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# Narcissistic Traits in Sexually Motivated Serial Killers

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## Abstract

Understanding the role of narcissism in sexually motivated serial killers is crucial for uncovering the psychological mechanisms behind their actions and aiding effective profiling, prevention strategies, and interventions. This study investigated whether dimensions of trait narcissism are present in sexually motivated serial killers and how these dimensions co-occur. Based on the Narcissistic Admiration and Rivalry Concept (NARC) and the Vulnerable Isolation and Enmity Concept (VIEC), we distinguished between different dimensions of grandiose (grandiose admiration and rivalry) and vulnerable (vulnerable isolation and enmity) narcissism. Confessions and interrogation interviews from 45 male serial killers, either publicly available or obtained upon request, were analyzed using qualitative content analysis. Findings showed a significant presence of grandiose and vulnerable narcissism, with vulnerable enmity (84%) and grandiose admiration (76%) being most prevalent. The results can contribute to a framework for targeted prevention strategies and lay the groundwork for future research on narcissism's intersection with psychopathy, impulsivity, and other personality traits in serial homicide.

**Keywords** Narcissism · Serial killers · Criminal profiling · Sexually motivated homicide · Qualitative · Enmity · Vulnerable narcissism · Grandiose narcissism · NARC

For centuries, serial killers have captivated and terrified societies, with their actions portrayed in the media in various ways, from monstrous to romanticized (Schechter 2003). Despite scholarly attempts investigating this phenomenon, the task of defining and categorizing serial killers remains challenging (Fox & Levin, 2015). According to the FBI's Serial Murder Symposium, serial murder is characterized as “the unlawful killing of two or more victims by the same offender(s), in separate events” (FBI, 2005). This study aims to contribute to the understanding of serial murder by exploring the psychological dimensions of narcissism in sexually motivated male serial killers and analyzing

how distinct dimensions of narcissism—grandiose and vulnerable—manifest and interact in this population.

Serial killers are usually categorized into types depending on their motives (Holmes et al. 1988; Holmes, Holmes 2009): One category is *visionary killers*, who have psychosis and are driven by hallucinations or delusions (Holmes, Holmes 2009). There are also *mission-oriented killers*, who believe they must eliminate specific groups of people, such as certain races or professions (Holmes, Holmes 2009). Another category is *thrill killers*, who gain pleasure and excitement from the act of killing (Holmes et al. 1988). Additionally, as per Holmes and Holmes (1998), *Power/control killers* derive satisfaction from achieving total dominance over their victims, frequently through the use of sexual abuse. Finally there are *lust killers*, whose crimes are mainly fueled by sexual urges related to paraphilias (Aggrawal 2011; Miller et al. 2014; Ressler and Shachtman 1997; Schlesinger 2000; Stein et al. 2010).

While such typologies remain influential in investigative and forensic contexts, recent developments in classification have increasingly emphasized dimensional rather than categorical approaches to psychopathology (APA, 2013; Krueger & Eaton, 2015; Widiger & Samuel, 2005). This shift reflects recognition that many traits relevant to violent

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offending—such as narcissism, psychopathy, or sadism—often overlap and do not fit neatly into discrete motivational categories. Typological frameworks therefore carry limitations, yet they also serve as pragmatic tools in criminal profiling and investigative practice. Accordingly, typologies serve in this study as sampling heuristics, while the present analysis focuses on narcissistic traits as dimensional constructs, distinguishing between their grandiose and vulnerable variants (Back et al. 2013; Rogoza et al. 2022).

Researchers have categorized power/control, lust, and thrill killers as sexually motivated serial killers due to the presence of sexual motives (Holmes, Holmes 2009). These killers are driven by sadistic and paraphilic sexual behaviors, including aggression and domination (Carabellese et al. 2011; Maniglio 2010; Prentky et al. 1989; Ressler et al. 1988). The present study focuses on sexually motivated male serial killers, i.e., power/control, lust, and thrill killers as men represent 99.4% of sexually motivated serial killers on the Radford FGCU serial killer database. Their actions are not the result of psychosis or delusions as is the case with visionary or mission-oriented killers. Instead, these offenders exhibit complex psychological profiles in which narcissistic traits seem to play a significant role (Back et al. 2013; Carabellese et al. 2011; Maniglio 2010). These offenders often display unique patterns of victim selection, manipulation, and postmortem behaviors that reinforce their sense of power and superiority (Schlesinger 2004; Simons et al. 2020).

Narcissism is a psychological trait that has been associated with sexually motivated serial killers (Knight 2006). It can be distinguished in two variants: grandiose and vulnerable narcissism. Grandiose narcissism is characterized by dominance, entitlement, and an inflated sense of self, whereas vulnerable narcissism involves hypersensitivity, insecurity, and a tendency toward social withdrawal (Miller et al. 2011; Pincus et al. 2009; Wink 1991). To better understand the role of narcissism in serial killers, it is essential to examine both dimensions, as each may uniquely contribute to the behaviors and motivations observed.

Researchers have suggested that narcissistic traits are relevant in sexually motivated serial killers, yet existing studies remain limited in their scope and depth. For instance, Reid et al. (2019) examined developmental factors in a sample of 70 serial killers, employing both quantitative and qualitative methods to yield a comprehensive analysis. Their findings suggested that sexual murders often function as coping mechanisms, providing psychological relief from trauma, loneliness, anxiety, and isolation. Narcissistic personality disorder, along with psychological disorders, was frequently identified within this sample. However, the study's reliance on purposive sampling conducted by selecting male serial killers convicted between 1900 and 2017

in North America and the UK, focusing on those meeting the criteria for Compulsive Criminal Homicide (CCH) and secondary sources (police and trial transcripts, psychiatric reports, biographies, media reports, and databases) restricts the generalizability of its conclusions. Moreover, the study refers to grandiose narcissism only and features such as isolation and being a loner, which are typical of vulnerable narcissism, were noted but not systematically analyzed.

Haller (1999) conducted a study on malignant narcissism, which encompasses a combination of narcissistic personality disorder (NPD), antisocial behavior, paranoid tendencies, and sadistic traits, as theorized by Kernberg (1975). In that study, Haller analyzed the case of Jack Unterweger, a sexually motivated serial killer and discussed how this combination of pathological traits can contribute to serial killing. More recently, Marko and Leibetseder (2023) examined linguistic patterns in Unterweger's personal letters, offering additional insights into his psychopathic and malignant narcissistic characteristics. However, as this research focuses on a single case, its findings lack generalizability to the broader population of serial killers.

In their 2001 study, Hazelwood and Michaud examined the relationship between narcissism and serial killing by analyzing the manuscript of a sexually motivated serial killer. While their work offers important insights into how narcissistic traits may manifest in such individuals, its focus on a single case also restricts the generalizability of their findings to a wider population.

Finally, Booth's (2021) study investigated the psychopathic traits of well-known serial killers, including Ted Bundy and Dennis Rader, through individual case analyses to understand how factors such as childhood trauma, behavioral patterns, and psychological disorders like narcissistic personality disorder influenced their motivations. The study highlighted how Bundy and Rader exhibited prominent narcissistic traits—such as lack of empathy, boastfulness, hypersexuality, and deceit—that fueled their homicidal behaviors. However, as with many case studies mentioned above, the findings are limited in their generalizability.

Overall, a significant limitation in the study of narcissism in serial killers is the predominant reliance on case studies, which constrains the generalizability of findings to broader populations (Moore et al. 2011). Case studies typically focus on one offender and provide in-depth analyses but do not allow to draw conclusions across about the population of serial killers (Haller 1999; Hazelwood and Michaud 2001; Schlesinger 1998). To address this limitation, the present study utilizes a larger and systematic sample. It also incorporates data from multiple sources, such as police confessions and interrogations, FBI interviews, court documents, video confessions, Radford FGCU Serial Killer Database, ministry departments and police agencies in the USA and

aims to strike a balance between depth and breadth, enhancing both the reliability and the generalizability of its findings (Krippendorff 2004; Mayring 2014).

Another challenge is the heterogeneity of samples in previous research, which often failed to differentiate between distinct typologies of serial killers. Studies frequently included a mix of visionary, mission-oriented, thrill, power/control, and lust killers, without accounting for the unique psychological traits and motives specific to each category (Pasqualetti 2013; Schlesinger 1998). This lack of specificity can obscure nuanced findings that could otherwise emerge from examining more homogeneous subgroups. By contrast, the present study focuses exclusively on sexually motivated serial killers, including power/control, lust, and thrill killers, whose shared characteristics provide a relatively uniform basis for analysis. This targeted approach ensures that the findings are specific to a subgroup characterized by identifiable behavioral and psychological patterns.

A third limitation of previous research lies in its narrow scope of prior research, which often conflated malignant narcissism with narcissistic personality disorder and failed to examine the broader spectrum of narcissistic traits. Most studies emphasize grandiose narcissistic traits—such as dominance, aggression, and inflated self-image—while overlooking vulnerable narcissism, which is associated with hypersensitivity, social withdrawal, and feelings of inadequacy (Miller et al. 2011; Pincus et al. 2009; Wink 1991). This narrow focus has left significant gaps in understanding the interplay of grandiose and vulnerable traits. While some studies have touched on vulnerable traits, such as loneliness, anxiety, and trauma, these aspects remain underexplored (Reid et al. 2019). To address this gap, the present study adopts Wink's (1991) framework, which differentiates between grandiose and vulnerable narcissism, and applies it specifically to sexually motivated serial killers.

Building on the distinction between pathological narcissism and narcissistic traits discussed above, it is important to note that narcissism, initially conceptualized by Freud in 1914, has since been studied both as a clinical disorder and as a dimensional personality trait (Freud, 1914/1957). Narcissistic personality disorder (NPD), as defined in the DSM-5, is a categorical diagnosis marked by pervasive patterns of grandiosity, need for admiration, and lack of empathy that lead to significant impairment in functioning (American Psychiatric Association, 2013). By contrast, narcissistic traits—such as admiration, rivalry, isolation, and enmity—are dimensional constructs that can occur to varying degrees across the general population (Back et al. 2013; Rogoza et al. 2022), including individuals without a clinical disorder (Cain et al. 2008; Miller et al. 2011). The present study adopts this dimensional perspective, focusing on traits

rather than diagnostic status (Back et al. 2013; Crowe et al. 2018; Fehn and Schütz 2020; Morf and Rhodewalt 2001).

It was first Wink's (1991) work that highlighted the need to distinguish between grandiose and vulnerable narcissism. While grandiose narcissism is characterized by dominance, inflated self-esteem, and assertiveness, vulnerable narcissism includes traits like social withdrawal, hypersensitivity, and insecurity (Miller et al. 2011; Pincus et al. 2009; Zajenkowski et al. 2016). These two variants of narcissism represent distinct yet related psychological phenomena that must be distinguished to better understand serial killers and provide a more comprehensive psychological profile including typical motives, behaviors, and emotional dynamics.

The Narcissistic Admiration and Rivalry Concept (NARC), developed by Back et al. (2013), provides a detailed explanation of grandiose narcissism. According to this model, individuals displaying grandiose narcissistic traits maintain their self-image through two primary social strategies: Admiration (self-promotion and enhancement) and Rivalry (antagonistic self-defense and social competition) (Back et al. 2018).

By contrast, the Vulnerable Isolation and Enmity Concept (VIEC), developed by Rogoza et al. (2022), focuses on the two primary dimensions of vulnerable narcissism: Isolation (social withdrawal and hypersensitivity) and Enmity (defensiveness, paranoia, and aggression). The VIEC model expands on existing theories by exploring how individuals displaying vulnerable narcissistic traits protect their fragile egos through avoidance and covert hostility, further illustrating the complexity of their psychological makeup.

Drawing on Wink's classification (1991) and recent theoretical models, including the Vulnerable Isolation and Enmity Concept (VIEC) by Rogoza et al. (2022) and the Narcissistic Admiration and Rivalry Concept (NARC) by Back et al. (2013, 2018), the present study seeks to identify and understand the unique manifestations of vulnerable and grandiose narcissism in these individuals. Specifically, it explores the presence of four dimensions—vulnerable isolation, vulnerable enmity, grandiose admiration, and grandiose rivalry—and the extent to which these traits coexist within individuals. By mapping these traits, we aim to provide a nuanced understanding of narcissism that may contribute to improving profiling practices and inform strategies for managing risk in sexually motivated serial killings. At the same time, such applications must be approached cautiously, since narcissistic traits are not unique to offenders and occur widely in the general population (Bushman 2017). Additionally, these insights may contribute to reducing public fear and mitigating trauma for victims' families. Drawing on the theoretical background outlined above we formulate two research questions.

RQ1: Which dimensions of trait narcissism (vulnerable isolation, vulnerable enmity, grandiose admiration, grandiose rivalry) are present in sexually motivated serial killers and to what extent can they be observed?

RQ2: To what extent do the four facets of narcissism (vulnerable isolation, vulnerable enmity, grandiose admiration, grandiose rivalry) cooccur in sexually motivated serial killers?

## Method

### Sample

The participants and sample for this study were drawn from the Radford FGCU serial killer database, which contains records of over 1,043 individuals. Out of this total, 345 cases of sexually motivated serial killers met the specified inclusion criteria for analysis. These were: The perpetrator had to be a male sexual serial killer active between 1960 and 2021, whose killings were primarily sexually motivated, who acted independently (i.e., not as part of a group or gang), and who had been found legally competent to stand trial and convicted. However, obtaining comprehensive confessions was challenging, as many police departments in the U.S. have not digitized or systematized their files, which limited accessibility. As a result, complete and accessible files were obtained for 45 sexual serial killers who fit the criteria, forming the final sample for this study, which consisted of White (71.1%,  $n=32$ ), Black (20%,  $n=9$ ) and Hispanic/Latino (8.9%,  $n=4$ ) individuals. Geographically, 33.3% ( $n=15$ ) the men were from California, 8.9% ( $n=4$ ) from Ohio, and 4.4% ( $n=2$  each) from Indiana, Missouri, and Texas, with 22.2% ( $n=10$ ) spanning multiple states and the remainder were from various other states. The offenders' ages ranged from 15 to 48 years ( $M=30.56$ ,  $SD=8.24$ ). The number of victims ranged from 2 to 22 per offender, with an average of 8.04 victims ( $SD=5.78$ ). There is no reason to believe that this sample of accessible files differs systematically from the overall male population of sexually motivated serial killers in the database, as the selection process was based on availability rather than specific offender characteristics, and the final sample reflects a diverse range of demographic and geographic factors. It is worth noting that only 2 female sexually motivated serial killers were recorded, which led to exclusion from the sample as they represented 0.6% of the population.

### Study Design and Procedure

Emails were sent to all relevant departments with serial killer data that agreed to allow access to files. The first author was

in touch with and received files or instructions from the following agencies, divisions and police departments: Federal Bureau of Investigation, California Criminalistics Institute, United States Department of Justice Criminal Division, Office of the New York Attorney General, Illinois State police, Washington State Patrol. Information, such as confessions or interview files, were made available to the first author upon filing a Freedom of Information Act request/Freedom of Information Law request for specific files. Written documents were downloaded and stored in a password protected laptop. Additionally, the first author searched the FBI database and gathered all pertinent serial killer confessions that were available to the public, which included transcripts as well as video confessions which were transcribed with pure verbatim transcription. All data were anonymized, and any names, locations and crucial dates were removed.

To investigate our research questions, we content-analyzed data from Police confessions, interrogations, FBI interviews, court documents, the Radford FGCU serial killer database, ministry departments and police agencies in the USA. Only data in which the serial killers' words are authentically reproduced were used.

### Data Analysis

Given the length of the police confessions, our analysis focused on specific, targeted questions to ensure coherence and relevance. Primarily, we examined sections where the serial killers discussed the reasons and methods behind their first two murders, as well as their childhood experiences and upbringing. Because interviews and confessions varied in length, sequencing, and detail across cases, we did not examine by narrative segment, as such comparisons would not have been reliable.

This study employed mixed content-analytical methods as outlined by Mayring (2014), which integrates both quantitative and qualitative strategies to ensure a comprehensive analysis. A systematic approach was maintained through the use of structured content analytical units. The coding unit for analysis was defined as the individual phrases. The context unit was the interrogation or confession.

A deductive approach guided the identification of thematic content, drawing on established theoretical frameworks related to narcissism, including Wink's classification (1991), the Narcissistic Admiration and Rivalry Concept (NARC) by Back et al. (2013), and the Vulnerable Isolation and Enmity Concept (VIEC) by Rogoza et al. (2022). From these theories, main categories and subcategories were developed as the foundation for analysis. To maintain clarity and consistency, detailed coding guidelines were established including labels, definitions, anchor samples, and coding rules (Mayring 2014) (see Table 1). Following

**Table 1** Coding specifications

Label	Definition	Anchor Sample	Coding rules
Vulnerable Isolation	<p>Vulnerable Isolation can be characterized by a pervasive withdrawal from social interactions due to feelings of inadequacy and hypersensitivity to potential negative evaluations. It is a protective mechanism to guard against perceived threats to the fragile self. To refine this category, focus on these aspects:</p> <p><b>Withdrawal:</b> Engaging in self-concealment and avoiding social situations to prevent potential criticism or rejection.</p> <p><b>Hypersensitivity:</b> A heightened sensitivity to potential slights or criticisms that can lead to avoidance behaviors.</p> <p><b>Self-Doubt:</b> Persistent ruminations about one's inadequacies and the potential negative perceptions of others.</p> <p><b>Defensiveness:</b> Engaging in behaviors that serve to protect oneself from exposure of weaknesses or to avoid shame.</p> <p>Emphasize the internal struggle, self-protection, and the largely passive nature of the behaviors within Vulnerable Isolation.</p>	I KNOW IT SOUNDS RIDICULOUS FOR ME TO SAY THAT BUT THAT'S WHAT MY GOAL WAS SO I'D HAVE COMPLETE CONTROL OVER THEM SO I WOULDN'T HAVE TO WORRY ABOUT THEM LEAVING IN THE MORNING AND I COULD FULFILL MY FANTASIES.	at least one of the aspects should be present for the category to be counted as having Vulnerable Isolation
Vulnerable Enmity	<p>This category captures the neurotic antagonism present in vulnerable narcissism. The key is to emphasize the internal, reactive nature of the antagonism as a defense mechanism to perceived threats. The components should reflect a reactive stance where actions are not directly aggressive but are characterized by internal turmoil and hypersensitivity to threat, often manifesting as:</p> <p><b>Envy:</b> Perceiving oneself as deprived in comparison to others, leading to internal discontent.</p> <p><b>Paranoia:</b> A defensive stance that assumes hostile intentions from others without sufficient external evidence.</p> <p><b>Projection:</b> Attributing one's own negative characteristics or intentions onto others as a defensive measure.</p> <p><b>Spitefulness:</b> Behaviors and attitudes that are passively aggressive, often covertly expressing hostility without direct confrontation.</p> <p>By highlighting these aspects, we can delineate Vulnerable Enmity from Grandiose Rivalry by its more covert, defensive, and internally-focused nature.</p>	"NO REASON, YOU KNOW, I DIDN'T DO ANYTHING TO THEM OR ANYTHING THEY WERE JUST LOOKING FOR SOMEONE TO HIT."	at least one of the aspects should be present for the category to be counted as having Vulnerable Enmity
Grandiose Admiration	<p>Grandiose Admiration can be seen as an active, outward expression of self-esteem and self-promotion. It is associated with behaviors and attitudes that seek to affirm the grandiose self through positive reinforcement from others. To refine this category, consider emphasizing:</p> <p><b>Self-Promotion:</b> Proactively seeking out attention and recognition to affirm one's self-perceived superiority.</p> <p><b>Assertiveness:</b> Exhibiting behaviors that are confident and dominant in social situations to garner admiration.</p> <p><b>Uniqueness:</b> The belief in one's exceptionalism and the desire to be seen as such by others.</p> <p><b>Charm:</b> Using social skills to attract positive attention and reinforce one's grandiose self-image.</p> <p>For Grandiose Admiration, it is important to underline the proactive, overt, and socially engaging behaviors that are geared towards enhancing one's self-image and gaining admiration.</p>	AND THE ONLY, THE ONLY REASON THE LAST GUY GOT AWAY WAS BECAUSE I WAS COMPLETELY UNCONSCIOUS FOR AT LEAST 6 h ACCORDING TO WHAT HE SAID, I HAVE NO MEMORY OF ANYTHING THAT HAPPENED BUT I WAS STILL FUNCTIONING."	at least one of the aspects should be present for the category to be counted as having Grandiose Admiration
Grandiose Rivalry	<p>Grandiose Rivalry should be refined to emphasize its outward, active antagonism. This form of narcissism involves direct actions and behaviors that aim to restore or enhance one's status, often at the expense of others. The components should be characterized by:</p> <p><b>Devaluation:</b> An overt dismissal of others' abilities or achievements as a way to maintain one's self-perceived superiority.</p> <p><b>Supremacy:</b> A proactive satisfaction derived from others' failures as it reinforces the grandiose self's standing.</p> <p><b>Aggressiveness:</b> A propensity towards visible annoyance and confrontation when one's status is challenged or when one feels overshadowed.</p> <p>To distinguish Grandiose Rivalry from Vulnerable Enmity, it's crucial to focus on the explicit, proactive, and externally-directed behaviors that aim to assert dominance and control rather than the internalized, reactive, and defensive postures of Vulnerable Enmity.</p>	"SO NO, IT'S STILL A MYSTERY TO ME, I HAVE NO IDEA. AND EVEN THE PSYCHOLOGISTS, THEY HAVE NO IDEA. ALL THEY DO IS NAME THINGS YOU KNOW THEY LABEL THEM."	at least one of the aspects should be present for the category to be counted as having Grandiose Rivalry

preliminary coding, which involved reviewing the text and applying anchor examples and coding rules, the categories and guidelines were refined based on an initial analysis of 11% of the material (Mayring 2014). A second coder independently analysed a sample of the material (11%), and categories in which disagreement was high were re-defined for clarity. The final agreement between two independent analysts who worked on the same material was  $Kappa=0.85$ , suggesting that the coding scheme was well-defined and consistently applied (Krippendorff 2004; Mayring, 2000). The most confusion among coders was observed with the Grandiose Rivalry category, where initial Kappa values varied notably: Vulnerable Enmity improved from 0.51 to 0.86, Vulnerable Isolation from 0.49 to 0.69, Grandiose Admiration from 0.41 to 1, and Grandiose Rivalry from 0.08 to 1. Following these revisions, all material was re-coded, and the analysis was extended to a larger sample to ensure the findings were valid and generalizable.

The analysis of the full material was performed as follows: categorizing data by coding units, calculating frequencies, and generating descriptive statistics for each narcissism trait—vulnerable isolation, vulnerable enmity, grandiose admiration, and grandiose rivalry—which were coded as binary variables (e.g., vulnerable enmity: Yes/No). A coding unit refers to the smallest meaningful portion of text that was analyzed and assigned a category. It defines what is considered relevant for coding, such as a word, phrase, sentence, or even a full statement, depending on the study's criteria. These coding units are contained within segments, which are larger sections of text that provide context for interpretation. When a coding unit falls within a segment and is marked as relevant in MAXQDA, it becomes part of a coded segment. A coded segment is the actual portion of text that has been selected and assigned a code within the software. A single coded segment can contain one or multiple coding units, depending on the number of themes present in the text (Mayring 2014; Krippendorff 2004).

To facilitate this process, we used MAXQDA software allowing for the systematic organization of the text, including the selection of segments, coding of relevant units, and structuring of coded segments. This ensured both detailed categorization of individual traits and preservation of contextual meaning within the broader data structure.

In addition to descriptive analysis, a chi-square goodness of fit test was used to assess whether the observed frequencies of the narcissistic traits differed significantly from an equal distribution. This test was important to determine whether certain traits occurred disproportionately within the sample, rather than appearing at similar rates by chance. Identifying significant deviations from an equal distribution highlights which traits are especially characteristic of sexually motivated serial killers, strengthening the interpretive

value of the descriptive findings (Back et al. 2013; Moore et al. 2011).

## Results

The analysis of narcissistic traits within the statements revealed substantial indication of both vulnerable and grandiose narcissism. Vulnerable narcissism was observed in 89% of the statements (40 out of 45) and slightly outnumbered indications of grandiose narcissism, which was found in 87% (39 out of 45) of the statements. Specifically, “Vulnerable Enmity,” was found in 84% of the statements (38 cases), whereas “Vulnerable Isolation” appeared in 58% of cases (26 statements). Grandiose narcissism was distinguished and was prominently expressed through “Grandiose Admiration,” which was found in 76% of the statements (34 cases). “Grandiose Rivalry” was found in 71% of cases (32 statements). Notably, a small subset of statements—11% for vulnerable and 13% for grandiose narcissism—exhibited none of these traits. These findings revealed an intricate blend of grandiosity and vulnerability, with a slight tilt toward the latter. The binary categorization, whether a code is present in a document or not, was a first step to show the relevance of the traits in sexually motivated serial killers. In the next step we aimed to analyze relative frequencies, which quantify the proportion of each narcissistic trait within the total dataset, providing insight into their comparative prevalence in offender statements.

### Relative Frequencies of Codes

Regarding the 662 coded segments, Vulnerable Enmity appeared in 253 of them (38%), followed by Grandiose Admiration with 169 coded segments (26%), Grandiose Rivalry with 156 coded segments (24%) and Vulnerable isolation with 84 coded segments (13%).

### Narcissism Types

A chi-square goodness of fit test was conducted to determine whether the observed frequencies of different types of narcissism (Grandiose Admiration, Grandiose Rivalry, Vulnerable Isolation, and Vulnerable Enmity) in the statements differed significantly from the expected frequencies. The results of the test are presented below (Table 2).

None of the expected frequencies were less than 5. The minimum expected cell frequency was 165.5. The chi-square test demonstrated a statistically significant difference between the observed and expected frequencies of narcissism types,  $\chi^2(3, N=662)=87.015, p<.001$ . This result indicated that the distribution of narcissism types in the sample

**Table 2** Observed and expected frequencies

Type of Narcissism	Observed <i>N</i>	Expected <i>N</i>	Residual
Grandiose Admiration	169	165.5	3.5
Grandiose Rivalry	156	165.5	−9.5
Vulnerable Isolation	84	165.5	−81.5
Vulnerable Enmity	253	165.5	87.5
Total	<b>662</b>		

significantly deviated from an equal distribution. This deviation shows that certain traits, particularly Vulnerable Enmity, occurred at disproportionately higher rates, while others, such as Vulnerable Isolation, were comparatively rare, highlighting uneven representation across the four narcissism types. Specifically, Vulnerable Enmity emerged as the most prevalent type, with an observed frequency of 253, substantially exceeding the expected frequency of 165.5, yielding a residual of 87.5. By contrast, Vulnerable Isolation was the least prevalent, with an observed frequency of 84 and well below the expected 165.5, resulting in a residual of −81.5. Grandiose Admiration, with an observed frequency of 169 was slightly more common than expected (residual of 3.5), whereas Grandiose Rivalry, with an observed frequency of 156 was marginally less common than expected (residual of −9.5).

### Associations Among Narcissistic Traits

Associations among narcissistic traits were examined using MAXQDA's co-occurrence and proximity functions. These analyses are descriptive: the software reports frequencies and percentages of traits occurring together or in close proximity, but it does not compute inferential statistics such as *p*-values. The analysis examined the co-occurrence of key narcissistic traits, focusing on the relationships between Grandiose Admiration, Grandiose Rivalry, Vulnerable Enmity, and Vulnerable Isolation within 45 statements. By analyzing these associations, the study aimed to identify patterns in how grandiose and vulnerable narcissistic traits manifested together. Understanding these connections provided insight into the interplay between admiration and rivalry in grandiosity, as well as the link between enmity and isolation in vulnerable narcissism. The following sections present these associations, highlighting significant patterns of co-occurrence.

### Association Between Grandiose Admiration and Grandiose Rivalry

The analysis revealed a strong association between Grandiose Admiration and Grandiose Rivalry, suggesting a high co-occurrence of these traits within the 45 statements. Notably, individuals who exhibited Grandiose Admiration were

significantly more likely to also display Grandiose Rivalry, with 79.4% of those who showed admiration traits also showing rivalry, compared to 45.5% among those without admiration traits. Similarly, individuals who exhibited Grandiose Rivalry frequently exhibited Grandiose Admiration, with a co-occurrence rate of 84.4%, compared to just 53.8% among those who did not exhibit rivalry.

### Association of Vulnerable Enmity and Vulnerable Isolation in Statements

The findings indicated a significant co-occurrence between Vulnerable Enmity and Vulnerable Isolation within the 45 statements. Specifically, individuals exhibiting Vulnerable Enmity were much more likely to also display Vulnerable Isolation, with a co-occurrence rate of 63.2%, compared to just 28.6% among those without Vulnerable Enmity. Likewise, individuals displaying Vulnerable Isolation were highly likely to exhibit Vulnerable Enmity, with a rate of 92.3%, in contrast to 73.7% for those who did not experience isolation. The largest subgroup in the sample, comprising 53.3%, included individuals who showed both traits, underscoring the frequent pairing of these vulnerability-related characteristics.

### Association of Grandiose Admiration and Vulnerable Isolation

The data indicated a moderate co-occurrence between Grandiose Admiration and Vulnerable Isolation. Within the sample of 45 statements, 42.2% of individuals exhibited both traits. Research suggests that co-occurrence rates above 40% can be considered moderate, as they reflect a significant but not overwhelming overlap between traits within diverse psychological populations (e.g., Back et al. 2013; Pincus et al. 2009). Interestingly, those without Grandiose Admiration were slightly more likely to show Vulnerable Isolation (63.6%) compared to those with Grandiose Admiration (55.9%). Similarly, individuals exhibiting Vulnerable Isolation had a high likelihood of also displaying Grandiose Admiration (73.1%), though this probability was slightly lower among those without Vulnerable Isolation (78.9%).

### Association of Grandiose Admiration and Vulnerable Enmity

The findings demonstrated a significant co-occurrence between Grandiose Admiration and Vulnerable Enmity. Of the 45 individuals studied, those exhibiting Grandiose Admiration were highly likely to also display Vulnerable Enmity, with a co-occurrence rate of 85.3%, slightly higher than the 81.8% among those who did not exhibit Grandiose

Admiration. Conversely, individuals with Vulnerable Enmity showed a substantial likelihood of also displaying Grandiose Admiration (76.3%), compared to 71.4% for those without Vulnerable Enmity. Notably, the largest subgroup in the sample comprised individuals who exhibited both traits, representing 64.4% of the total.

### Association of Grandiose Rivalry and Vulnerable Enmity

The analysis revealed a strong co-occurrence between Grandiose Rivalry and Vulnerable Enmity. Among the 45 individuals studied, those displaying Grandiose Rivalry were notably more likely to also exhibit Vulnerable Enmity, with a high co-occurrence rate of 87.5%, compared to 76.9% among those who did not exhibit Grandiose Rivalry. Likewise, individuals exhibiting Vulnerable Enmity showed a substantial likelihood of also displaying Grandiose Rivalry (73.7%), compared to 57.1% among those without Vulnerable Enmity. The largest subgroup within the sample, comprising 62.2%, included individuals who exhibited both Grandiose Rivalry and Vulnerable Enmity, underscoring the frequent pairing of these traits.

### Association of Grandiose Rivalry and Vulnerable Isolation

The data indicated a substantial co-occurrence between Grandiose Rivalry and Vulnerable Isolation, suggesting a strong link between rivalrous behaviors and feelings of

isolation among individuals in the sample. Specifically, in the 45 statements those displaying Grandiose Rivalry were significantly more likely to also exhibit Vulnerable Isolation, with a co-occurrence rate of 65.6% compared to 38.5% among individuals without Grandiose Rivalry. Conversely, individuals exhibiting Vulnerable Isolation were highly likely to also display Grandiose Rivalry, with a rate of 80.8% compared to 57.9% for those without Vulnerable Isolation. The largest group within the sample, comprising 46.7%, included individuals who exhibited both Grandiose Rivalry and Vulnerable Isolation.

### Intersection of Codes in a Segment

Each circle represents one narcissistic trait, and the size of the circle reflects its prevalence in the dataset (larger circles=higher frequency). Connecting lines appear only when traits co-occur frequently enough within the same coded segments. In this dataset, co-occurrence was limited, so few (or no) lines are visible. The figure therefore primarily illustrates the relative prevalence of traits, with circle size providing the key visual information (Fig. 1).

The analysis of intersecting codes revealed that certain indications of narcissistic traits frequently appeared together within the same segments of offender statements. For example, ‘RQ1-4: Grandiose Rivalry’ and ‘RQ1-3: Grandiose Admiration’ frequently intersected, suggesting that these dimensions are closely related and often expressed simultaneously in the same narrative context. By contrast, ‘RQ1-2:

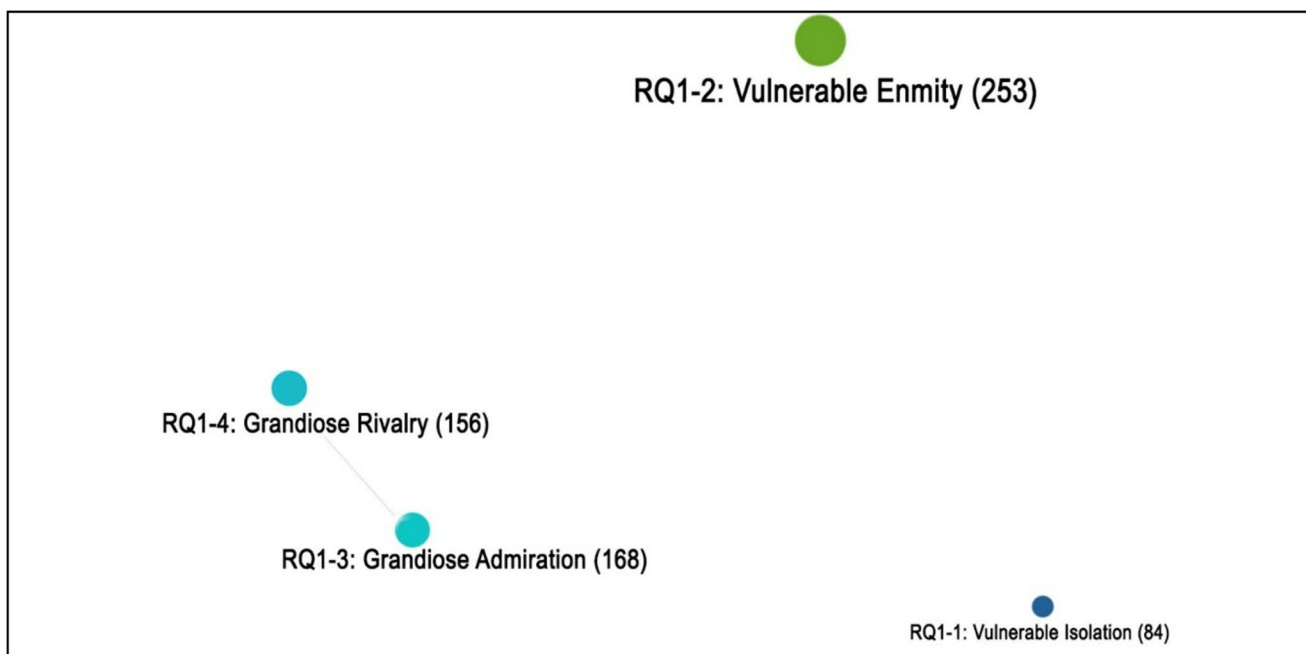
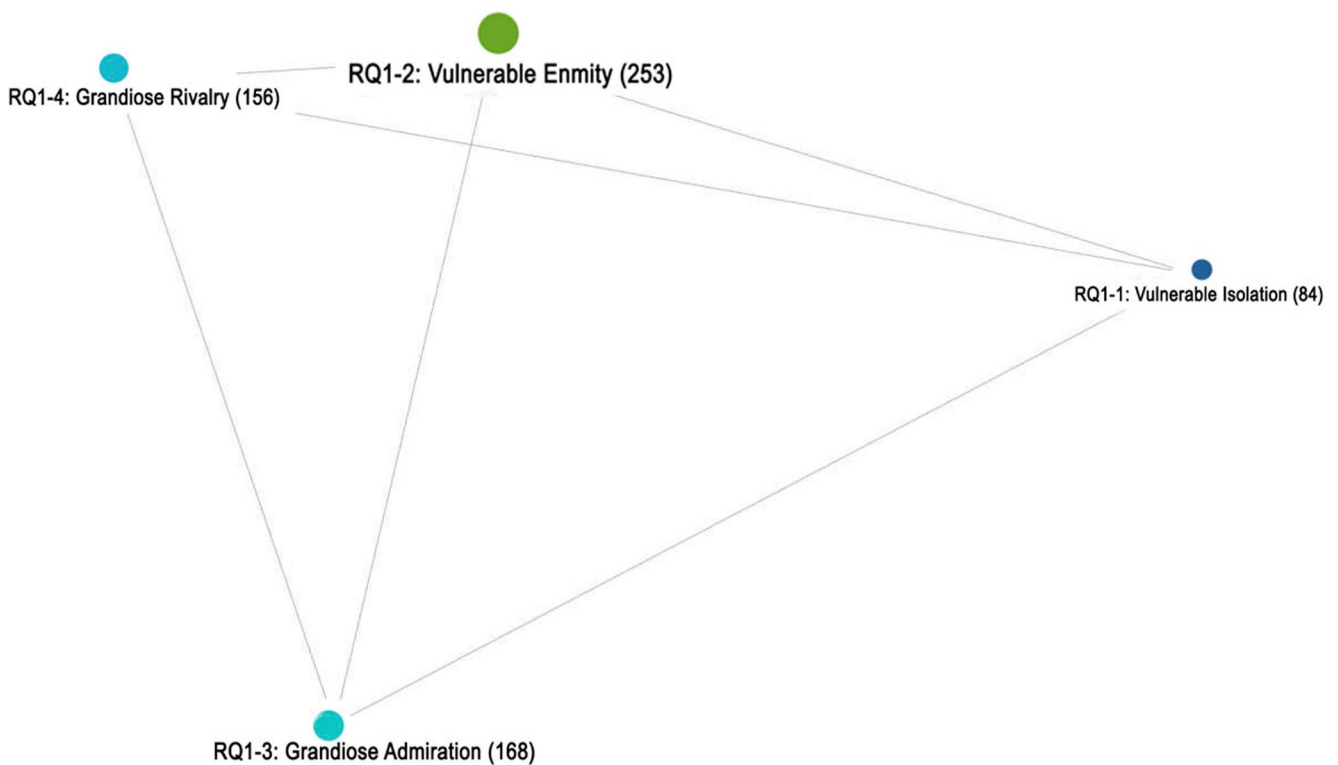


Fig. 1 Intersection of codes



**Fig. 2** Proximity of codes based on co-occurrence

Vulnerable Enmity’ intersected less frequently with ‘RQ1-4: Grandiose Rivalry’ and ‘RQ1-3: Grandiose Admiration.’

### Proximity of Codes Within One Statement

Figure 2 illustrates the proximity of narcissistic traits within offender statements. The distance between nodes represents how often two traits appeared near each other within the same statement, with closer nodes indicating a higher degree of proximity and more distant nodes reflecting less frequent co-occurrence.

In MAXQDA, proximity refers to how often two codes appear near each other within a defined distance in the same document or media file. Unlike intersection, where codes may co-occur in one segment, proximity analysis identifies patterns where codes are applied in separate but nearby segments.

The analysis of code proximity in this study revealed how frequently different indications of narcissistic traits appeared close to each other. For example, ‘RQ1-2: Vulnerable Enmity’ and ‘RQ1-3: Grandiose Admiration’ were observed in close proximity within one statement. Similarly, ‘RQ1-4: Grandiose Rivalry’ also appeared relatively close to these two codes. By contrast, ‘RQ1-1: Vulnerable Isolation’ was positioned farther from the other codes.

## Discussion

This study aimed to explore the presence and interplay of grandiose and vulnerable narcissistic traits in sexually motivated male serial killers, focusing on their distinct dimensions and interactions. Grounded in the Narcissistic Admiration and Rivalry Concept (NARC; Back et al. 2013) and the Vulnerable Isolation and Enmity Concept (VIEC; Rogoza et al. 2022), this research examined four key narcissistic dimensions: grandiose admiration, grandiose rivalry, vulnerable isolation, and vulnerable enmity. By addressing the research questions—how these dimensions manifested and co-occurred within this population—the findings not only expanded the theoretical understanding of narcissism in this context, but also highlighted the complex interplay of self-enhancement, social withdrawal, competitive hostility, and defensive sensitivity observed in sexually motivated serial killers, with implications for criminal profiling and prevention strategies.

### Theoretical Implications and Contextualization of Findings

A key discovery in this study was the high prevalence of vulnerable narcissism, especially the trait of vulnerable enmity. With vulnerable enmity evident in 84% of the statements, the findings highlighted the need to recognize the

internalized hostility and acute sensitivity to rejection that characterize these individuals. Notably, a small minority of offenders (approximately 11% for vulnerable and 13% for grandiose narcissism) did not display identifiable narcissistic traits, indicating that alternative psychological dynamics beyond narcissism may also play a role in sexually motivated serial homicide. Vulnerable enmity reflected emotional fragility that has been associated with paranoia, envy, and distrust, and has been linked in prior research to violent behavior (Miller et al. 2011; Pincus et al. 2009; Rogoza et al. 2022). Additionally, the frequent co-occurrence of Grandiose Admiration and Vulnerable Enmity suggested that admiration-seeking behaviors and defensive hostility were often intertwined. This pattern reflected a complex narcissistic profile in which self-enhancement was accompanied by heightened sensitivity to perceived threats or slights, reinforcing both grandiose and vulnerable elements within these individuals. This result supported previous research by Reid et al. (2019), which had observed that many sexually motivated serial killers used violence as a means to cope with feelings of inadequacy, loneliness, and social isolation.

Another critical aspect of vulnerable narcissism, vulnerable isolation, was also present, albeit at a lower rate, appearing in 58% of the statements. This trait, defined by social withdrawal, self-doubt, and hypersensitivity, reinforced the notion that these individuals experienced deep emotional isolation and an inability to form meaningful connections with others. Prior work has described control/dominance themes in some sexual violence (Meloy 2002), and narcissistic vulnerability has been associated with aggression (Reid et al. 2019). Knight's (2006) work further explained how childhood trauma may contribute to the development of these traits, revealing that sexually motivated serial killers were often driven by a profound sense of betrayal and injustice rooted in early life experiences. Moreover, while there was a notable relation between Grandiose Admiration and Vulnerable Isolation, this relation was not universal. The moderate co-occurrence suggested that grandiose and vulnerable traits could coexist within individuals but manifested differently depending on psychological and situational factors.

The co-occurrence of vulnerable enmity and vulnerable isolation in over half of the sample suggested a close relationship between these two dimensions, with each potentially reinforcing the other and contributing to a cycle of mistrust, withdrawal, and hostility (Pincus et al. 2009; Reid et al. 2019). The heavy occurrence of Vulnerable Enmity suggested that individuals with high levels of hostility and hypersensitivity were possibly more prone to externalizing these traits in maladaptive behaviors, including criminality (Miller et al. 2011; Pincus et al. 2009). By contrast, the low prevalence of Vulnerable Isolation, characterized by social

withdrawal and internalized distress, reflected its marginal role in the outwardly aggressive and manipulative behaviors common among serial offenders (Miller et al. 2011; Zajenkowski et al. 2016). As these individuals withdrew from society and ruminated on perceived slights, their sense of enmity appeared to intensify. Prior research has suggested that this combination of isolation, hostility, and hypersensitivity can contribute to violent actions (Meloy 2002; Pincus et al. 2009; Reid et al. 2019). This insight was in line with the Vulnerable Isolation and Enmity Concept (VIEC) proposed by Rogoza et al. (2022), which emphasized the defensive and protective mechanisms individuals displaying vulnerable narcissistic traits employed to shield their fragile sense of self.

Although vulnerable narcissism was predominant in the sample, grandiose narcissism also appeared prominently, particularly through the traits of grandiose admiration and grandiose rivalry. Grandiose admiration, present in 76% of the statements, reflected a pronounced desire for self-promotion, recognition, and admiration from others. This finding aligned with prior research on grandiose narcissism in serial killers, which had associated traits like dominance, self-aggrandizement, and attention-seeking with violent behavior (Back et al. 2013). Individuals with these traits have been described in prior research as tending to perceive themselves as superior and, in some cases, may have framed their crimes as opportunities to reinforce a sense of uniqueness and importance (Back et al. 2013; Hale 1993; Ressler et al. 1988).

Complementing grandiose admiration was grandiose rivalry, observed in 71% of the statements, which highlighted the more antagonistic aspects of grandiose narcissism. Serial killers exhibiting grandiose rivalry demonstrated competitive and hostile behaviors, which prior research has interpreted as linked to domination and the protection of perceived superiority (Back et al. 2013; Hale 1993; Ressler et al. 1988). This rivalry frequently manifested in the devaluation of others, particularly victims, as a means of maintaining control and reinforcing their self-worth. The high occurrence of grandiose rivalry in this sample suggested that sexually motivated serial killers may not only have sought admiration but could also have been driven to assert dominance, particularly when they perceived their status or superiority as being challenged (Hale 1993; Meloy 2002; Ressler et al. 1988). Notably, the largest subgroup within the sample exhibited both Grandiose Rivalry and Vulnerable Enmity, reinforcing the frequent pairing of these traits. This co-occurrence suggested that competitive and confrontational tendencies were often accompanied by defensive hostility, creating a narcissistic profile where rivalry and enmity reinforced each other.

The frequent co-occurrence of grandiose admiration and grandiose rivalry—observed in 60% of the sample—suggested that these individuals often alternated between admiration-seeking and rivalry. The size of this subgroup underscores how central this dual dynamic was, as more than half of the offenders displayed both traits simultaneously, supporting the NARC framework's emphasis on the interplay between admiration and rivalry in sustaining a grandiose self-image (Back et al. 2013). This pattern supported the Narcissistic Admiration and Rivalry Concept (NARC) proposed by Back et al. (2013), which posited that individuals with grandiose narcissistic traits employed both admiration-seeking and rivalrous behaviors to sustain their inflated self-image. In the context of sexually motivated serial killers, this dual strategy has been described in prior research as manifesting in behaviors that both seek to impress and assert dominance, functioning to protect a fragile sense of superiority (Back et al. 2013; Pincus et al. 2009; Reid et al. 2019).

The frequent co-occurrence of Grandiose Rivalry and Grandiose Admiration suggested a thematic overlap where competitiveness and a need for admiration often occurred together, reflecting a complex interplay of narcissistic traits. Conversely, the lower intersection of Vulnerable Enmity with grandiose traits suggested that vulnerable narcissism functioned more independently, reinforcing its distinction from the grandiose dimensions. The frequent overlap of these traits within the same segments suggested that individuals who exhibited grandiose admiration—characterized by a need for validation and recognition—often concurrently displayed rivalrous behaviors, which could be understood as attempts to assert dominance (Back et al. 2013; Pincus et al. 2009). This intersection highlighted how admiration-seeking and competitive behaviors possibly reinforced one another within a single psychological profile, forming a cohesive pattern of grandiose narcissism.

In contrast, Vulnerable Enmity emerged as more conceptually distinct, as it intersected less frequently with these grandiose traits. This pattern suggested that vulnerable narcissism, defined by internal hostility and hypersensitivity to perceived slights, functioned independently from the outwardly directed grandiose traits. The observed separation between these dimensions further accentuated the divergence between vulnerable and grandiose narcissism, pointing to distinct psychological mechanisms underlying each form. Specifically, the lower co-occurrence of vulnerable traits with grandiose traits, along with the more polarized manner in which vulnerable traits manifested—appearing strongly in some individuals while being absent in others—contrasted with the more fluid co-occurrence of grandiose traits. This finding suggested that grandiose traits were less extreme or polarizing in their expression as compared with

vulnerable traits, which appeared to occur in a dichotomous manner in the present sample. The significant distinctions in vulnerable traits highlighted their importance in understanding offender profiles, supporting previous literature that has emphasized the distinct psychological roles of vulnerable narcissism in maladaptive and hostile behaviors (Pincus et al. 2009), while earlier studies tended to focus more broadly on malignant narcissism or NPD without distinguishing subtypes (Pasqualetti 2013; Schlesinger 1998). The high co-occurrence of grandiose traits—admiration and rivalry—suggested that these dimensions were not isolated but frequently manifested together, reinforcing the idea that sexually motivated serial killers exhibited both self-enhancing and competitive-hostile tendencies.

The proximity analysis of narcissistic traits revealed significant patterns in how these traits co-occur within the same statements, offering insights into the interplay between grandiose and vulnerable dimensions of narcissism. The frequent co-occurrence of Grandiose Admiration and Grandiose Rivalry, for instance, stressed the dual mechanisms by which serial killers sustained their inflated self-image. Individuals displaying grandiose traits not only sought admiration but were also described in prior research as reacting antagonistically when their perceived superiority was challenged (Back et al. 2013; Meloy 2002). This proximity suggested that these behaviors were interdependent rather than isolated, reflecting the Narcissistic Admiration and Rivalry Concept (NARC), where admiration-seeking and rivalry serve as two interconnected aspects of grandiose narcissism (Back et al. 2013). The consistent overlap of these codes indicated that serial killers often alternated between seeking external validation and asserting dominance, navigating both strategies to reinforce their sense of power.

By contrast, Vulnerable Isolation appeared more distanced from these grandiose traits, suggesting that behaviors associated with social withdrawal and self-protection seldom aligned with outward displays of grandiosity. This finding supported the conceptualization of vulnerable narcissism as an internally focused construct; serial killers exhibiting vulnerable isolation tended to avoid social interactions, which has been described in prior research as a way of safeguarding fragile self-esteem (Rogoza et al. 2022). This separation highlighted how individuals displaying vulnerable narcissistic traits generally adopted more withdrawn and defensive postures, unlike the overtly assertive behaviors characteristic of individuals displaying grandiose narcissistic traits. The reduced proximity of vulnerable traits to Grandiose Admiration and Rivalry further suggested that while vulnerable traits were indeed present, they often manifested as internalized emotional struggles rather than as externalized competition for status.

Further grandiose narcissism traits, including grandiose admiration and rivalry, could provide cues for identifying potential offenders. Serial killers exhibiting grandiose narcissism were prone to self-promotional behaviors, such as boasting about their perceived superiority or seeking recognition through their crimes. This tendency was evident in high-profile cases like Ted Bundy and Dennis Rader, where the killers sought admiration and attention even after their arrests (Booth 2021). For profilers, identifying grandiose behaviors paired with antisocial tendencies is crucial, as this combination may indicate a predisposition toward violence.

Furthermore, the dual presence of both vulnerable and grandiose narcissistic traits in many of these individuals created a distinctive psychological profile, characterized in prior literature as merging emotional fragility with outward aggression (Pincus et al. 2009; Reid et al. 2019). Recognizing the interaction between these traits could enable law enforcement agencies to better anticipate behavioral patterns, potentially allowing for the identification and apprehension of sexually motivated serial killers before their violent behaviors fully escalate.

### Practical Implications

Given the need for more efficient criminal profiling, law enforcement training, and early intervention strategies, recognizing the dual dimensions of narcissism—vulnerable and grandiose—can enhance the precision of psychological assessments used in profiling sexually motivated serial killers. The high prevalence of vulnerable narcissistic traits, such as enmity and isolation, underscores the necessity of identifying emotional fragility and defensive hostility as potential precursors to violent behavior (Reid et al. 2019; Rogoza et al. 2022). Law enforcement agencies and profilers could incorporate behavioral markers of social withdrawal, hypersensitivity to criticism, and paranoia, especially in individuals with a history of childhood trauma, into training protocols.

At the same time, it is important to acknowledge that trait narcissism is much more widespread in the general population than narcissistic personality disorder, which creates a risk of false positives if such traits were used in isolation as profiling tools (Leistedt, Linkowski 2014). Thus, these findings should be considered as one component within a broader investigative framework rather than as predictive markers on their own.

Furthermore, the interplay of grandiose narcissistic traits, such as admiration and rivalry, highlights the need for profiling tools that account for self-promotional behaviors and antagonistic tendencies (Back et al. 2013, 2018). These insights not only aid in anticipating behavioral patterns but also facilitate the development of tailored interventions that

address the psychological underpinnings of these offenders, potentially mitigating the escalation of violent tendencies. Moreover, prior research has noted that some offenders high in narcissistic traits also exhibit cognitive abilities that enable them to manipulate others and evade law enforcement, highlighting the need for refined investigative strategies (Etzler et al. 2023).

Future implications also extend to therapeutic and rehabilitative contexts. Such approaches are relevant for previously convicted perpetrators of sexual aggression rather than for preventative interventions in the community. Understanding the coexistence of vulnerable and grandiose narcissistic traits provides a foundation for creating targeted psychotherapeutic strategies that address both the underlying emotional fragility and outward aggression observed in this group. For example, treatment programs focusing on cognitive-behavioral strategies could help mitigate the internalized hostility and distrust characteristic of vulnerable narcissism while concurrently addressing the maladaptive self-enhancement strategies linked to grandiose traits (Pincus et al. 2009; Rogoza et al. 2022). By addressing both dimensions, such interventions could reduce recidivism rates among convicted serial offenders and improve their overall rehabilitation outcomes.

### Limitations

While this study aimed to address key limitations in previous research—such as limited sample sizes, over-reliance on case studies, and the failure to differentiate among subtypes of narcissism—it is important to acknowledge that some challenges remain. By drawing on a larger, systematically selected sample of 45 offenders and incorporating both grandiose and vulnerable narcissism frameworks, the study improved generalizability and scope. Nevertheless, certain constraints still apply, as discussed below. A primary limitation is the reliance on secondary data from police statements, interrogations, and interviews, which may not fully capture the psychological depth of the individuals studied. Additionally, access to relevant data was constrained by limited digitization of records, resulting in a sample size of 45 cases. This specific sample, drawn solely from male serial killers in the United States, may limit the applicability of the findings to other populations, particularly across genders and cultural contexts.

Another limitation is that the available materials did not provide sufficient information on victim characteristics (e.g., gender, relationship to the perpetrator), which would have allowed for a more nuanced understanding of whether narcissistic traits were expressed differently depending on victim context. Similarly, the retrospective and heterogeneous nature of the statements made it difficult to examine

whether narcissistic traits appeared differently when offenders discussed childhood experiences versus descriptions of their crimes, limiting insights into possible life-stage trajectories of narcissism.

It is also important to note that some facets of narcissism overlap with other constructs such as psychopathy and antisocial personality, and future research will need to disentangle these relationships to determine whether the observed traits reflect specifically narcissistic processes or broader personality pathology. In addition, the reliance on narcissistic traits alone for profiling purposes carries a risk of false positives, given that subclinical narcissistic features are relatively common in the general population and should not be conflated with Narcissistic Personality Disorder.

These limitations suggest the need for further research with broader data sources to enhance understanding of narcissistic traits within diverse samples of serial offenders. Future research could also expand on these findings by exploring how other psychological traits, such as psychopathy, sadism, and impulsivity, interact with narcissism to shape the behaviors of sexually motivated serial killers. Additionally, studies using even larger and more diverse samples will be essential to validating these results and ensuring their generalizability across different populations and cultural contexts. Finally, understanding the developmental pathways that lead to the coexistence of vulnerable and grandiose narcissism in these individuals could help in the development of preventive interventions targeted at at-risk individuals.

## Conclusions

This study highlighted the pronounced presence of both vulnerable and grandiose narcissism in sexually motivated serial killers, revealing a dual psychological dynamic that combines deep-seated insecurity with outwardly directed aggression. Vulnerable narcissism, particularly enmity and isolation, appeared as dominant features, reflecting patterns of hypersensitivity, mistrust, and withdrawal. Grandiose narcissism, expressed through admiration-seeking and rivalry, also featured prominently, underscoring tendencies toward self-promotion and competitive hostility. Taken together, the findings provide a more nuanced understanding of how different narcissistic dimensions may coexist and interact in this offender group. While these traits deepen our knowledge of psychological mechanisms present in sexually motivated serial killers, they should not be interpreted as direct or exclusive predictors of such extreme violence, given that narcissistic tendencies are also present in many individuals who never engage in criminal behavior. The contribution of this research lies in refining theoretical frameworks of

narcissism and offering potential insights for profiling and intervention, while also recognizing the need for caution to avoid overgeneralization.

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**Data Availability** Some of the data used in this study were obtained through Freedom of Information Act (FOIA) requests and contain sensitive information; therefore, these data cannot be made publicly available. Other data used in the study were sourced from publicly available records. The reported studies were preregistered and all materials are available online on OSF.

## Declarations

**Ethical Approval** This research received ethical approval from the Ethics Committee of the University of Bamberg.

**Competing interests** The authors declare no competing interests.

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