation for the next sections, which consider the implications of these findings for theory, methodology, and practice.

Theoretical Contributions

The findings from this thesis make several theoretical contributions. First, they further clarify the *core* of narcissism as it is represented in public understanding. Across a range of studies, lay conceptions consistently centered on egocentric self-prioritization (e.g., selfishness, self-centeredness, self-obsession) and self-promotional grandiosity (e.g., vanity, attention- and status-seeking), while vulnerable features were consistently relegated to the margins. This pattern helps explain divergences between academic and public conceptualizations of narcissism. Social-personality models such as the trifurcated model highlight antagonism as the unifying core of narcissism across its expressions (Campbell, 2022; Miller et al., 2016; Weiss & Miller, 2018) whereas lay conceptions privilege a self-focused rather than an explicitly exploitative or callous core. At the same time, this public emphasis resonates with recent theoretical accounts that conceptualize narcissism as rooted in egocentric exceptionalism and social selfishness (Sedikides, 2021).

From a clinical perspective, public perceptions also demonstrated strong convergence with the DSM-5-TR criteria for Narcissistic Personality Disorder (APA, 2022). Seven of the nine DSM criteria were judged as central by participants, with only exploitativeness and envy relegated to the periphery. This pattern mirrors the broader tendency in lay conceptions to downplay antagonistic features relative to egocentric and grandiose ones. Importantly, it suggests that, contrary to concerns that narcissism has become an empty insult in popular culture (Freestone et al., 2022), public beliefs remain closely aligned with clinically recognized features. Collectively, these findings highlight both overlap and divergence: academic models foreground antagonism as structurally unifying, while lay beliefs foreground egocentricity and grandiosity as psychologically salient.

Second, the thesis suggests that public beliefs about narcissism are not diffuse or inconsistent but internally organized. Prototype analysis revealed a coherent structure in which features judged as central are applied more readily and categorized more quickly than peripheral or marginal features. Exploratory factor analysis of centrality ratings revealed two underlying dimensions: Grandiose Egocentricity (e.g., vanity, admiration-seeking, boastfulness) and Interpersonal Antagonism (e.g., manipulativeness, lack of empathy, abusiveness). Grandiose Egocentricity was perceived as both more prototypical and somewhat less negative than Antagonism. These findings not only demonstrate that lay conceptions of narcissism form a structured schemata, but also position narcissism within broader work on prototype-based social categories, where perceived centrality systematically shapes categorization and evaluation (Rosch, 1978).

Third, the research contributes to theory by establishing a pathway from trait concepts to visual representations and interpersonal judgements about narcissistic individuals. Using reverse correlation, lay trait prompts were translated into consensual facial images, which naïve observers then evaluated. The resulting visual stereotypes reproduced the verbal structure: narcissistic faces were generally judged unfavorably in terms of warmth and trust, yet the vain-narcissistic face conveyed greater competence, agency, and attractiveness relative to the selfish-narcissistic face. These results demonstrate how conceptual content becomes embodied in visual form, with facet-specific ambivalence emerging as faces signal both social costs (e.g., selfishness, untrustworthiness) and social benefits (e.g., confidence, attractiveness). In doing so, the findings extend impression formation research by showing that ambivalence toward narcissism is not only temporal (i.e., emerging positively in initial encounters but deteriorating with longer acquaintance) but also facet-specific (i.e., with vanity eliciting impressions of competence and appeal, whereas selfishness evoking strong interpersonal costs).

Methodological Contributions

This thesis also makes important and novel methodological contributions to understanding narcissism. It highlights a participant-led, multi-method framework that integrates thematic analysis of lay definitions, prototype analysis of feature centrality, and reverse correlation techniques to elicit visual stereotypes. This bottom-up approach grounds the study of narcissism in the language and mental imagery of lay perceivers rather than in researcher-selected descriptors, thereby enhancing ecological validity and minimizing construct imposition.

Importantly, prototype divisions were validated across multiple tasks, including impression formation, categorization speed, and factor analysis, providing convergent evidence that lay beliefs about narcissism are structured and consequential. Paper 3 further extends the application of reverse correlation beyond trait detection to the study of consensual visual stereotypes, producing participant-derived facial stimuli that capture shared mental representations of narcissism.

More broadly, this methodological framework offers a model for auditing construct validity by systematically comparing lay conceptions with established psychometric measures. The finding that vanity and relational grandiosity are central in public understanding yet underrepresented in widely used scales such as the NPI and FFNI demonstrates how bottom-up approaches can identify misalignments between measurement tools and the constructs they seek to assess. These insights underscore the potential for prototype-informed methods to contribute to future scale refinement and validation.

Practical and Applied Implications

Beyond theoretical and methodological advances, the findings of this project offer a number of novel and important applied implications. In assessment and research practice, the findings highlight important misalignments between theoretical accounts of narcissism and the instruments used to measure it. While public, academic, and clinical models converge on the view that narcissism is characterized by grandiosity, self-focus, and antagonism, widely used scales do not fully reflect this consensus. Measures such as the NPI and FFNI tend to privilege agentic qualities related to leadership, assertiveness, and social dominance, while

placing relatively little emphasis on selfishness - the feature most consistently identified in lay conceptions as central to narcissism. This omission risks neglecting traits that are both theoretically and socially salient. The issue is equally relevant for ultra-brief measures such as the Single Item Narcissism Scale (SINS; Konrath et al., 2014), where individuals' responses are likely to depend on how they personally construe the meaning of "narcissism", introducing interpretive ambiguity. Ensuring that measures are sensitive to such differences is essential for research accuracy and the construct validity of narcissism assessment.

In the domain of science communication and psychoeducation, the results underscore the need for greater precision when discussing narcissism with non-specialist audiences. Public conceptions are not only facet-specific but also strongly moralized, with the term "narcissist" often used as a derogatory label or insult (Freestone et al., 2022). This creates a risk that scientific and clinical language is misapplied, reinforcing stigma and obscuring psychological complexity (cf. Haslam, 2016). At the same time, certain facets, particularly vanity, can carry more socially appealing connotations, highlighting the ambivalent ways in which narcissism is understood. Communicating in ways that distinguish between antagonistic, vain, and vulnerable forms of narcissism may therefore help preserve nuance, reduce stigma, and promote more accurate public understanding of the construct.

The findings also speak to contemporary digital culture. Narcissism is a prominent theme in online discourse, especially on social media platforms where visual presentation and persona play a central role. The evidence that vain representations of narcissism are judged more positively than selfish ones offers

insight into why certain narcissistic behaviors may be rewarded in online environments while others provoke criticism. Understanding these dynamics could inform media literacy initiatives and deepen awareness of how cultural narratives about narcissism are perpetuated and amplified in digital spaces.

Finally, the findings have potential implications for societal decisions shaped by rapid judgements, including hiring, leadership selection, political evaluation, and romantic attraction. Visual stereotypes of narcissism exert systematic influence: faces associated with vanity were perceived as more competent and attractive, whereas those associated with selfishness were strongly derogated. Awareness of these processes may help practitioners in organizational, political, and digital contexts to recognize the role of implicit biases in shaping evaluations and decisions.

Limitations and Future Research Directions

A number of limitations of this research should be acknowledged, each of which points to important avenues for future work. First, the participant samples were predominantly UK-based and WEIRD. Although the prototype approach provides a powerful tool for delineating consensual beliefs, the cultural specificity of these beliefs remains uncertain. Future research should therefore more broadly examine how public conceptions of narcissism vary across cultural contexts, including societies that place greater emphasis on interdependence, where vulnerable expressions of narcissism may be more salient (Jauk et al., 2021). Comparable prototype studies highlight the value of such comparisons: for instance, Shi et al. (2021) found that lay conceptions of modesty differed across Chinese and

Western samples. Applying similar approaches to narcissism could clarify both universal and culture-specific elements of the construct.

Second, the studies employed cross-sectional designs, which limit causal inference. For example, although the findings suggest a pathway whereby higher narcissism fosters greater perceived similarity to narcissistic targets, which in turn predicts more favorable impressions. Alternative reverse models were also tested but did not yield significant indirect effects, indicating that the observed pattern was more consistent with the hypothesized pathway. Nonetheless, the temporal ordering of these effects cannot be confirmed, and longitudinal and experimental approaches would help clarify causal pathways and test how tolerance effects unfold across time and contexts.

Third, narcissism was measured using the NPI and the Single Item Narcissism Scale (SINS; Konrath et al., 2014). While these instruments are widely used, they primarily index agentic and antagonistic elements of grandiose narcissism rather than the vulnerable variant. Future research could incorporate broader measures such as the Five-Factor Narcissism Inventory (FFNI; Glover et al., 2012) to provide a more comprehensive account of how different dimensions of narcissism relate to perceptions and judgements.

Fourth, Paper 3 focused on two trait framings (selfishness and vanity) as the basis for generating visual prototypes. These were selected because they were consistently central in Papers 1 and 2. Future work could extend this approach by incorporating other facets of narcissism - for example, antagonistic features such as exploitativeness, vulnerable features such as insecurity or hypersensitivity, and

communal narcissism characterized by inflated self-views in the helping domain (Gebauer et al., 2012). Such expansion would provide a more comprehensive picture of how different forms of narcissism are visually represented, perceived, and evaluated.

Fifth, the reverse correlation method, while valuable in eliciting consensual visual stereotypes, relies on binary image-classification choices that may constrain ecological validity. Future studies could complement this approach with alternative visual methodologies, such as morphing tasks or machine-learning approaches applied to real facial datasets, to test whether the same stereotypes and evaluations emerge. For example, studies have demonstrated that personality traits can be predicted from static facial images using computational modelling (Kachur et al., 2020), and similar methods could be applied to investigate whether lay-generated prototypes of narcissism align with morphological variation in real individuals.

Finally, trait centrality may vary across demographic subgroups such as age, gender, or political orientation. For instance, younger cohorts immersed in social media may emphasize vanity to a greater degree, while older cohorts may foreground arrogance or selfishness. Examining such subgroup differences would add nuance to our understanding of how narcissism is conceptualized and judged in diverse populations.

Beyond addressing these limitations, future research could also investigate behavioural outcomes directly. For example, studies could examine how inferences of narcissism from faces or trait descriptions shape consequential decisions in hiring, voting, perceptions of trustworthiness, or relationship formation. Such

designs would extend the present findings beyond self-reported judgements to capture the real-world consequences of perceiving narcissism in everyday life.

Concluding Remarks

From Ovid's *Metamorphoses* to TikTok reels, narcissism has long carried the dual force of allure and caution. This thesis demonstrates that such cultural ambiguity is not incidental but systematic: narcissism is imagined through the intertwined lenses of selfishness and vanity, organized into structured prototypes, and projected onto visual forms that shape social judgement. These lay beliefs matter because they both overlap with and diverge from academic and clinical models, and because they actively guide everyday interactions - informing whom we trust, admire, follow, or avoid. Taken together, the findings show that narcissism is not simply a construct defined by theory or diagnosis, but a public image with tangible social consequences.

References

Abidin, C. (2021). Mapping internet celebrity on TikTok: Exploring attention economies and visibility labours. *Cultural Science Journal, 12*(1), 77–103. https://doi.org/10.5334/csci.140

Ackerman, R.A., Donnellan, M.B., Roberts, B.W., & Fraley, R.C. (2016). The effect of response format on the psychometric properties of the Narcissistic Personality Inventory: Consequences for item meaning and factor structure. *Assessment, 23*(2), 203–220. https://doi.org/10.**1177**/1073191114568113

Ackerman, R.A., Witt, E.A., Donnellan, M.B., Trzesniewski, K.H., Robins, R.W., & Kashy, D.A. (2011). What does the narcissistic personality inventory really measure? *Assessment, 18*(1), 67–87. https://doi.org/10.1177/1073191110382845

Adams, J.M., Hart, W., & Burton, K.A. (2015). I only like the idea of you: Narcissists tolerate others' narcissistic traits but not their corresponding behaviors. *Personality and Individual Differences, 82*, 232-236. https://doi.org/10.1016/j.paid.2015.02.019

Alper, S., Bayrak, F., & Yilmaz, O. (2021). All the Dark Triad and some of the Big Five traits are visible in the face*. Personality and Individual Differences, 168*, 110350. https://doi.org/10.1016/j.paid.2020.110350

Altınok, A., & Kılıç, N. (2020). Exploring the associations between narcissism, intentions towards infidelity, and relationship satisfaction: Attachment styles as a moderator. *PLOS ONE, 15*(11), e0242277. https://doi.org/10.1371/journal.pone.0242277

American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). American Psychiatric Association.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.). https://doi.org/10.1176/appi.books.9780890425787

Back, M.D., Küfner, A.C., Dufner, M., Gerlach, T.M., Rauthmann, J.F., & Denissen, J.J. (2013). Narcissistic admiration and rivalry: Disentangling the bright and dark sides of narcissism. *Journal of Personality and Social Psychology, 105*(6), 1013–1037. https://doi.org/10.1037/a0034431

Back, M.D., Schmukle, S.C., & Egloff, B. (2010). Why are narcissists so charming at first sight? Decoding the narcissism–popularity link at zero acquaintance. *Journal of Personality and Social Psychology, 98*(1), 132–145. https://doi.org/10.1037/a0016338

Bartlett, S. (2024, February 15). *Is your partner A NARCISSIST?* Facebook. https://www.facebook.com/SteveBartlettShow/videos/is-your-partner-a-narcissist-/1092562468615243/

Bailenson, J.N., Iyengar, S., Yee, N., & Collins, N.A. (2008). Facial similarity between voters and candidates causes influence. *Public Opinion Quarterly, 72*(5), 935–961. http://dx.doi.org/nfn064

Beeker, T., Mills, C., Bhugra, D., Te Meerman, S., Thoma, S., Heinze, M., & von Peter, S. (2021). Psychiatrization of society: A conceptual framework and call for transdisciplinary research. *Frontiers in Psychiatry, 12*, 645556. https://doi.org/10.3389/fpsyt.2021.645556

Benjamini, Y., & Hochberg, Y. (1995). Controlling the false discovery rate: A practical and powerful approach to multiple testing. *Journal of the Royal Statistical Society, Series B.*, 57, 289–300. https://doi.org/10.1111/j.2517-6161.1995.tb02031.x

Bovet, J., Tognetti, A., & Pollet, T.V. (2022). Methodological issues when using face prototypes: A case study on the Faceaurus dataset. *Evolutionary Human Sciences, 4*, e48. https://doi.org/10.1017/ehs.2022.25

Brinkman, L., Todorov, A., & Dotsch, R. (2017). Visualising mental representations: A primer on noise-based reverse correlation in social psychology. *European Review of Social Psychology, 28*(1), 333–361. https://doi.org/10.1080/10463283.2017.1381469

Brown, A. A., Budzek, K., & Tamborski, M. (2009). On the meaning and measure of narcissism. *Personality and Social Psychology Bulletin, 35*(7), 951–964. https://doi.org/10.1177/0146167209335461

Brown-Iannuzzi, J.L., McKee, S., & Gervais, W.M. (2018). Atheist horns and religious halos: Mental representations of atheists and theists. *Journal of Experimental Psychology: General, 147*(2), 292–297. https://doi.org/10.1037/xge0000376

Bullock, J.G., Green, D.P., & Ha, S.E. (2010). Yes, but what's the mechanism? (don't expect an easy answer). *Journal of Personality and Social Psychology, 98*(4), 550–558. https://doi.org/10.1037/a0018933

Burton, K.A., Adams, J.M., Hart, W., Grant, B., Richardson, K., & Tortoriello, G. (2017). You remind me of someone awesome: Narcissistic tolerance is driven by perceived similarity. *Personality and Individual Differences, 104*, 499–503. https://doi.org/10.1016/j.paid.2016.09.019

Buss, D. M., & Chiodo, L. M. (1991). Narcissistic acts in everyday life. *Journal of Personality, 59*(2), 179–215. https://doi.org/10.1111/j.1467-6494.1991.tb00773.x

Campbell, K.W. (2022). *The new science of narcissism*. Lafayette, CO: Sounds True Inc.

Cambridge University Press. (*n.d.*). *Narcissism*. In *Cambridge Dictionary*. Retrieved August 31, 2025, from https://dictionary.cambridge.org/dictionary/english/narcissism

Cain, N. M., Pincus, A. L., & Ansell, E. B. (2008). Narcissism at the crossroads: Phenotypic description of pathological narcissism across clinical theory, social/personality psychology, and psychiatric diagnosis. *Clinical Psychology Review, 28*(4), 638–656. https://doi.org/10.1016/j.cpr.2007.09.006

Campbell, W. K., & Foster, C. A. (2007). The narcissistic self: Background, an extended agency model, and ongoing controversies. In C. Sedikides & S. J. Spencer (Eds.), *The self* (pp. 115–138). Psychology Press.

Carlson, E.N., Vazire, S., & Oltmanns, T.F. (2011). You probably think this paper's about you: Narcissists' perceptions of their personality and reputation. *Journal of Personality and Social Psychology, 101*(1), 185–201. https://doi.org/10.1037/a0023781

Connors, M. (2024, June 11). *What is love-bombing? Vogue*. https://www.vogue.com/article/what-is-lovebombing

Crowe, M.L., Lynam, D.R., Campbell, W.K., & Miller, J.D. (2019). Exploring the structure of narcissism: Toward an integrated solution. *Journal of Personality, 87*(6), 1151–1169. https://doi.org/10.1111/jopy.12464

DeBruine, L.M. & Jones, B.C. (2017). Face Research Lab London Set. *figshare*. https://doi.org/10.6084/m9.figshare.5047666.v3

Dickinson, K.A., & Pincus, A.L. (2003). Interpersonal analysis of grandiose and vulnerable narcissism. *Journal of Personality Disorders, 17*(3), 188–207. https://doi.org/10.1521/pedi.17.3.188.22146

Dinić, B.M., Sokolovska, V., & Tomašević, A. (2022). The narcissism network and centrality of narcissism features. *Current Psychology, 41*, 7990–8001. https://doi.org/10.1007/s12144-020-01250-w

Dombek, K. (2016). *The selfishness of others: An essay on the fear of narcissism*. Farrar, Straus and Giroux.

Dotsch, R. (2015). *rcicr: Reverse correlation image classification toolbox* (R package version 0.3.4.1).

Dotsch, R., & Todorov, A. (2012). Reverse correlating social face perception. *Social Psychological and Personality Science, 3*(5), 562–571. https://doi.org/10.1177/1948550611430272

Durvasula, R. (2024). *It's not you: How to identify and heal from narcissistic people.* Vermilion.

Edershile, E. A., Woods, W. C., Sharpe, B. M., Crowe, M. L., Miller, J. D., & Wright, A. G. C. (2019). A day in the life of narcissism: Measuring narcissistic grandiosity and vulnerability in daily life. *Psychological Assessment, 31*(7), 907–919. https://doi.org/10.1037/pas0000717

Fatfouta R., Sawicki A., Żemojtel-Piotrowska M. (2021). Are individualistic societies really more narcissistic than collectivistic ones? A five-world region cross-cultural re-examination of narcissism and its facets. *Personality and Individual Differences*, 183, 111163.

https://doi.org/10.1016/j.paid.2021.111163

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*, 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Fehr, B. (1988). Prototype analysis of the concepts of love and commitment. *Journal of Personality and Social Psychology, 55*(4), 557–579. https://doi.org/10.1037/0022-3514.55.4.557

Fehr, B., & Russell, J.A. (1984). Concept of emotion viewed from a prototype perspective. *Journal of Experimental Psychology: General, 113*(3), 464–486. https://doi.org/10.1037/0096-3445.113.3.464

Fiske, S. T. (2018). Stereotype content: Warmth and competence endure. *Current Directions in Psychological Science, 27*(2), 67-73. https://doi.org/10.1177/0963721417738825

Foster, J.D., & Brunell, A.B. (2018). Narcissism and romantic relationships. In Hermann, A., Brunell, A., & Foster, J. (Eds.), *Handbook of trait narcissism*. Springer. https://doi.org/10.1007/978-3-319-92171-6_12

Foster, J.D., McCain, J.L., Hibberts, M.F., Brunell, A.B., & Johnson, R.B. (2015). The Grandiose Narcissism Scale: A global and facet-level measure of grandiose narcissism. *Personality and Individual Differences, 73*, 12–16. https://doi.org/10.1016/j.paid.2014.08.042

Frederick, D.A., & Haselton, M.G. (2007). Why is muscularity sexy? Tests of the fitness indicator hypothesis. *Personality and Social Psychology Bulletin, 33*(8), 1167–1183. https://doi.org/10.1177/0146167207303022

Freestone, M., Osman, M., & Ibrahim, Y. (2022). On the uses and abuses of narcissism as a public health issue. *The British Journal of Psychiatry, 220*(2), 54–57. https://doi.org/10.1192/bjp.2020.70

Freud, S. (1914/2001). On narcissism: An introduction. In J. Strachey (Ed. & Trans.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 14, pp. 67–102). London: Vintage. (Original work published 1914)

Gebauer, J.E., Riketta, M., Broemer, P., & Maio, G.R. (2008). "How much do you like your name?" *Journal of Experimental Social Psychology, 44*(5), 1346–1354. https://doi.org/10.1016/j.jesp.2008.03.016

Gebauer, J.E., Sedikides, C., Verplanken, B., & Maio, G.R. (2012). Communal narcissism. *Journal of Personality and Social Psychology, 103*(5), 854–878. https://doi.org/10.1037/a0029629

Gentile, B., Miller, J.D., Hoffman, B.J., Reidy, D.E., Zeichner, A., & Campbell, W.K. (2013). A test of two brief measures of grandiose narcissism: The Narcissistic Personality Inventory-13 and the Narcissistic Personality Inventory-16. *Psychological Assessment, 25*(4), 1120–1136. https://doi.org/10.1037/a0033192

Giacomin, M., & Rule, N.O. (2019). Eyebrows cue grandiose narcissism. *Journal of Personality, 87*(2), 373–385. https://doi.org/10.1111/jopy.12396

Glover, N., Miller, J.D., Lynam, D.R., Crego, C., & Widiger, T.A. (2012). The Five-Factor Narcissism Inventory: A five-factor measure of narcissistic personality traits. *Journal of Personality Assessment, 94*(5), 500–512. https://doi.org/10.1080/00223891.2012.670680

Google. (2023). *Google Trends: Narcissism (United Kingdom, 2004–2023).* Google Trends. https://trends.google.com/trends/

Golec de Zavala, A., Cichocka, A., Eidelson, R., & Jayawickreme, N. (2009). Collective narcissism and its social consequences. *Journal of Personality and Social Psychology, 97*(6), 1074–1096. https://doi.org/10.1037/a0016904

Gosling, S.D., Rentfrow, P.J., & Swann, W.B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality, 37*, 504 – 528. https://doi.org/10.1016/S0092-6566(03)00046-1

Gregg, A.P., Hart, C.M., Sedikides, C., & Kumashiro, M. (2008). Everyday conceptions of modesty: A prototype analysis. *Personality and Social Psychology Bulletin, 34*(7), 978–992. https://doi.org/10.1177/0146167208316734

Grijalva, E., Harms, P. D., Newman, D. A., Gaddis, B. H., & Fraley, R. C. (2015). Narcissism and leadership: A meta-analytic review of linear and nonlinear relationships. *Personnel Psychology, 68*(1), 1–47. https://doi.org/10.1111/peps.12072

Hall, J.A., Schlegel, K., Castro, V.L., & Back, M. (2019). What laypeople think the Big Five trait labels mean. *Journal of Research in Personality, 78*, 268-285. https://doi.org/10.1016/j.jrp.2018.12.007

Hall, J. A., Schwartz, R., & Duong, F. (2021). How do laypeople define empathy? *Journal of Social Psychology, 161*(1), 5-24. https://doi.org/10.1080/00224545.2020.1796567

Han, D.E., & Laurent, S.M. (2023). Beautiful seems good, but perhaps not in every way: Linking attractiveness to moral evaluation through perceived vanity. *Journal of Personality and Social Psychology, 124*(2), 264–286. https://doi.org/10.1037/pspa0000317

Han, R., Proulx, T., van Harreveld, F., & Haddock, G. (2023). How people perceive dispositionally (non-) ambivalent others and why it matters. *Journal of Experimental Social Psychology*. https://doi.org/10.1016/j.jesp.2023.104518

Hart, W., & Adams, J.M. (2014). Are narcissists more accepting of others' narcissistic traits? *Personality and Individual Differences, 64*, 163–167. https://doi.org/10.1016/j.paid.2014.02.038

Haslam, N. (2016). Concept creep: Psychology's expanding concepts of harm and pathology. *Psychological Inquiry, 27*(1), 1–17. https://doi.org/10.1080/1047840X.2016.1082418

Haslam, C., & Montrose, V.Y. (2015). Should have known better: The impact of mating experience and the desire for marriage upon attraction to the narcissistic personality. *Personality and Individual Differences, 82*, 188-192. https://doi.org/10.1016/j.paid.2015.03.032

Hatemi, P.K. and Fazekas, Z. (2018), Narcissism and political orientations. *American Journal of Political Science, 62*, 873-888. https://doi.org/10.1111/ajps.12380

Hayes, A.F. (2022). *Introduction to mediation, moderation, and conditional process analysis* (3rd ed.). New York: Guilford Press.

Henrich, J., Heine, S.J., & Norenzayan, A. (2010). Beyond WEIRD: Towards a broad-based behavioral science. *Behavioral and Brain Sciences, 33*(2–3), 111–135. https://doi.org/10.1017/S0140525X10000725

Hepper, E.G., Ritchie, T.D., Sedikides, C., & Wildschut, T. (2012). Odyssey's end: Lay conceptions of nostalgia reflect its original Homeric meaning. *Emotion, 12*(1), 102–119. https://doi.org/10.1037/a0025167

Holtzman, N.S. (2011). Facing a psychopath: Detecting the dark triad from emotionally-neutral faces, using prototypes from the personality Faceaurus. *Journal of Research in Personality, 45*(6), 648–654. https://doi.org/10.1016/j.jrp.2011.09.002

Holtzman, N.S. (2018). *Faceaurus: Face images of people high and low in various individual differences.*

Holtzman, N.S., & Strube, M.J. (2013). People with dark personalities tend to create a physically attractive veneer. *Social Psychological and Personality Science, 4*(4), 461–467. https://doi.org/10.1177/1948550612461284

Horney, K. (1939). *New ways in psychoanalysis*. W. W. Norton & Company.

Hyatt, C.S., Sleep, C.E., Lamkin, J., Maples-Keller, J.L., Sedikides, C., Campbell, W.K., & Miller, J.D. (2018a). Narcissism and self-esteem: A nomological network analysis. *PloS One*, *13*(8), e0201088. https://doi.org/10.1371/journal.pone.0201088

Hyatt, C.S., Sleep, C.E., Lynam, D.R., Widiger, T.A., Campbell, W.K., & Miller, J.D. (2018b). Ratings of affective and interpersonal tendencies differ for grandiose and vulnerable narcissism: A replication and extension of Gore and Widiger (2016). *Journal of Personality*, *86*, 422-434. https://doi.org/10.1111/jopy.12325

Itzchakov, G., Haddock, G., & Smith, S. (2025). How do people perceive listeners? *Royal Society Open Science*, *12*(4), 241550. https://doi.org/10.1098/rsos.241550

Jack, R.E., Garrod, O.G., Yu, H., Caldara, R., & Schyns, P.G. (2012). Facial expressions of emotion are not culturally universal. *Proceedings of the National Academy of Sciences, 109*(19), 7241–7244.

Jauk, E., Breyer, D., Kanske, P., & Wakabayashi, A. (2021). Narcissism in independent and interdependent cultures. *Personality and Individual Differences, 177*, 110716. https://doi.org/10.1016/j.paid.2021.110716

Joffe, H., & Yardley, L. (2004). Content and thematic analysis. In D.F. Marks & L. Yardley (Eds.), *Research methods for clinical and health psychology* (pp. 56–68). London: Sage.

Jonason, P.K., & Buss, D.M. (2012). Avoiding entangling commitments: Tactics for implementing a short-term mating strategy. *Personality and Individual Differences, 52*(5), 606–610. https://doi.org/10.1016/j.paid.2011.12.015

Jones, D. (2011). The Emotional Promiscuity Scale. In D. Fisher, C.M. Davis, W.L. Yarber,& S.L. Davis (3rd Eds.). *Handbook of sexuality-related measures* (pp. 226–227). London: Routledge.

Jones, E. (1913/1951). *Essays in applied psychoanalysis*, Vol II: Essays in folklore, anthropology, and religion. Hogarth Press Ltd.

Judd, C. M., Westfall, J., & Kenny, D. A. (2012). Treating stimuli as a random factor in social psychology: A new and comprehensive solution to a pervasive but largely ignored problem. *Journal of Personality and Social Psychology, 103*(1), 54–69.

Kachur, A., Osin, E., Davydov, D., Shutilov, K., & Novokshonov, A. (2020). Assessing the Big Five personality traits using real-life static facial images. *Scientific Reports, 10*, 8487. https://doi.org/10.1038/s41598-020-65358-6

Kernberg, O. F. (1970). *Factors in the psychoanalytic treatment of narcissistic personalities. Journal of the American Psychoanalytic Association, 18*(1), 51–85. https://doi.org/10.1177/000306517001800103

Kohut, H. (1971). *The analysis of the self*. International Universities Press.

Koizumi, H., & Yamashita, H. (2021). Deficit lay or deficit expert: How do "experts" in environmental projects perceive lay people and lay knowledge? *Sage Open*, *11*(3). https://doi.org/10.1177/21582440211023155

Konrath, S., Meier, B.P., & Bushman, B.J. (2014). Development and validation of the Single Item Narcissism Scale (SINS). *PLOS ONE, 9*(8), e103469. https://doi.org/10.1371/journal.pone.0103469

Krizan, Z., & Herlache, A.D. (2018). The narcissism spectrum model: A synthetic view of narcissistic personality. *Personality and Social Psychology Review, 22*(1), 3–31. https://doi.org/10.1177/1088868316685018

Lavner, J.A., Lamkin, J., Miller, J.D., Campbell, W.K., & Karney, B.R. (2016). Narcissism and newlywed marriage: Partner characteristics and marital trajectories. *Personality Disorders: Theory, Research, and Treatment, 7*(2), 169–179. https://doi.org/10.1037/per0000137

Leckelt, M., Wetzel, E., et al. (2018). Validation of the Narcissistic Admiration and Rivalry Questionnaire Short Scale (NARQ-S) in convenience and representative samples. *Psychological Assessment, 30*(1), 86–96. https://doi.org/10.1037/pas0000433

Leising, D., Erbs, J., & Fritz, U. (2010). The letter of recommendation effect in informant ratings of personality. *Journal of Personality and Social Psychology, 98*, 668-682. https://doi.org/10.1037/a0018771

Levy, K.N., Ellison, W.D., & Reynoso, J.S. (2011). A historical review of narcissism and narcissistic personality. In W.K. Campbell & J.D. Miller (Eds.), *The handbook of*

narcissism and Narcissistic Personality Disorder: Theoretical approaches, empirical findings, and treatments (pp. 3–13). Hoboken, NJ: Wiley.

Lick, D.J., Carpinella, C.M., Preciado, M.A., Spunt, R.P., & Johnson, K.L. (2013). Reverse-correlating mental representations of sex-typed bodies: The effect of number of trials on image quality. *Frontiers in Psychology, 4*, 476. https://doi.org/10.3389/fpsyg.2013.00476

Lollie. [@crocodilecamm]. (2023, February 27). *Tbh I think excessive security is the most overlooked form of self-centerness. #selcentered #narcissism* [Video]. Tiktok. https://www.tiktok.com/@crocodilecamm/video/7204981695408246059

Lopez, T. [@tailopez]. (2023, December 12). *Are most hot girls narcissists? #narcissism #psychology #vanity* [Video]. Tiktok. https://www.tiktok.com/@tailopez/video/7311514236323368238

Luo, S.X., van Horen, F., Millet, K., & Zeelenberg, M. (2022). What we talk about when we talk about hope: A prototype analysis. *Emotion, 22*(4), 751–768. https://doi.org/10.1037/emo0000821

Lyons, M., Brewer, G., Hartley, A.-M., & Blinkhorn, V. (2023). "Never learned to love properly": A qualitative study exploring romantic relationship experiences in adult children of narcissistic parents. *Social Sciences, 12*(3), 159. https://doi.org/10.3390/socsci12030159

MacKinnon, D.P., Krull, J.L., & Lockwood, C.M. (2000). Equivalence of the mediation, confounding and suppression effect. *Prevention Science, 1*, 173–181. https://doi.org/10.1023/A:1026595011371

Magazin, E., Haddock, G., & Proulx, T. (2025). The face of left-wing dissent: Progressives and Traditional Liberals generate divergently negative and positive representations of J.K. Rowling. In press, *Personality and Social Psychological Bulletin.* https://orca.cardiff.ac.uk/id/eprint/180593/

Malkin, M.L., Zeigler-Hill, V., Barry, C.T., & Southard, A.C. (2013). The view from the looking glass: How are narcissistic individuals perceived by others? *Journal of Personality, 81*(1), 1–15. https://doi.org/10.1111/j.1467-6494.2013.00780.x

Marks, G., & Miller, N. (1987). Ten years of research on the false-consensus effect: An empirical and theoretical review. *Psychological Bulletin, 102*(1), 72–90.

McCloskey, M.E., & Glucksberg, S. (1978). Natural categories: Well defined or fuzzy sets? *Memory & Cognition, 6*, 462–472. https://doi.org/10.3758/BF03197480

McGrath, M.J., & Haslam, N. (2020). Development and validation of the Harm Concept Breadth Scale: Assessing individual differences in harm inflation. *PLOS ONE, 15*(8), e0237732. https://doi.org/10.1371/journal.pone.0237732

Miller, J.D., & Campbell, W.K. (2008). Comparing clinical and social-personality conceptualizations of narcissism. *Journal of Personality, 76*(3), 449–476. https://doi.org/10.1111/j.1467-6494.2008.00492.x

Miller, J.D., Back, M.D., Lynam, D.R., & Wright, A.G.C. (2021). Narcissism today: What we know and what we need to learn. *Current Directions in Psychological Science, 30*(6), 519–525. https://doi.org/10.1177/09637214211044109

Miller, J. D., Gentile, B., Wilson, L., & Campbell, W. K. (2013). Grandiose and vulnerable narcissism and the DSM–5 pathological personality trait model. *Journal of Personality Assessment, 95*(3), 284–290. https://doi.org/10.1080/00223891.2012.685907

Miller, J.D., Hoffman, B.J., Gaughan, E.T., Gentile, B., Maples, J., & Campbell, W.K. (2011). Grandiose and vulnerable narcissism: A nomological network analysis. *Journal of Personality, 79*(5), 1013–1042. https://doi.org/10.1111/j.1467-6494.2010.00711.x

Miller, J.D., Lynam, D.R., Hyatt, C.S., & Campbell, W.K. (2017). Controversies in Narcissism. *Annual Review of Clinical Psychology, 13*, 291–315. https://doi.org/10.1146/annurev-clinpsy-032816-045244

Miller, J.D., Lynam, D.R., McCain, J.L., Few, L.R., Crego, C., Widiger, T.A., & Campbell, W.K. (2016). Thinking structurally about narcissism: An examination of the Five-Factor Narcissism Inventory and its components. *Journal of Personality Disorders, 30*(1), 1–18. https://doi.org/10.1521/pedi_2015_29_177

Miller, J.D., Lynam, D.R., Siedor, L., Crowe, M., & Campbell, W.K. (2018). Consensual lay profiles of narcissism and their connection to the Five-Factor Narcissism Inventory. *Psychological Assessment, 30*(1), 10–18. https://doi.org/10.1037/pas0000460

Montoya, R.M., & Horton, R.S. (2013). A meta-analytic investigation of the processes underlying the similarity-attraction effect. *Journal of Social and Personal Relationships, 30*(1), 64–94. https://doi.org/10.1177/0265407512452989

Mullins-Sweatt, S.N., Jamerson, J.E., Samuel, D.B., Olson, D.R., & Widiger, T.A. (2006). Psychometric properties of an abbreviated instrument of the five-factor model. *Assessment, 13*(2), 119–137. https://doi.org/10.1177/1073191106286748

Nai, A., & Maier, J. (2020). Dark necessities? Candidates' aversive personality traits and negative campaigning in the 2018 American midterms. *Electoral Studies, 68,* 102233. https://doi.org/10.1016/j.electstud.2020.102233

Nowak, B., Brzóska, P., Piotrowski, J., & Żemojtel-Piotrowska, M. (2022). Narcissism and personal values: Investigation into agentic, antagonistic, communal and neurotic facets of narcissism. *Personality and Individual Differences, 184,* 111167. https://doi.org/10.1016/j.paid.2021.111167

O'Reilly, C.A., & Pfeffer, J. (2021). Why are grandiose narcissists more effective at organizational politics? Means, motive, and opportunity. *Personality and Individual Differences, 172*, 110557. https://doi.org/10.1016/j.paid.2020.110557

Paulhus, D. L. (1998). Interpersonal and intrapsychic adaptiveness of trait self-enhancement: A mixed blessing? *Journal of Personality and Social Psychology, 74*(5), 1197–1208. https://doi.org/10.1037/0022-3514.74.5.1197

Park, S.W., & Colvin, C.R. (2014). Narcissism and discrepancy between self and friends' perceptions of personality. *Journal of Personality, 82*(4), 278–286. https://doi.org/10.1111/jopy.12053

Peirce, J.W., Gray, J.R., et al. (2019). PsychoPy2: experiments in behavior made easy. *Behavior Research Methods*. https://doi.org/10.3758/s13428-018-01193-y

Pincus, A.L., Ansell, E.B., Pimentel, C.A., Cain, N.M., Wright, A.G.C., & Levy, K.N. (2009). Initial construction and validation of the Pathological Narcissism Inventory. *Psychological Assessment, 21*(3), 365–379. https://doi.org/10.1037/a0016530

Pincus, A.L., Cain, N.M., & Wright, A.G.C. (2014). Narcissistic grandiosity and narcissistic vulnerability in psychotherapy. *Personality Disorders: Theory, Research, and Treatment, 5*, 439-443. https://doi.org/10.1037/per0000031

Pincus, A. L., & Lukowitsky, M. R. (2010). Pathological narcissism and narcissistic personality disorder. *Annual Review of Clinical Psychology, 6,* 421–446. https://doi.org/10.1146/annurev.clinpsy.121208.131215

Pincus, A. L., & Roche, M. J. (2011). Narcissistic grandiosity and narcissistic vulnerability. In W. K. Campbell & J. D. Miller (Eds.), *The handbook of narcissism and narcissistic personality disorder: Theoretical approaches, empirical findings, and treatments* (pp. 31–40). John Wiley & Sons.

Proulx, T., Costin, V., Magazin, E., Zarzeczna, N., & Haddock, G. (2023). The Progressive Values Scale: Assessing the ideological schism on the left. *Personality and Social Psychology Bulletin, 49*(8), 1248–1272. https://doi.org/10.1177/01461672221097529

R Core Team (2023). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. https://www.R-project.org

Raskin, R., & Hall, C. S. (1979). A narcissistic personality inventory. *Psychological Reports, 45*(2), 590. https://doi.org/10.2466/pr0.1979.45.2.590

Raskin, R., & Terry, H. (1988). A principal-components analysis of the Narcissistic Personality Inventory and further evidence of its construct validity. *Journal of Personality and Social Psychology, 54*(5), 890–902. https://doi.org/10.1037/0022-3514.54.5.890

Rauthmann, J.F., & Kolar, G.P. (2013). How "dark" are the Dark Triad traits? Examining the perceived darkness of narcissism, Machiavellianism, and psychopathy. *Personality and Individual Differences, 53*(7), 884–889. https://doi.org/10.1016/j.paid.2012.06.020

Reis, H.T., Maniaci, M.R., Caprariello, P.A., Eastwick, P.W., & Finkel, E.J. (2011). Familiarity does indeed promote attraction in live interaction. *Journal of Personality and Social Psychology, 101*(3), 557–570. https://doi.org/10.1037/a0022885

Reynolds, C.J., Stokes, E., Jayawickreme, E., & Furr, R.M. (2023). Truthfulness predominates in Americans' conceptualizations of honesty: A prototype analysis. *Personality and Social Psychology Bulletin*, Advance online publication. https://doi.org/10.1177/01461672231195355

Robins, R.W., Hendin, H.M., & Trzesniewski, K.H. (2001). Measuring global self-esteem: Construct validation of a single-item measure and the Rosenberg Self-Esteem Scale. *Personality and Social Psychology Bulletin, 27*(2), 151–161. https://doi.org/10.1177/0146167201272002

Rogoza, R., Kwiatkowska, M.M., Kowalski, C.M., & Ślaski, S. (2018). A brief tale of the two faces of narcissism and the two facets of pride. *Personality and Individual Differences, 126*, 104–108. https://doi.org/10.1016/j.paid.2018.01.027

Rohrer, J.M., Hünermund, P., Arslan, R.C., & Elson, M. (2022). That's a lot to process! Pitfalls of popular path models. *Advances in Methods and Practices in Psychological Science, 5*(1), 1–14. https://doi.org/10.1177/25152459221095827

Rosch, E. (1978). Principles of categorization. In E. Rosch & B.B. Lloyd (Eds.), *Cognition and categorization*. Hoboken, NJ: Wiley.

Rosenthal, S. A., Hooley, J. M., Montoya, R. M., van der Linden, S. L., & Steshenko, Y. (2020). *Narcissistic Grandiosity Scale (NGS)* [Database record]. APA PsycTests. https://doi.org/10.1037/t75842-000

Rule N. O., Moran J. M., Freeman J. B., Whitfield-Gabrieli S., Gabrieli J. D. E., Ambady N. (2011). Face value: Amygdala response reflects the validity of first impressions. *NeuroImage*, 54(1), 734–741. https://doi.org/10.1016/j.neuroimage.2010.07.007

Schoemann, A.M., Boulton, A.J., & Short, S.D. (2017). Determining power and sample size for simple and complex mediation models. *Social Psychological and Personality Science, 8*(4), 379–386. https://doi.org/10.1177/1948550617715068

Schwartz, S. (1992). Universals in the content and structure of values. *Advances in Experimental Social Psychology, 25*, 1–65. https://psycnet.apa.org/doi/10.1016/S0065-2601(08)60281-6

Schwartz, S.H., Cieciuch, J., Vecchione, M., et al. (2012). Refining the theory of basic individual values. *Journal of Personality and Social Psychology, 103*, 663–688. https://doi.org/10.1037/a0029393

Sedikides, C. (2021). In search of Narcissus. *Trends in Cognitive Sciences, 25*(1), 67–80. https://doi.org/10.1016/j.tics.2020.10.010

Shi, Y., Gregg, A.P., Sedikides, C., & Cai, H. (2021). Lay conceptions of modesty in China: A prototype approach. *Journal of Cross-Cultural Psychology, 52*(2), 155–177. https://doi.org/10.1177/0022022120985318

Singh B., Mellinger C., Earls H. A., Tran J., Bardsley B., Correll J. (2022). Does cross-race contact improve cross-race face perception? A meta-analysis of the cross-race deficit and contact. *Personality and Social Psychology Bulletin*, 48(6), 865–887. https://doi.org/10.1177/01461672211024463

Sivanathan, D., Bizumic, B., Li, W., & Chen, J. (2023). The Unified Narcissism Scale-Revised: Expanding measurement and understanding of narcissism across cultures. *Assessment*. https://doi.org/10.1177/10731911231191435

Smith, S., Proulx, T., & Haddock, G. (2025a). How do people conceptualize narcissism and narcissistic individuals? *Journal of Personality.* Advance online publication. https://doi.org/10.1111/jopy.70008

Smith, S., Proulx, T., & Haddock, G. (2025b). What narcissists look like and why it's important. *Personality and Social Psychology Bulletin.* Advance online publication. https://doi.org/10.1177/01461672251339014

Sommet, N., Weissman, D. L., Cheutin, N., & Elliot, A. J. (2023). How many participants do I need to test an interaction? Conducting an appropriate power analysis and achieving sufficient power to detect an interaction. *Advances in Methods and Practices in Psychological Science, 6*(3), 1-21. https://doi.org/10.1177/25152459231178728

Stanton, K., Watson, D., & Clark, L.A. (2018). Belief in narcissistic insecurity: Perceptions of lay raters and their personality and psychopathology relations. *Personality and Mental Health, 12*(1), 73–81. https://doi.org/10.1002/pmh.1404

Stanton, K., & Zimmerman, M. (2018). Clinician ratings of vulnerable and grandiose narcissistic features: Implications for an expanded narcissistic personality disorder diagnosis. *Personality Disorders: Theory, Research, and Treatment, 9*(3), 263–272. https://doi.org/10.1037/per0000272

Stewart, E., Grunthal, B., Collins, L., & Coles, M. (2019). Public recognition and perceptions of Obsessive Compulsive Disorder. *Community Mental Health Journal, 55*, 74–82. https://doi.org/10.1007/s10597-018-0323-z

Syed, M., & Nelson, S.C. (2015). Guidelines for establishing reliability when coding narrative data. *Emerging Adulthood*, *3*, 375-387. https://doi.org/10.1177/2167696815587648

Tachon, G., Rouibah, A., Morgan, B., & Shankland, R. (2021). A prototype analysis of self-gratitude: Towards a broadening of the concept of gratitude. *Journal of Happiness Studies, 23*, 1867–1885. https://doi.org/10.1007/s10902-021-00475-1

Tidisco, E. (2025, May 7). *Brooklyn Beckham's wife Nicola Peltz is reportedly 'fed up' with her 'narcissistic' mother-in-law, Victoria Beckham. New York Post.* https://nypost.com/2025/05/07/entertainment/brooklyn-beckhams-wife-nicola-peltz-fed-up-with-victoria-beckham/

Thomas, K.M., Wright, A.G., Lukowitsky, M.R., Donnellan, M.B., & Hopwood, C.J. (2012). Evidence for the criterion validity and clinical utility of the Pathological Narcissism Inventory. *Assessment, 19*(2), 135–145. https://doi.org/10.1177/1073191112436664

Thorne, S.R., Hegarty, P., & Hepper, E.G. (2021). Love is heterosexual-by-default: Cultural heterosexism in default prototypes of romantic love. *British Journal of Social Psychology, 60*(2), 653–677. https://doi.org/10.1111/bjso.12422

Tidwell, N.D., Eastwick, P.W., & Finkel, E.J. (2013). Perceived, not actual, similarity predicts initial attraction in a live romantic context: Evidence from the speed-dating paradigm. *Personal Relationships, 20*, 199–215. https://doi.org/10.1111/j.1475-6811.2012.01405.x

The jamovi project (2023). *Jamovi (Version 2.3)* [Computer software]. https://www.jamovi.org

Tolentino, J. (2016). What happens when we decide everyone else is a narcissist. *The New Yorker*. https://www.newyorker.com/culture/jia-tolentino/what-happens-when-we-decide-everyone-else-is-a-narcissist

Wallace, H.M., Grotzinger, A., Howard, T.J., & Parkhill, N. (2015). When people evaluate others, the level of others' narcissism matters less to evaluators who are narcissistic. *Social Psychological and Personality Science, 6*(7), 808–813. https://doi.org/10.1177/1948550615587985

Watts, A. L., Lilienfeld, S. O., Smith, S. F., Miller, J. D., Campbell, W. K., Waldman, I. D., Rubenzer, S. J., & Faschingbauer, T. R. (2013). The double-edged sword of grandiose narcissism: Implications for successful and unsuccessful

leadership among U.S. presidents. *Psychological Science, 24*(12), 2379–2389. https://doi.org/10.1177/0956797613491970

Wei, M., Russell, D. W., Mallinckrodt, B., & Vogel, D. L. (2007). *Experiences in Close Relationship Scale--Short Form (ECR, ECR-S)* [Database record]. APA PsycTests. https://doi.org/10.1037/t12391-000

Weinstein, N., Przybylski, A. K., & Ryan, R. M. (2021). Solitude as an approach to affective self-regulation. *Journal of Personality and Social Psychology, 120(6)*, 1332–1351. https://doi.org/10.1037/pspp0000379

Weiss, B., & Miller, J.D. (2018). Distinguishing between grandiose narcissism, vulnerable narcissism, and narcissistic personality disorder. In: Hermann, A., Brunell, A., & Foster, J. (Eds), *Handbook of trait narcissism*. New York: Springer. https://doi.org/10.1007/978-3-319-92171-6_13

Westwood, S.J., Iyengar, S., Walgrave, S., Leonisio, R., Miller, L., & Strijbis, O. (2018). The tie that divides: Cross-national evidence of the primacy of partyism. *European Journal of Political Research, 57*, 333-354. https://doi.org/10.1111/1475-6765.12228

Wetzel, E., Grijalva, E., Robins, R.W., & Roberts, B.W. (2020). You're still so vain: Changes in narcissism from young adulthood to middle age. *Journal of Personality and Social Psychology*, *119*, 479–496. https://psycnet.apa.org/doi/10.1037/pspp0000266

Willis, J., & Todorov, A. (2006). First impressions: Making up your mind after a 100-ms exposure to a face. *Psychological Science, 17*(7), 592–598. https://doi.org/10.1111/j.1467-9280.2006.01750.x

Wink, P. (1991). Two faces of narcissism. *Journal of Personality and Social Psychology, 61*(4), 590–597. https://doi.org/10.1037/0022-3514.61.4.590

Appendix A: Supplementary Materials for Paper 1

Table A1: Narcissism Narrative Coding Manual (Paper 1, Study 1)

Code Name	Sub-codes	Examples
Social Selfishness: A self-centred worldview; persistently prioritising oneself above and/or at the expense of others.	Egocentrism, egoism, self-centeredness (thinks the world revolves around you), self-interest, compulsive self-referral (e.g., always relating everything back to themselves).	"When people always and only care about themselves." "Putting oneself first to the detriment of other people. "They think the world revolves around them and their wants/needs".
Vanity: Being excessively proud of, and preoccupied with, one's own appearance, qualities and achievements. Highly concerned with how one presents oneself to others.	Self-admiration, self-infatuation, self-love, self-absorption self-curation, self-presentation, shallowness, superficiality. Obsessed with oneself and ones looks.	"Defines someone who has an unusually deep-seated love of the self, including body image". "Over the top or too much self-appreciation and love". "They are overly conscious of their physical appearance and their mental and physical abilities." "Someone who is obsessed with themselves and how others see them". "Their relationships may be superficial, based on appearances".

Relational Grandiosity: Feeling superior to others. Having an inflated sense of self-importance. Believing you are better than others.	Egotistical, self-important, "full of themselves", believing that you are better (more intelligent, kind, beautiful, successful, etc.) than everyone else.	"The belief that one is better than others, possesses superior qualities..." "An inflated sense of self-importance". "Treats others as inferior".
Impaired Empathy: Diminished care, compassion, and concern for others. An inability to experience the thoughts and emotions of others or to see from others' perspectives.	Insensitive, cold, uncaring. Ignore others' feelings. Indifferent to the thoughts, emotions and opinions of others.	"Don't take others' feelings into consideration". Narcissists have little interest in others' emotions and viewpoints". "Oblivious to others' needs". "They don't concern themselves with the welfare of others...".
Social Aggression: An exploitative interpersonal style where one uses cunning or manipulation for personal gain. Can be controlling, harsh, demeaning and disrespectful. Gaslighting (e.g., by playing the victim). Can be superficially charming in order to later exploit.	Argumentative, patronizing, belittling, controlling, disrespectful, dismissive, thoughtless, neglectful, intolerant, exploitative, dominating (e.g., ignoring people's boundaries), passive aggressive, deceitful.	"Manipulative and would use you to their advantage". "...they use other people solely for the purpose of fulfilling their own selfish desires". "They can be charming as a means to get others to further enhance their self-worth." "Try to control others using gaslighting".

Attention-Seeking: Engaging in exhibitionist, self-promoting behaviours to gain to attention and admiration of others or assert their superiority.	Boastful, showing-off, acclaim-seeking, need for validation, approval seeking, status-seeking.	"Having the desire to be the centre of attention". "...narcissistic people require constant approval from others". "Likes to brag about their achievements".
Deservingness: Believing that you are innately entitled to a great deal of attention, admiration and recognition from others and that certain rules do not apply to you.	Self-entitlement, high expectations, holds others to high standards.	"They believe everyone should admire them". "They believe they deserve more than anyone else...". "...taking credit for things they took no part in". "Narcissists...think their perfect and expect others to see them that way too."
Stubbornness: A refusal to change one's attitude or position, or to admit one's faults or errors. Blame-shifting.	Inflexibility, lack of accountability, resistance to external feedback (when perceived as negative), thinking you are always right.	"They won't ever change because they don't want to". "They can do no wrong, everything bad they do is someone else's fault." "An inability to take accountability". "Thinks their always right."

Obliviousness: Oblivious to the impact of their actions on others and/or how they are perceived by others.	No self-awareness, blinded, ignorant.	"Fail to see how their words or actions can affect others". "They are actually unaware of their behaviour towards others". "Someone who cannot see their own faults". "They are often sadly deluded".
Emotional Fragility: A tendency toward low or unstable self-esteem and ego fragility which can result in protective self-enhancing via the degrading of others and/or excessive perceptions of self-victimhood.	A compulsive need to prove one's superiority, excessively reactive and/or defensive to real or perceived negative feedback (ego-threat), inflated confidence to protect fragile self-esteem, deflecting negative opinions of the self onto others.	"Usually linked to poor self-esteem and the need for external validation". "A lack of sense of humour about oneself" "...it can also lead to an excess of self-judgement and emotional vulnerability." "Puts others down in order to lift themselves up".

Table A2: Facet Coding Percentages with Examples (Paper 1, Study 1)

Measure	Facet	(%)	Example(s)
NPI-7	Superiority	44	"An inflated sense of self-importance".
	Exploitativeness	17	"…would use you to their advantage".
	Exhibitionism	11	"Needing attention to be on you".
	Entitlement	10	"Someone who believes that their needs must always come first".
	Vanity	6	"Obsessed with their appearance"
	Authority	4	"Someone who likes to be in control of situations".
	Self-Sufficiency	2	"High-degree of self-confidence".
NPI-5	Superiority	44	"An overly high opinion of oneself".
	Manipulativeness	16	"…controls the needs of others for their own pleasure".
	Exhibitionism	10	"…trying to attract more attention than others".
	Vanity	7	"Excessive vanity".
	Leadership	5	"… believes everything they say goes".
NPI-3	Exploitative/Entitlement	25	"Self-obsessed and believes the world rotates around them".
	Grandiose Exhibitionism	15	"Likes to be centre of attention".
	Leadership/Authority	5	"Controlling over others".
FFNI	Entitlement	50	"…only interested in themselves and how things impact them".
	Arrogance	44	"…they think they are superior to those around them".
	Lack of Empathy	31	"Lacking empathy, compassion, and understanding".
	Exploitativeness	14	"…always try to put others down to lift themselves up".
	Manipulativeness	11	"…lying, deceiving, faking emotions and feelings".
	Exhibitionism	10	"When a person has to be the centre of attention".
	Authoritativeness	4	"…has to be the leader in whatever they do".

	Indifference	2	"…little to no interest other people's viewpoints".
	Acclaim-Seeking	0	"Has to be the best or believe themselves to be the best".
	Grandiose Fantasies	0	
	Thrill-Seeking	0	
GNS	Superiority	44	"Someone who is full of themselves".
	Exploitativeness	23	"…will do anything in order to get their own way".
	Entitlement	9	"…think they are entitled to more than others".
	Exhibitionism	9	"Likes to make themselves the centre of everything".
	Vanity	6	"Shallow, only think of themselves and how they look".
	Authority	4	"Someone who likes to be in control of situations".
	Self-Sufficiency	0	"…do not doubt their own ability".

Note. FFNI = Five Factor Narcissism Inventory; GNS = Grandiose Narcissism Scale; NPI-7, NPI-5 and NPI-3 = Narcissistic Personality Inventory seven-, five-, and three-factor solutions, respectively. Percentages exceed 100 as some participant definitions mentioned multiple codes.

Table A3: Narcissism Narrative Code Allocation Percentages (Paper 1, Study 2)

	Code Name	Example definition	%
1	Social Selfishness	*"Someone who only thinks about themselves"*	49
2	Vanity	*"Being vain; loving yourself"*	38
3	Relational Grandiosity	*"Someone who feels they are superior to others"*	32
4	Impaired Empathy	*"Struggling to see from others' points of view"*	29
5	Social Aggression	*"Gets enjoyment from putting others down"*	26
6	Deservingness	*"Narcissism is characterized by self-entitlement"*	5
7	Attention-Seeking	*"Having the desire to be the center of attention"*	6
8	Emotional Fragility	*"...it comes from a place of deep-seated insecurity"*	6
9	Obliviousness	*"Self-obsessed but unaware"*	2
10	Stubbornness	*"Refuses to see flaws in their behavior"*	2

Note. Percentages exceed 100 as some participant definitions mentioned multiple codes. $N = 111$.

Supplementary Regression Analyses (Paper 1, Study 2)

Self-Esteem

We regressed perceived self-esteem onto condition, participant NPI, and their interaction. We found no significant effects (all *p*s ≥ .180).

Political Orientation

A significant main effect of condition was found, $b = 17.65$, $SE = 1.95$, $t = 9.06$, $p < .001$. Overall, narcissistic acquaintances (M = 58.12; SD = 25.76) were perceived as more conservative than selfless acquaintances (M = 40.24; SD = 23.51). The main effect of participant NPI was non-significant ($p = .087$). The interaction was significant, $b = -4.76$, $SE = 2.09$, $t = -2.28$, $p = .023$. Participants scoring high on the NPI rated their narcissistic acquaintance as being less conservative relative to participants scoring low on the NPI ($p = .009$). There was no effect of participant NPI scores on judgments of selfless acquaintances ($p = .630$).

Table A4: Factor Loadings for Favorability Items (Paper 1, Study 2)

Attribute Item	Factor Loading
Factor 1 – Favorability (α = .89)	
1. Likeable	**.84**
2. Warm	**.65**
3. Competence	**.65**
4. Success	**.63**

Table A5: Moderated Regression Output on Warmth, Competence, Liking and Success Ratings (Paper 1, Study 2)

	Narcissistic		Selfless		Predictors	*B (SE)*	*t*	*BS CI*
	M	SD	M	SD				
Attributes								
Warmth	21.96***	20.33	85.03***	16.33	NPI	0.38 (0.78)	0.48	[-1.15, 1.91]
					Cond***	-63.02 (1.46)	-43.29	[-65.88, -60.16]
					NPI × Cond*	3.87 (1.56)	2.48	[0.81, 6.93]
Competence	49.40	28.14	83.93***	14.03	NPI	–0.13 (0.94)	–0.14	[-1.98, 1.71]
					Cond***	–34.54 (1.76)	–19.64	[-37.99, –31.09]
					NPI × Cond	2.31 (1.88)	1.23	[–1.39, 6.01]
Liking	35.21***	27.02	89.35***	12.78	NPI	0.83 (0.89)	0.94	[–0.91, 2.57]
					Cond***	–54.03 (1.66)	–32.58	[-57.28, –50.77]
					NPI × Cond**	5.89 (1.78)	3.32	[2.40, 9.38]
Success	53.65*	28.24	75.93***	18.62	NPI**	–0.91 (1.01)	–0.90	[–2.90, 1.08]
					Cond***	–22.40 (1.89)	–11.85	[–26.11, –18.69]
					NPI × Cond**	3.29 (2.02)	1.63	[–0.68, 7.27]

Note. Mean values are compared versus scale midpoint. Standard errors are given in parenthesis. NPI = Narcissistic Personality Inventory. Cond refers to 'selfless' (0) vs. 'narcissistic' (1) acquaintance experimental manipulation. *p < .05; ** p < .01; *** p <.005.

Appendix B: Supplementary Materials for Paper 2

Table B1: Narcissism Prototype Features Coding Manual (Paper 2, Study 1)

Prototype	***Exemplar(s) written by participants***
Abusive	*"Making nasty comments", "Someone who is a bully", "Verbally aggressive", "Mean" "Emotional abuse", "Hateful", "Financial abuse"*
Admiration-seeking	*"Wanting to be admired", "Excessive need for affirmation" "Need for validation"*
Aggressive	*"Has a short temper", "Verbally aggressive", "Angry"*
Annoying	*"Difficult", "Frustrating"*
Arrogant	*"Thinking they are above everyone else", "Big-headed", "Superior", "Egotistical"*
Attention-seeking	*"Wants to be the center of attention", "Loud"*
Blame-shifting	*"Blaming others for own mistakes", "Not taking responsibility", "Victim complex"*
Boastful	*"Frequently showing off their personal achievements", "Make themselves seen better than anyone else"*
Charming	*"Charming"*
Competitive	*"Competes with other people"*
Condescending	*"Treating you as a servant", "Putting others down", "Blatant belittling of others"*
Confident	*"Confident", "Outgoing"*
Controlling	*"Boss people around", "Micromanaging or boss people around"" Overbearing"*
Critical	*"Criticism toward others", "Judgemental"*
Deceptive	*"Hides their true self", "Compulsive lying", "Untrustworthy", "Dishonest", "Sly"*
Delusional	*"Lives in a fantasy world", "Delusions of grandeur", "Delusional", "They believe their own lies"*
Driven	*"Going to lengths for something to work in your favour", "Driven"*
Emotionless	*"Straight up cold", "Unemotional", "Aloof"*
Entitled	*"Expect things to be done for the immediately", "Feel they should be successful because of who they are", "Demanding", "The rules don't apply for them"*
Envious	*"Cannot stand it when others have attention", "Jealousy"*
Evil	*"Torture animals", "Dangerous", "Sinister", "Poisonous"*
Exaggerative	*"Exaggerates their own accomplishments constantly"*
Exploitative	*"Uses others to gain advantage", "Undermining others"*
Greedy	*"Greedy", "Self-indulgent"*

Ignorant	*"Ignorant or oblivious of surrounding people", "Lack of situational awareness", "Blinded"*
Impatient	*"Lacks patience", "Impatient towards others"*
Insecure	*"Paradoxically high and low self-esteem", "Emotional vulnerability", "Unable to take criticism", "Needy", "Self-doubt"*
Manipulative	*"Can manipulate people easily", "Gaslighting" ,"Devious", "Love-bombing"*
Mentally ill	*"Mental issues", "Psychological disorders", "Personality problems"*
Narrow-minded	*"See things from subjective (personal) point of view", "Chauvinistic", "Bigoted"*
Obsessive	*"Perfectionist", "Particular"*
Over-confident	*"Unwarranted confidence in the self", "Misplaced self-confidence", "Risk-taking", "Cocky", "Compulsive"*
Pessimistic	*"Moodiness", "Negative"*
Power-seeking	*"Megalomaniacal", "A want for power", "Quest for unlimited power"*
Rude	*"Insensitive", "Boorish", "Thoughtless", "Inconsiderate", "Obnoxious", "Unpleasant"*
Self-centred	*"Thinking the world revolves around you", "Just talking about themselves", "Assuming everything is about you"*
Self-important	*"Exaggerated feeling of importance", "Self-aggrandising"*
Self-obsessed	*"Self-absorbed", "Obsessed with themselves", "Inward-focused", "Self-involved"*
Self-righteous	*"Thinking they are always right", "Only your opinions are valid"*
Self-unaware	*"Lacks awareness of how your behaviour affects other people", "An inability to reflect on one's actions of oneself"*
Selfish	*"Putting yourself before others", "They prioritise the self"*
Shallow	*"Only bothered by outward appearance", "Being uninterested in wider things", "Frivolity", "Superficial"*
Status-seeking	*"Only meeting with people they consider equal", "Status-orientated", "Have to be the best"*
Stubborn	*"Uncompromising", "Argumentative", "Opinionated", "Never their fault", "Not interested in listening to others", "Refuses to apologise when wrong"*
Uncaring	*"No interest in other people", "Indifferent", "Disregarding" "Lack of compassion"*
Unempathetic	*"No understanding of people's feelings", "Unable to empathise"*
Unsociable	*"Introverted", "Unsociable", "Inward", "Lonely"*
Unstable relationships	*"Fragile relationships", "Trouble with interpersonal relations", "Struggles to keep meaningful relationship"*

Vain	*"Believing yourself to be beautiful"; "Overly concerned about image", "Idolizing oneself"*

Table B2: Full Regression Results for NPI Predicting Centrality and Valence (Paper 2, Study 2)

	Predictors	*B (SE)*	*t*	*BS CI*
Centrality	NPI	0.07 (0.05)	1.44	[-0.02, 0.16]
	Division***	-0.94 (0.05)	-17.37	[-1.04, -0.83]
	NPI x Division	-0.003 (0.06)	-0.05	[-0.12, 0.31]
Valence	NPI***	0.16 (0.03)	5.87	[0.11, 0.21]
	Division***	0.39 (0.03)	12.42	[0.33, 0.45]
	NPI × Division**	-0.09 (0.03)	-2.62	[-0.15, -0.02]

Note. *$p < .05$; ** $p < .01$; *** $p < .001$.

Target Descriptions (Paper 2, Study 3)

Central

- Person A: Selfish, manipulative, status-seeking, entitled.
- Person B: Vain, self-important, unempathetic, admiration-seeking.
- Person C: Arrogant, self-centred, self-absorbed, controlling.

Peripheral

- Person D: Self-righteous, deceptive, exploitative, uncaring.
- Person E: Competitive, greedy, rude, confident.
- Person F: Boastful, power-seeking, condescending, stubborn.

Marginal

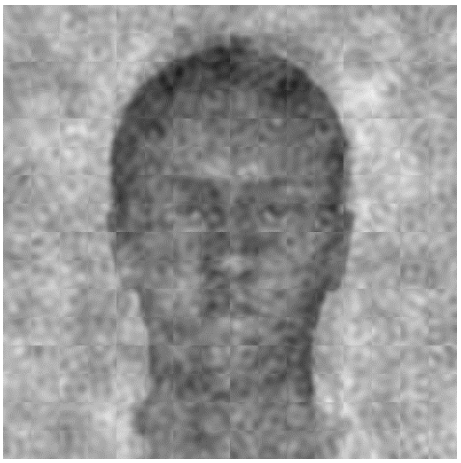
- Person G: Narrow-minded, insecure, aggressive, evil.
- Person H: Exaggerative, abusive, impatient, pessimistic.
- Person I: Self-unaware, critical, annoying, emotionless.

Non-diagnostic

- Person J: Logical, busy, active and fair.
- Person K: Lonely, slow, artistic and generous.
- Person L: Punctual, lucky, serious, quiet.

Appendix C: Supplementary Materials for Paper 3

Figure C1: Classification Images by High vs. Low NPI Scorers (Paper 3, Study 1)



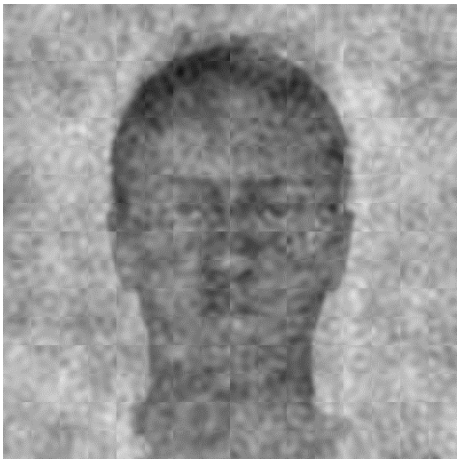
Narcissistic Face (High NPI)

Narcissistic Face (Low NPI)

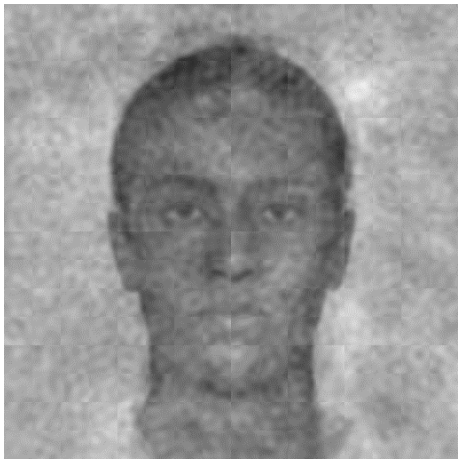
Non-Narcissistic Face (High NPI)

Non-Narcissistic Face (Low NPI)

Figure C2: *Classification Images by High vs. Low NARQ Scorers (Paper 3, Study 1)*



Narcissistic Face (High NARQ)



Narcissistic Face (Low NARQ)

Non-Narcissistic Face (High NARQ)

Non-Narcissistic Face (Low NARQ)

Figure C3: *Classification Images by High vs. Low FFNI-VN Scorers (Paper 3, Study 1)*

Narcissistic Face (High FFNI-VN)

Narcissistic Face (Low FFNI-VN)

Non-Narcissistic Face (High FFNI-VN)

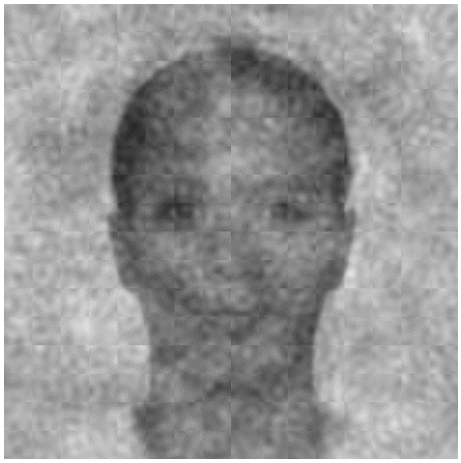
Non-Narcissistic Face (Low FFNI-VN)

Figure C4: *Classification Images by High vs. Low CNI Scorers (Paper 3, Study 1)*

Narcissistic Face (High CNI)

Narcissistic Face (Low CNI)

Non-Narcissistic Face (High CNI)



Non-Narcissistic Face (Low CNI)

Figure C5: *Classification Images of Non-Narcissistic (vs. Selfless) Faces (Paper 3, Study 1)*

Non-Narcissistic Face

Selfless Face

To ensure that the faces not selected as narcissistic (i.e., the non-narcissistic face) sufficiently approximated a selfless face (see Figure 5), we conducted a separate pilot Experiment (N = 264). Here, we tested for relative differences between the two faces using Bonferroni corrected independent samples t-tests. As shown in Table S1, we found no differences in ratings between the two faces (all ps > .058) other than on perceptions of age; the non-narcissistic face was seen as older (p < .001).

Table C1: *Ratings of Non-Narcissistic and Selfless Faces On Attributes (Paper 3, Study 1)*

	Non-narcissistic		Selfless				
	M	*SD*	*M*	SD	*t*	*p*	*Cohen's d*
Narcissistic	3.45	1.51	3.23	1.50	-0.10	.320	-0.01
Masculine	2.03	1.13	1.93	0.96	-0.68	.500	-0.08
Kind	5.32	1.13	5.58	1.08	1.62	.106	0.20
Selfish	3.07	1.36	2.86	1.30	-1.09	.277	-0.13
Vain	4.05	1.51	3.68	1.38	-1.79	.075	-0.22
Self-Esteem	4.87	1.17	5.10	1.18	1.33	.185	0.16
Age	32.18	6.37	24.90	4.62	-9.81	<.001	-1.21
Politics	3.58	1.09	3.28	1.07	-1.90	.058	-0.23
Favorability	4.99	1.05	5.22	0.87	1.71	.088	0.21
Open	4.87	1.41	5.19	1.10	1.85	.065	0.23
Conscientious	4.85	1.16	4.93	1.13	0.48	.632	0.06
Extraverted	4.72	1.37	5.02	1.23	1.62	.107	0.20
Agreeable	5.22	1.20	5.40	1.13	1.60	.110	0.20
Neurotic	3.35	1.62	3.28	1.45	-0.32	.749	-0.04

Table C2: *Rotated Factor Matrix for Attribute Items (Paper 3, Study 2)*

	Factor Loading	
Attribute Item	1	2
Factor 1 – Warmth (α = .90)		
1. Likeable	**.90**	-.07
2. Warm	**.90**	-.09
3. Kind	**.88**	-.18
4. Agreeable	**.85**	-.20
5. Open	**.53**	.14
6. Conscientious	**.52**	.09
Factor 2 – Competence (α = .75)		
7. Successful	.07	**.74**
8. Self-esteem	-.26	**.73**
9. Competent	.04	**.68**
10. Extraverted	-.02	**.49**

Note. Factor loadings > .40 are in boldface. Bartlett's test of sphericity, $x^2(45) = 2435.08$, $p < .001$; Kaiser-Meyer-Olkin = .86).

Table C3: *Summary of Alternative Mediation Analyses Where Mediator (Perceived Similarity) and Outcome Variables are Reversed (Paper 3, Study 2)*

Mediator	Direct effect	Total effect	Indirect effect	
			Effect (Boot*SE*)	BS 95% CI
Warmth	0.18 (0.08)*	0.25 (0.09)**	-0.06 (0.05)	[-0.02, 0.16]
Competence	0.25 (0.08)**	0.25 (0.08)**	-0.01 (0.03)	[-0.06, 0.04]
Values	0.22 (0.09)*	0.25 (0.09)**	0.03 (0.03)	[-0.01, 0.09]
Morality	0.22 (0.07)**	0.25 (0.08)**	0.03 (0.04)	[-0.05, 0.12]
Altruistic job	0.24 (0.08)**	0.25 (0.09)**	0.01 (0.01)	[-0.01, 0.04]
Collegiality	0.16 (0.07)*	0.25 (0.09)**	0.09 (0.06)	[-0.02, 0.20]
Behavioral Intentions	0.14 (0.07)*	0.25 (0.08)**	0.11 (0.06)	[-0.01, 0.23]

Note. * $p < .05$, ** $p < .01$.The absence of any significant indirect effects suggests that the effect of rater narcissism on perceived similarity with the vanity narcissist is *not* mediated via perceived warmth, competence, values, morality, altruistic job suitability, collegiality, or behavioral intentions. These findings therefore support our proposed causal pathway: Rater Narcissism > Perceived Similarity > Outcome Variables. $N = 215$.

Table C4: *Mixed ANOVA Results for Face Type and Definition (Paper 3, Study 2)*

Outcome	Predictor	F	η_p^2	p
Attributes				
Narcissistic	Face	418.90	.505	<.001
	Definition	4.49	.011	.035
	Face x Definition	30.45	.069	<.001
Selfish	Face	567.00	.580	<.001
	Definition	6.23	.015	.013
	Face x Definition	12.90	.031	<.001
Vain	Face	232.15	.362	<.001
	Definition	1.13	.003	.289
	Face x Definition	130.97	.243	<.001
Masculine	Face	345.99	.458	<.001
	Definition	8.72	.021	.003
	Face x Definition	193.36	.320	<.001
Age	Face	2.88	.007	.091
	Definition	1.97	.005	.161
	Face x Definition	16.86	.040	<.001
Politics	Face	106.10	.206	<.001
	Definition	2.08	.005	.150
	Face x Definition	3.45	.008	.064
Self-esteem	Face	16.38	.038	<.001
	Definition	11.42	.027	<.001
	Face x Definition	185.04	.311	<.001
Kind	Face	772.73	.653	<.001
	Definition	29.57	.067	<.001
	Face x Definition	2.09	.005	.149
Warm	Face	834.35	.671	<.001
	Definition	59.71	.127	<.001
	Face x Definition	14.57	.034	<.001
Likeable	Face	541.54	.569	<.001
	Definition	22.91	.053	<.001
	Face x Definition	3.29	.008	.071
Competent	Face	0.43	.001	.512
	Definition	2.13	.005	.146
	Face x Definition	36.04	.081	<.001
Successful	Face	5.14	.012	.024
	Definition	9.16	.022	.003
	Face x Definition	125.89	.235	<.001
Open	Face	362.15	.443	<.001

	Definition	51.92	.112	<.001
	Face x Definition	74.83	.154	<.001
Conscientious	Face	99.95	.196	<.001
	Definition	2.57	.006	.109
	Face x Definition	1.80	.004	.181
Extraverted	Face	47.08	.103	<.001
	Definition	46.65	.102	<.001
	Face x Definition	231.90	.361	<.001
Agreeable	Face	696.25	.629	<.001
	Definition	27.54	.063	<.001
	Face x Definition	2.94	.007	.087
Neurotic	Face	11.94	.028	<.001
	Definition	4.56	.011	.033
	Face x Definition	0.84	.002	.361
Values				
Self-Transcendence	Face	482.45	.541	<.001
	Definition	17.63	.041	<.001
	Face x Definition	1.59	.004	.208
Self-Enhancement	Face	229.94	.359	<.001
	Definition	0.00	.000	.991
	Face x Definition	33.88	.076	<.001
Openness	Face	114.19	.218	<.001
	Definition	18.87	.044	<.001
	Face x Definition	39.64	.088	<.001
Conservation	Face	125.15	.234	<.001
	Definition	0.01	.000	.910
	Face x Definition	2.95	.007	.087
Moral Behaviours	Face	666.29	.619	<.001
	Definition	12.95	.031	<.001
	Face x Definition	1.11	.003	.294
Workplace				
Corporate Management	Face	17.08	.040	<.001
	Definition	0.09	.000	.765
	Face x Definition	38.94	.087	<.001
Health Services	Face	387.63	.486	<.001
	Definition	23.32	.054	<.001
	Face x Definition	8.08	.019	.005
Boss	Face	249.98	.378	<.001

	Definition	31.83	.072	<.001
	Face x Definition	6.90	.017	.009
Colleague	Face	307.52	.429	<.001
	Definition	21.78	.050	<.001
	Face x Definition	0.08	.000	.775
Behavioural Outcomes				
Prime Minister	Face	103.97	.202	<.001
	Definition	24.88	.057	<.001
	Face x Definition	12.38	.029	<.001
Trust	Face	367.40	.473	<.001
	Definition	14.62	.034	<.001
	Face x Definition	4.88	.012	.028
Lift	Face	331.07	.447	<.001
	Definition	13.48	.032	<.001
	Face x Definition	0.67	.002	.414
Similarity	Face	138.14	.252	<.001
	Definition	13.99	.033	<.001
	Face x Definition	8.43	.020	.004

Note. N = 412.

Table C5: *Sample Demographics (Paper 3, Study 3)*

	N
Sex	
Male	99
Female	101
Prefer not to say	2
Gender Identity	
Male	99
Female	98
Trans Man	1
Trans Woman	1
Non-Binary	1
Prefer not to say	2
Sexual Orientation	
Heterosexual	174
Gay	8
Lesbian	3
Bisexual	11
Prefer not to say	4
Other	2
Asexual	
Yes	3
No	195
Prefer not to say	4
Relationship Status	
In a relationship	139
Not in a relationship	59
Prefer not to say	4

Associations Between Additional Experiment Measures and Evaluations of the Four Faces

In Study 3, in addition to the Single Items Narcissism Scale (SINS; Konrath et al., 2014), participants also completed the following measures :the Narcissistic Personality Inventory (NPI-13; Gentile et al., 2013), the Narcissistic Admiration and Rivalry Questionnaire Short Version (NARQ-S; Leckelt et al., 2018), a shortened version of the Attraction to Narcissistic Personality measure (ANP; Haslam & Montrose, 2015), the Emotional Promiscuity scale (EP; Jones, 2011), the Experience in Close Relationships Short Form (ECR_SF; Wei et al., 2007). Tables 25-44 Show associations between participants scores on these measures and their evaluations of the four faces (selfish-narcissistic, non-selfish, vain-narcissistic, non-vain). Tables C6–C29 present Bonferroni-corrected Spearman's correlations between individual difference measures (NPI-13, NARQ-S, ANP, EP, ECR-SF) and participants' evaluations of the four face types.

Table C6: *Correlations Between NPI-13 and Evaluations of the Selfish-Narcissistic Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**-0.01**									
3. Toxic Behaviours	**0.09**	-0.22**								
4. Familiarity	**0.08**	0.37**	-0.10							
5. Similarity	**0.01**	0.42**	-0.41**	0.35**						
6. Warmth	**0.12**	0.46**	-0.33**	0.26**	0.46**					
7. Competence	**-0.11**	0.52**	-0.37**	0.30**	0.39**	0.28**				
8. Masculinity	**-0.20**+**	0.14	0.05	0.03	-0.10	-0.10	0.12			
9. Secret Enjoyment	**0.01**	0.48**	-0.11	0.38**	0.38**	0.35**	0.26**	0.04		
10. Narcissism	**0.05**	-0.18**	0.42**	-0.06	-0.30**	-0.32**	-0.27**	0.03	-0.08	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha = 0.006$ (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202.

Table C7: *Correlations Between NPI-13 and Evaluations of the Non-Selfish Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**0.03**									
3. Toxic Behaviours	**0.11**	-0.45**								
4. Familiarity	**0.04**	0.35**	-0.01							
5. Similarity	**-0.18***	0.55**	-0.35**	0.30**						
6. Warmth	**-0.03**	0.70**	-0.40**	0.22**	0.53**					
7. Competence	**-0.10**	0.49**	-0.28**	0.11	0.44**	0.47**				
8. Masculinity	**-0.00**	-0.10	0.24**	0.05	-0.03	-0.10	0.03			
9. Secret Enjoyment	**-0.01**	0.58**	-0.28**	0.41**	0.47**	0.46**	0.30**	-0.02		
10. Narcissism	**0.03**	-0.20**	0.24**	-0.09	-0.18*	-0.30**	-0.12	0.13	-0.12	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha = 0.006$ (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202.

Table C8: *Correlations Between NPI-13 and Evaluations of the Vain-Narcissistic Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**0.07**									
3. Toxic Behaviours	**0.02**	-0.16*								
4. Familiarity	**0.16***	0.49**	-0.11							
5. Similarity	**0.04**	0.36**	-0.36**	0.29**						
6. Warmth	**0.07**	0.46**	-0.34**	0.30**	0.40**					
7. Competence	**-0.06**	0.44**	-0.18*	0.20**	0.20**	0.19**				
8. Masculinity	**-0.05**	-0.13	0.17*	-0.05	-0.09	-0.16*	0.05			
9. Secret Enjoyment	**0.11**	0.53**	-0.13	0.44**	0.28**	0.26**	0.27**	-0.09		
10. Narcissism	**0.11**	-0.08	0.49**	-0.15*	-0.42**	-0.29**	-0.01	0.12	0.02	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha = 0.006$ (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202.

Table C9: *Correlations Between NPI-13 and Evaluations of the Non-Vain Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**-0.04**									
3. Toxic Behaviours	**0.07**	-0.22**								
4. Familiarity	**-0.00**	0.33**	-0.07							
5. Similarity	**-0.11**	0.41**	-0.23**	0.29**						
6. Warmth	**-0.04**	0.52**	-0.33**	0.26**	0.37**					
7. Competence	**-0.11**	0.46**	-0.08	0.19**	0.23**	0.31**				
8. Masculinity	**-0.15***	0.22**	0.09	0.04	-0.00	0.08	0.23**			
9. Secret Enjoyment	**-0.02**	0.53**	-0.23**	0.32**	0.31**	0.30**	0.35**	0.00		
10. Narcissism	**0.04**	-0.01	0.42**	-0.06	-0.09	-0.22**	0.03	0.09	0.07	

Note. * $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha =$ 0.006 (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202

Table C10: *Correlations Between NARQ and Evaluations of the Selfish-Narcissistic Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**-0.02**									
3. Toxic Behaviours	**0.11**	-0.22**								
4. Familiarity	**0.12**	0.37**	-0.10							
5. Similarity	**-0.03**	0.42**	-0.41**	0.35**						
6. Warmth	**0.02**	0.46**	-0.33**	0.26**	0.46**					
7. Competence	**-0.12**	0.52**	-0.37**	0.30**	0.39**	0.28**				
8. Masculinity	**-0.14**	0.14	0.05	0.03	-0.10	-0.10	0.12			
9. Secret Enjoyment	**0.07**	0.48**	-0.11	0.38**	0.38**	0.35**	0.26**	0.04		
10. Narcissism	**0.15***	-0.18**	0.42**	-0.06	-0.30**	-0.32**	-0.27**	0.03	-0.08	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha = 0.006$ (0.05/9). Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202.

Table C11: *Correlations Between NARQ and Evaluations of the Non-Selfish Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**0.04**									
3. Toxic Behaviours	**0.08**	-0.45**								
4. Familiarity	**0.07**	0.35**	-0.01							
5. Similarity	**-0.11**	0.55**	-0.35**	0.30**						
6. Warmth	**-0.07**	0.70**	-0.40**	0.22**	0.53**					
7. Competence	**-0.22**+**	0.49**	-0.28**	0.11	0.44**	0.47**				
8. Masculinity	**-0.02**	-0.10	0.24**	0.05	-0.03	-0.10	0.03			
9. Secret Enjoyment	**0.11**	0.58**	-0.28**	0.41**	0.47**	0.46**	0.30**	-0.02		
10. Narcissism	**0.01**	-0.20**	0.24**	-0.09	-0.18*	-0.30**	-0.12	0.13	-0.12	

Note. * $p < .05$; ** $p < .01$; + $p <$ adjusted $\alpha = 0.006$ (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202.

Table C12: *Correlations Between NARQ and Evaluations of the Vain-Narcissistic Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**0.04**									
3. Toxic Behaviours	**-0.01**	-0.16*								
4. Familiarity	**0.12**	0.49**	-0.11							
5. Similarity	**0.01**	0.36**	-0.36**	0.29**						
6. Warmth	**0.01**	0.46**	-0.34**	0.30**	0.40**					
7. Competence	**-0.07**	0.44**	-0.18*	0.20**	0.20**	0.19**				
8. Masculinity	**-0.06**	-0.13	0.17*	-0.05	-0.09	-0.16*	0.05			
9. Secret Enjoyment	**0.18****	0.53**	-0.13*	0.44**	0.28**	0.26**	0.27**	-0.09		
10. Narcissism	**0.20** +**	-0.08	0.49**	-0.15*	-0.42**	-0.29**	-0.01	0.12	0.02	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha = 0.006$ (0.05/9). Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202.

Table C13: *Correlations Between NARQ and Evaluations of the Non-Vain Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**-0.04**									
3. Toxic Behaviours	**0.06**	-0.22**								
4. Familiarity	**0.01**	0.33**	-0.07							
5. Similarity	**-0.13**	0.41**	-0.23**	0.29**						
6. Warmth	**-0.06**	0.52**	-0.33**	0.26**	0.37**					
7. Competence	**-0.11**	0.46**	-0.08	0.19**	0.23**	0.31**				
8. Masculinity	**-0.16***	0.22**	0.09	0.04	-0.00	0.08	0.23**			
9. Secret Enjoyment	**0.06**	0.53**	-0.23**	0.32**	0.31**	0.30**	0.35**	0.00		
10. Narcissism	**0.04**	-0.01	0.42**	-0.06	-0.09	-0.22**	0.03	0.09	0.07	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha =$ 0.006 (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship ($\alpha =$ .84). $N = 202$.

Table C14: *Correlations Between ANP and Evaluations of the Selfish-Narcissistic Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**0.02**									
3. Toxic Behaviours	**-0.06**	-0.22**								
4. Familiarity	**0.03**	0.37**	-0.10							
5. Similarity	**0.01**	0.42**	-0.41**	0.35**						
6. Warmth	**0.03**	0.46**	-0.33**	0.26**	0.46**					
7. Competence	**0.01**	0.52**	-0.37**	0.30**	0.39**	0.28**				
8. Masculinity	**-0.00**	0.14	0.05	0.03	-0.10	-0.10	0.12			
9. Secret Enjoyment	**0.01**	0.48**	-0.11	0.38**	0.38**	0.35**	0.26**	0.04		
10. Narcissism	**0.03**	-0.18**	0.42**	-0.06	-0.30**	-0.32**	-0.27**	0.03	-0.08	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha =$ 0.006 (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship ($\alpha =$ .84). $N = 202$.

Table C15: *Correlations Between ANP and Evaluations of the Non-Selfish Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**0.05**									
3. Toxic Behaviours	**0.14***	-0.45**								
4. Familiarity	**0.08**	0.35**	-0.01							
5. Similarity	**-0.11**	0.55**	-0.35**	0.30**						
6. Warmth	**-0.04**	0.70**	-0.40**	0.22**	0.53**					
7. Competence	**-0.06**	0.49**	-0.28**	0.11	0.44**	0.47**				
8. Masculinity	**-0.03**	-0.10	0.24**	0.05	-0.03	-0.10	0.03			
9. Secret Enjoyment	**0.07**	0.58**	-0.28**	0.41**	0.47**	0.46**	0.30**	-0.02		
10. Narcissism	**0.11**	-0.20**	0.24**	-0.09	-0.18*	-0.30**	-0.12	0.13	-0.12	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha = 0.006$ (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202.

Table C16: *Correlations Between ANP and Evaluations of the Vain-Narcissistic Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**0.01**									
3. Toxic Behaviours	**-0.05**	-0.16*								
4. Familiarity	**0.11**	0.49**	-0.11							
5. Similarity	**-0.04**	0.36**	-0.36**	0.29**						
6. Warmth	**-0.05**	0.46**	-0.34**	0.30**	0.40**					
7. Competence	**0.04**	0.44**	-0.18*	0.20**	0.20**	0.19**				
8. Masculinity	**0.07**	-0.13	0.17*	-0.05	-0.09	-0.16*	0.05			
9. Secret Enjoyment	**0.12**	0.53**	-0.13	0.44**	0.28**	0.26**	0.27**	-0.09		
10. Narcissism	**0.10**	-0.08	0.49**	-0.15*	-0.42**	-0.29**	-0.01	0.12	0.02	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha =$ 0.006 (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202.

Table C17: *Correlations Between ANP and Evaluations of the Non-Vain Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**0.02**									
3. Toxic Behaviours	**-0.03**	-0.22**								
4. Familiarity	**0.01**	0.33**	-0.07							
5. Similarity	**-0.08**	0.41**	-0.23**	0.29**						
6. Warmth	**-0.02**	0.52**	-0.33**	0.26**	0.37**					
7. Competence	**-0.10**	0.46**	-0.08	0.19**	0.23**	0.31**				
8. Masculinity	**-0.10**	0.22**	0.09	0.04	-0.00	0.08	0.23**			
9. Secret Enjoyment	**0.07**	0.53**	-0.23**	0.32**	0.31**	0.30**	0.35**	0.00		
10. Narcissism	**0.01**	-0.01	0.42**	-0.06	-0.09	-0.22**	0.03	0.09	0.07	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha = 0.006$ (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship ($\alpha = .84$). $N = 202$.

Table C18: *Correlations Between EP and Evaluations of the Selfish-Narcissistic Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**-0.06**									
3. Toxic Behaviours	**0.02**	-0.22**								
4. Familiarity	**0.11**	0.37**	-0.10							
5. Similarity	**0.01**	0.42**	-0.41**	0.35**						
6. Warmth	**0.03**	0.46**	-0.33**	0.26**	0.46**					
7. Competence	**-0.09**	0.52**	-0.37**	0.30**	0.39**	0.28**				
8. Masculinity	**-0.18****	0.14	0.05	0.03	-0.10	-0.10	0.12			
9. Secret Enjoyment	**0.06**	0.48**	-0.11	0.38**	0.38**	0.35**	0.26**	0.04		
10. Narcissism	**0.00**	-0.18**	0.42**	-0.06	-0.30**	-0.32**	-0.27**	0.03	-0.08	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha =$ 0.006 (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship ($\alpha =$ .84). $N = 202$.

Table C19: *Correlations Between EP and Evaluations of the Non-Selfish Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**0.07**									
3. Toxic Behaviours	**-0.02**	-0.45**								
4. Familiarity	**0.09**	0.35**	-0.01							
5. Similarity	**0.00**	0.55**	-0.35**	0.30**						
6. Warmth	**-0.08**	0.70**	-0.40**	0.22**	0.53**					
7. Competence	**-0.16***	0.49**	-0.28**	0.11	0.44**	0.47**				
8. Masculinity	**0.03**	-0.10	0.24**	0.05	-0.03	-0.10	0.03			
9. Secret Enjoyment	**0.03**	0.58**	-0.28**	0.41**	0.47**	0.46**	0.30**	-0.02		
10. Narcissism	**0.09**	-0.20**	0.24**	-0.09	-0.18*	-0.30**	-0.12	0.13	-0.12	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha = 0.006$ (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202.

Table C20: *Correlations Between EP and Evaluations of the Vain-Narcissistic Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**-0.01**									
3. Toxic Behaviours	**-0.09**	-0.16*								
4. Familiarity	**0.05**	0.49**	-0.11							
5. Similarity	**0.08**	0.36**	-0.36**	0.29**						
6. Warmth	**0.05**	0.46**	-0.34**	0.30**	0.40**					
7. Competence	**-0.09**	0.44**	-0.18*	0.20**	0.20**	0.19**				
8. Masculinity	**-0.01**	-0.13	0.17*	-0.05	-0.09	-0.16*	0.05			
9. Secret Enjoyment	**0.04**	0.53**	-0.13	0.44**	0.28**	0.26**	0.27**	-0.09		
10. Narcissism	**0.00**	-0.08	0.49**	-0.15*	-0.42**	-0.29**	-0.01	0.12	0.02	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha = 0.006$ (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202.

Table C21: *Correlations Between EP and Evaluations of the Non-Vain Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**-0.05**									
3. Toxic Behaviours	**0.01**	-0.22**								
4. Familiarity	**0.04**	0.33**	-0.07							
5. Similarity	**-0.05**	0.41**	-0.23**	0.29**						
6. Warmth	**-0.01**	0.52**	-0.33**	0.26**	0.37**					
7. Competence	**-0.11**	0.46**	-0.08	0.19**	0.23**	0.31**				
8. Masculinity	**-0.06**	0.22**	0.09	0.04	-0.00	0.08	0.23**			
9. Secret Enjoyment	**0.04**	0.53**	-0.23**	0.32**	0.31**	0.30**	0.35**	0.00		
10. Narcissism	**0.03**	-0.01	0.42**	-0.06	-0.09	-0.22**	0.03	0.09	0.07	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha = 0.006$ (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202.

Table C22: *Correlations Between ECR-S (Anxious) and Evaluations of the Selfish-Narcissistic Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**0.08**									
3. Toxic Behaviours	**0.10**	-0.22**								
4. Familiarity	**0.15***	0.37**	-0.10							
5. Similarity	**-0.02**	0.42**	-0.41**	0.35**						
6. Warmth	**-0.03**	0.46**	-0.33**	0.26**	0.46**					
7. Competence	**0.03**	0.52**	-0.37**	0.30**	0.39**	0.28**				
8. Masculinity	**0.10**	0.14	0.05	0.03	-0.10	-0.10	0.12			
9. Secret Enjoyment	**0.07**	0.48**	-0.11	0.38**	0.38**	0.35**	0.26**	0.04		
10. Narcissism	**0.07**	-0.18**	0.42**	-0.06	-0.30**	-0.32**	-0.27**	0.03	-0.08	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha = 0.006$ (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202.

Table C23: *Correlations Between ECR-S (Anxious) and Evaluations of the Non-Selfish Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**0.02**									
3. Toxic Behaviours	**-0.09**	-0.45**								
4. Familiarity	**0.08**	0.35**	-0.01							
5. Similarity	**0.02**	0.55**	-0.35**	0.30**						
6. Warmth	**0.04**	0.70**	-0.40**	0.22**	0.53**					
7. Competence	**-0.11**	0.49**	-0.28**	0.11	0.44**	0.47**				
8. Masculinity	**0.02**	-0.10	0.24**	0.05	-0.03	-0.10	0.03			
9. Secret Enjoyment	**0.12**	0.58**	-0.28**	0.41**	0.47**	0.46**	0.30**	-0.02		
10. Narcissism	**-0.01**	-0.20**	0.24**	-0.09	-0.18*	-0.30**	-0.12	0.13	-0.12	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha =$ 0.006 (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship ($\alpha =$ .84). $N = 202$.

Table C24: *Correlations Between ECR-S (Anxious) and Evaluations of the Vain-Narcissistic Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**-0.01**									
3. Toxic Behaviours	**-0.00**	-0.16*								
4. Familiarity	**0.12**	0.49**	-0.11							
5. Similarity	**-0.03**	0.36**	-0.36**	0.29**						
6. Warmth	**-0.04**	0.46**	-0.34**	0.30**	0.40**					
7. Competence	**0.00**	0.44**	-0.18*	0.20**	0.20**	0.19**				
8. Masculinity	**0.12**	-0.13	0.17*	-0.05	-0.09	-0.16*	0.05			
9. Secret Enjoyment	**0.10**	0.53**	-0.13	0.44**	0.28**	0.26**	0.27**	-0.09		
10. Narcissism	**0.17***	-0.08	0.49**	-0.15*	-0.42**	-0.29**	-0.01	0.12	0.02	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha = 0.006$ (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202.

Table C25: *Correlations Between ECR-S (Anxious) and Evaluations of the Non-Vain Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**0.05**									
3. Toxic Behaviours	**-0.08**	-0.22**								
4. Familiarity	**0.16***	0.33**	-0.07							
5. Similarity	**0.03**	0.41**	-0.23**	0.29**						
6. Warmth	**0.09**	0.52**	-0.33**	0.26**	0.37**					
7. Competence	**-0.14***	0.46**	-0.08	0.19**	0.23**	0.31**				
8. Masculinity	**-0.10**	0.22**	0.09	0.04	-0.00	0.08	0.23**			
9. Secret Enjoyment	**0.09**	0.53**	-0.23**	0.32**	0.31**	0.30**	0.35**	0.00		
10. Narcissism	**-0.07**	-0.01	0.42	-0.06	-0.09	-0.22**	0.03	0.09	0.07	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha = 0.006$ (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202.

Table C26: *Correlations Between ECR-S (Avoidant) and Evaluations of the Selfish-Narcissistic Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**0.04**									
3. Toxic Behaviours	**0.09**	-0.22**								
4. Familiarity	**0.05**	0.37**	-0.10							
5. Similarity	**0.15***	0.42**	-0.41**	0.35**						
6. Warmth	**0.08**	0.46**	-0.33**	0.26**	0.46**					
7. Competence	**-0.05**	0.52**	-0.37**	0.30**	0.39**	0.28**				
8. Masculinity	**-0.13**	0.14	0.05	0.03	-0.10	-0.10	0.12			
9. Secret Enjoyment	**0.12**	0.48**	-0.11	0.38**	0.38**	0.35**	0.26**	0.04		
10. Narcissism	**-0.06**	-0.18**	0.42**	-0.06	-0.30**	-0.32**	-0.27**	0.03	-0.08	

Note. * $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha =$ 0.006 (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202.

Table C27: *Correlations Between ECR-S (Avoidant) and Evaluations of the Non-Selfish Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**-0.16***									
3. Toxic Behaviours	**0.23**+**	-0.45**								
4. Familiarity	**0.11**	0.35**	-0.01							
5. Similarity	**-0.17***	0.55**	-0.35**	0.30**						
6. Warmth	**-0.29**+**	0.70**	-0.40**	0.22**	0.53**					
7. Competence	**-0.22**+**	0.49**	-0.28**	0.11	0.44**	0.47**				
8. Masculinity	**0.04**	-0.10	0.24**	0.05	-0.03	-0.10	0.03			
9. Secret Enjoyment	**-0.03**	0.58**	-0.28**	0.41**	0.47**	0.46**	0.30**	-0.02		
10. Narcissism	**-0.02**	-0.20**	0.24**	-0.09	-0.18*	-0.30**	-0.12	0.13	-0.12	

Note. * $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha = 0.006$ (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202.

Table C28: *Correlations Between ECR-S (Avoidant) and Evaluations of the Vain-Narcissistic Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**0.05**									
3. Toxic Behaviours	**-0.04**	-0.16*								
4. Familiarity	**0.19** +**	0.49**	-0.11							
5. Similarity	**-0.01**	0.36**	-0.36**	0.29**						
6. Warmth	**0.05**	0.46**	-0.34**	0.30**	0.40**					
7. Competence	**-0.08**	0.44**	-0.18*	0.20**	0.20**	0.19**				
8. Masculinity	**-0.13**	-0.13	0.17*	-0.05	-0.09	-0.16*	0.05			
9. Secret Enjoyment	**0.20** +**	0.53**	-0.13	0.44**	0.28**	0.26**	0.27**	-0.09		
10. Narcissism	**0.01**	-0.08	0.49**	-0.15*	-0.42**	-0.29**	-0.01	0.12	0.02	

Note. * $p < .05$; ** $p < .01$; + $p <$ adjusted $\alpha = 0.006$ (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship ($\alpha = .84$). $N = 202$.

Table C29: *Correlations Between ECR-S (Avoidant) and Evaluations of the Non-Vain Face (Paper 3, Study 3)*

	1	2	3	4	5	6	7	8	9	10
1. NPI										
2. Romantic Suitability	**-0.12**									
3. Toxic Behaviours	**0.11**	-0.22**								
4. Familiarity	**0.09**	0.33**	-0.07							
5. Similarity	**-0.08**	0.41**	-0.23**	0.29**						
6. Warmth	**0.03**	0.52**	-0.33**	0.26**	0.37**					
7. Competence	**-0.05**	0.46**	-0.08	0.19**	0.23**	0.31**				
8. Masculinity	**-0.23**+**	0.22**	0.09	0.04	-0.00	0.08	0.23**			
9. Secret Enjoyment	**-0.04**	0.53**	-0.23**	0.32**	0.31**	0.30**	0.35**	0.00		
10. Narcissism	**-0.04**	-0.01	0.42**	-0.06	-0.09	-0.22**	0.03	0.09	0.07	

Note. ***** $p < .05$; ** $p < .01$; **+** $p <$ adjusted $\alpha = 0.006$ (0.05/9). 'Romantic Suitability' is an index of participants' average scores on perceived attraction, suitability for short- and long-term partnership (general and personal), and suitability for friendship (α = .84). N = 202.

Supplementary ANOVA Results of Additional Face Comparisons (Paper 3, Study 3)

Comparing the Vain Non-Narcissist and Both Narcissists

The vain non-narcissist (vs. both narcissistic faces) was seen as warmer, more similar, and more suitable for friendship and long-term partnership (personal), as well as less narcissistic, and relationally toxic (*p*s≤.032). The vain non-narcissist was seen as more familiar than the vain narcissist (*p*=.001). However, they were also judged as less *generally* attractive, and as less *generally* suitable for short-term partnership relative to both narcissistic faces (*p*s≤.003). Furthermore, the vain non-narcissist was seen as less *personally* attractive, *personally* suitable for short-term partnership, and competent relative to the vain narcissist (*p*s≤.041). There were no differences in ratings of *general l*ong-term partnership suitability or secret enjoyment between the vain non-narcissist and both narcissistic faces, or ratings of competence, or familiarity between the vain non-narcissist and the selfish narcissist (*p*s≥.063). The vain non-narcissist was also seen as less masculine relative to the selfish narcissist (*p*<.001) but no more or less masculine than the vain narcissist (*p*=.069).

Comparing the Selfish Non-Narcissist and Both Narcissists

Finally, for comparisons between the selfish non-narcissist and both narcissistic faces, the selfish non-narcissist was seen as more attractive (general and personal), suitable for short- and long-term partnership (general and personal), and less relationally toxic relative to both narcissistic faces (*p*s≤.001). The selfish non-narcissist was also ascribed higher ratings of similarity, familiarity, warmth,

competence and secret enjoyment, and lower ratings of narcissism and masculinity relative to both narcissistic faces (*p*s<.001).

Summary

In addition to being perceived as desirable relative to the selfish non-narcissist, the vain non-narcissist was also favored less relative to the narcissistic faces (particularly the vain narcissist). The vain narcissist was also seen as more competent, *personally* attractive, and *personally* desirable as a short-term partner relative to its non-narcissistic counterpart. Thus, not only does the 'absence' of narcissistic vanity represented in a facial image elicit lower ratings of openness, extraversion, trust, success, and political leadership, but also diminished romantic perceptions. Furthermore, once again, high rater narcissism positively predicted greater perceived similarity. This, in turn diminished negative perceptions of the faces' toxic relationship behaviors and, in tandem with perceived familiarity, heightened judgments of romantic suitability and attraction.