Journal of Personality and Social Psychology:
Personality Processes and Individual Differences

© 2025 American Psychological Association
ISSN: 0022-3514

https://doi.org/10.1037/pspp0000547

Narcissists' Experience of Ostracism

Christiane M. Büttner[1], Selma C. Rudert[2], Elianne A. Albath[1], Chris G. Sibley[3], and Rainer Greifeneder[1]
[1] Department of Social Psychology, University of Basel
[2] Department of Social Psychology, University of Kaiserslautern-Landau
[3] School of Psychology, University of Auckland

Ostracism—being excluded and ignored—has severe, negative consequences. What is less clear is why some individuals become frequent targets of ostracism in the first place. In two nationally representative panel surveys, one experience sampling study, and six experiments (N_{total} = 77,289), we examine associations between grandiose narcissism and ostracism. Cross-sectional panel data (Study 1) and a 14-day experience sampling study (Study 2) show a strong link between narcissism and reporting ostracism more frequently. Subsequent studies provide insight into three mechanisms underlying this relationship: First, experiments show that narcissists are more sensitive to ambiguous but not to unambiguous exclusion cues (*negative perceptions mechanism*; Studies 3a, 3b, and 3c; integrative data analysis; and Study 4). Second, other individuals exclude narcissists more often because of their narcissistic traits (*target behavior mechanism*, Studies 5 and 6). This holds true both when narcissistic traits, especially narcissistic rivalry, are explicitly described and when narcissistic traits are implicitly inferred from short introduction videos. Finally, Study 7 longitudinally tests over 14 years whether narcissism is an antecedent *and* outcome of frequent exclusion. Supporting a *reverse causality mechanism*, deviations in ostracism were followed by deviations in narcissism 1 year later, and vice versa. Our findings demonstrate how negative perceptions, target behavior, and reverse causality together determine who gets ostracized, from the perspective of those who get ostracized and those who decide to ostracize. We discuss how the present approach can be used as a framework to understand personality risk factors for frequent negative social experiences.

Keywords: ostracism, social exclusion, grandiose narcissism, rivalry, admiration

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Gregory D. Webster served as action editor.
Christiane M. Büttner https://orcid.org/0000-0001-6296-2756
Selma C. Rudert https://orcid.org/0000-0001-5986-2447
Elianne A. Albath https://orcid.org/0000-0001-6213-124X
Chris G. Sibley https://orcid.org/0000-0002-4064-8800
Rainer Greifeneder https://orcid.org/0000-0002-0725-5626

All materials, analysis code, and data are available via the Open Science Framework (https://osf.io/hda4c). There are two exceptions: Data for Study 1 underly data protection laws. Access to the data is granted to all researchers via an application to the German Institute for Economic Research (https://www.diw.de/en/diw_02.c.222829.en/access.html). For Study 1, the authors therefore only provide the analysis code. Data for Study 7 are part of the New Zealand Attitudes and Values Study and are available from any member of the New Zealand Attitudes and Values Study advisory board. The analysis code used to test all models reported in this article is available on the Open Science Framework (https://osf.io/hda4c). The authors preregistered all hypotheses, sample size, exclusion criteria, and analysis plans of the experience sampling and experimental studies on AsPredicted (Study 2 study procedure: https://aspredicted.org/THK_7DZ, Study 2 specific hypotheses: https://aspredicted.org/KCV_QDP, Study 3a: https://aspredicted.org/xvwy-8zps.pdf, Study 3b: https://aspredicted.org/tgpq-srmh.pdf, Study 3c: https://aspredicted.org/qt3p-4gdt.pdf, Study 4: https://aspredicted.org/8cxt-jwkz.pdf, Study 5: https://aspredicted.org/zpdy-mnxk.pdf, Study 6: https://aspredicted.org/kyqg-7msy.pdf). All studies' procedures were approved by the University of Basel's Institutional Review Board and conform to the Declaration of Helsinki.

The authors declare that there are no conflicts of interest. This research was supported by Grant P000PS_207236/1 from the Swiss National Science Foundation awarded to Christiane M. Büttner. Study 7 was supported by the Templeton Religion Trust, Grant TRT-2021-10418 awarded to Chris G. Sibley. This research was funded in whole, or in part, by the Swiss National Science Foundation (Grant P000PS_207236/1). For the purpose of open access, the author has applied a CC BY public copyright license to any Author Accepted Manuscript version arising from this submission.

The authors thank Anna-Marie Bertram, Nina Frings, Lara Geniale, Thea Giger, Sarah Imhof, Svenja Kremer, Leyre Macías, Theresa Möst, Nataša Rakić, Shaumya Sankar, Daniel Strebel, and Matthias Stutz for assisting with study programming, study material development, data collection, and/or data preparation. They are very grateful to Louis Tay and everyone at Expiwell (https://www.expiwell.com) for their help in using the experience sampling app for Study 2. They also thank Katharina Geukes and Mitja Back for providing the videos and measures from the personality interaction laboratory study (PILS) study for Study 6.

Christiane M. Büttner played a lead role in conceptualization, data curation, formal analysis, funding acquisition, investigation, methodology, project administration, supervision, visualization, writing–original draft, and writing–review and editing. Selma C. Rudert played a supporting role in conceptualization, methodology, and writing–review and editing. Elianne A. Albath played a supporting role in conceptualization, formal analysis, methodology, visualization, writing–original draft, and writing–review and editing. Chris G. Sibley played a supporting role in conceptualization, data curation, funding acquisition, investigation, methodology, and writing–review and editing. Rainer Greifeneder played a supporting role in conceptualization, methodology, supervision, and writing–review and editing.

Correspondence concerning this article should be addressed to Christiane M. Büttner, Department of Social Psychology, University of Basel, Missionsstrasse 64a, 4055 Basel, Switzerland. Email: c.buettner.psy@gmail.com

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Ostracism refers to the experience of being left out, ignored, or socially excluded (Williams, 2009). Prior research has emphasized the consequences of being excluded, showing robust and strong negative effects for the ostracized individual (e.g., C. M. Büttner & Greifeneder, 2024; Chen et al., 2020; Rudert, Janke, & Greifeneder, 2021). Considerably less research has been devoted to the question *why* some individuals are ostracized in the first place. The present contribution seeks to examine associations of narcissism[1] with the frequency of experiencing ostracism in everyday life. While narcissism is associated with feelings of entitlement and self-centeredness, different phenotypes of narcissists have been categorized (see Miller et al., 2021 for an overview). Two of these phenotypes are especially prominent in prior research: Grandiose and vulnerable narcissists (sometimes also termed overt and covert narcissists; Cain et al., 2008; Dickinson & Pincus, 2003). The present contribution focuses on *grandiose* narcissists.[2] Grandiose narcissism is associated with entitled, self-centered, immodest, dominant, manipulative, and self-enhancing behavior (e.g., Back et al., 2013; Kaufman et al., 2020; Poggi et al., 2019). Previous experimental research suggests that grandiose narcissism is associated with higher neurological activation after ostracism (Cascio et al., 2015), although individuals with higher levels of grandiose narcissism do not necessarily report higher threat to psychological needs that are typically threatened by ostracism (e.g., Brunell et al., 2021; Cascio et al., 2015; Fossati et al., 2017; Mazinani et al., 2021). However, individuals with higher levels of grandiose narcissism react to ostracism with stronger retaliatory aggression toward the ostracism sources (e.g., Chester & DeWall, 2016), as well as toward uninvolved others (Twenge & Campbell, 2003). Moreover, individuals with higher levels of narcissism display increased acceptance of violence following exclusion (Blinkhorn et al., 2021), as well as higher endorsement of sexual coercion (Lamarche & Seery, 2019). This body of experimental research has in common that it focuses on reactions to singular, short, experimentally induced ostracism episodes (e.g., in Cyberball, see Williams et al., 2000). To our knowledge, no prior study has documented associations of real-life ostracism experiences with higher levels of narcissism. We assume that in addition to their more intense reactions to ostracism, individuals with higher levels of narcissism may report and experience ostracism more frequently than individuals with lower levels of narcissism. Drawing on recent findings on how personality might influence ostracism experiences (e.g., Rudert, Hales, & Büttner, 2021; Rudert, Keller, et al., 2020) and earlier work on the influence of personality on experiencing interpersonal conflict (e.g., Nielsen et al., 2017; Nielsen & Knardahl, 2015), at least three mechanisms may explain the association between higher levels of narcissism and more frequent reports of ostracism, as detailed in the following paragraphs.

Narcissism as a Risk Factor for Everyday Ostracism—Negative Perceptions

Feeling ostracized is a subjectively construed experience based on the perception of social cues by the target (Rudert & Greifeneder, 2016). Individuals may be intentionally ostracized by others, or merely believe that others ostracized them, when in fact they did not, or at least did not mean to. For example, individuals may feel ignored when they no longer receive text messages (e.g., Smith & Williams, 2004), when they are not included in social media posts (e.g., C. M. Büttner & Rudert, 2022; Kenntemich et al., 2024; Lutz et al., 2024), or if eye contact is missing (e.g., Wesselmann et al., 2012; Wirth et al., 2010), independent of the reason. Because the ostracism detection system will invariably set off the alarm when belonging is threatened (Williams, 2009), factual as well as misperceived ostracism likely hurt to a similar extent, and cause similar consequences. This notion is supported by recent evidence that ostracism hurts to the same extent even when ostracism was expected (Jauch et al., 2023), when it originated from a nonhuman agent (Jauch et al., 2022), or when ostracism was experienced repeatedly (C. M. Büttner, Jauch, et al., 2024). Against this background, individuals with a higher tendency to perceive or misperceive ostracism may report ostracism more frequently. Here, we argue that individuals with higher levels of narcissism might be more sensitive to exclusion cues than individuals with lower levels of narcissism, thereby perceiving to be more frequently ostracized (*negative perceptions mechanism*; Nielsen & Knardahl, 2015). The notion that individuals with higher levels of narcissism may be especially, or even overly, sensitive in their perception of exclusion cues is consistent with earlier findings that narcissists monitor their social surroundings carefully, with hostility and suspiciousness (Rhodewalt & Morf, 1995), and are very attentive to social cues in general, especially status-related cues (Grapsas et al., 2020). Moreover, individuals with higher levels of narcissism are more sensitive to perceiving social interactions as negative (e.g., Cascio et al., 2015; Fossati et al., 2017; Poggi et al., 2019). For instance, narcissists report experiencing more transgressions in everyday life (McCullough et al., 2003). This perception might be rooted in a lower threshold for perceiving transgressions, that is, narcissists' need to preserve their grandiose self-image might lower their thresholds for taking offenses in everyday interactions. Taken together, earlier research supports the idea that individuals with higher levels of narcissism may perceive ostracism more readily because they are more vigilant toward social cues (e.g., Grapsas et al., 2020), specifically toward exclusion cues (e.g., Fossati et al., 2017), and they also report more interpersonal conflict in daily life (e.g., McCullough et al., 2003).

Narcissism as a Risk Factor for Everyday Ostracism—Target Behavior

Ostracism is often motivated. Most individuals do not ostracize others maliciously or recklessly (e.g., Rudert et al., 2018, 2023; Rudert, Keller, et al., 2020). Instead, ostracism is a strategic tool to serve group goals, such as to protect the group from individuals that do not contribute to or even harm the group (e.g., Kurzban & Leary, 2001; Rudert et al., 2017, 2023), for example, based on their personality (e.g., Rudert, Hales, & Büttner, 2021; Rudert, Keller, et al., 2020). As such, narcissists may be factually ostracized more frequently, because they cause disruption in groups or violate social norms (*target behavior mechanism*; Nielsen & Knardahl, 2015). Grandiose narcissists' behavior may be

[1] Narcissism is a continuous trait. For reasons of readability and consistent with earlier research (e.g., Leckelt et al., 2015), we refer to individuals with relatively higher narcissism scores as "narcissists" from hereon.

[2] Data for vulnerable narcissism are available for Studies 2, 3a, 3b, 3c, 4, and the supplementary pilot experience sampling study. These analyses are reported within the analysis scripts as additional online material Open Science Framework (OSF: https://osf.io/hda4c).

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

particularly disruptive and norm-violating, thereby threatening group goals: Narcissists often display antagonistic (e.g., Leckelt et al., 2015; Roche et al., 2013), aggressive (e.g., Martinez et al., 2008; Reidy et al., 2010), intolerant (Wallace et al., 2016), belittling (Grapsas et al., 2020), quarrelsome (Wright et al., 2017), dishonest (e.g., Schröder-Abé & Fatfouta, 2019), or rude behavior (e.g., Holtzman et al., 2010; Peterson & DeHart, 2014). Regarding their behavior in groups specifically, grandiose narcissists care about status more than about belongingness (Zeigler-Hill et al., 2019), so they may not contribute to communal goals if those goals do not serve their egoistic interests (Campbell et al., 2005). Narcissists are more likely to bully others (Baughman et al., 2012), not help others (Lannin et al., 2014), and break social norms, if they receive attention by doing so (Adams et al., 2014; Watson & Morris, 1991). Particularly, breaking social norms has been linked to decisions to ostracize (e.g., Rudert et al., 2023). Moreover, narcissists are less agreeable in interactions (e.g., Holtzman et al., 2010)—a personality trait prominently involved in decisions to ostracize (e.g., Hales et al., 2016; Rudert, Keller, et al., 2020). Reviewing these traits and behaviors, it is not surprising that narcissists struggle to maintain positive relationships (e.g., Kaufman et al., 2020), which may be linked to experiencing and reporting ostracism more frequently. The above-outlined traits and behaviors may pose a threat to a group's goals and may make other group members more likely to exclude individuals with higher levels of narcissism. This notion is further supported by findings that individuals with higher levels of narcissism report experiencing more negative social interactions (e.g., Dickinson & Pincus, 2003; Leckelt et al., 2015; Wurst et al., 2017) and that this might be due to their general behavioral and affective dysregulation in interpersonal conflicts (e.g., Czarna et al., 2021; Dashineau et al., 2019).

Narcissism as a Risk Factor for Everyday Ostracism—Reverse Causality

Third, narcissism may not only be an antecedent of experiencing ostracism but also an outcome (*reverse causality mechanism*; Nielsen & Knardahl, 2015). Similar relations have been demonstrated between other personality traits and interpersonal conflicts: For example, while personality traits may predict experiencing workplace harassment, personality can also change as a reaction to workplace harassment experiences (Nielsen & Knardahl, 2015). Ostracism experiences have also been documented to affect targets' personality traits, for example, in lowering agreeableness, conscientiousness, openness, and extraversion, but increasing neuroticism (e.g., Hales et al., 2016; Wirth et al., 2024). In general, however, there is little research on reverse causality mechanisms between target personality traits and interpersonal conflicts, because longitudinal data are missing (Nielsen et al., 2017)—a gap we intend to close here.

The Present Research

In the present contribution, we examine the association between narcissism and experiencing ostracism. To summarize, we hypothesize that individuals with higher levels of grandiose narcissism report ostracism more frequently than individuals with lower levels of grandiose narcissism. This hypothesis is grounded in three distinct conceptual mechanisms: First, more frequent reports of ostracism may be rooted in narcissists' perception of social cues (i.e., *negative perception mechanism*; e.g., Cascio et al., 2015; Grapsas et al., 2020). Second, individuals with higher levels of narcissism may display group-disturbing behaviors that motivate others to factually exclude them more often (i.e., *target behavior mechanism*; e.g., Brunell et al., 2011; Leckelt et al., 2015). Third, there might be a *reverse causality* relationship between narcissism and ostracism experiences, where narcissism is also a consequence of being excluded repeatedly over time—a mechanism that is often missed in cross-sectional study designs, because it requires repeated measurements (Nielsen & Knardahl, 2015). Importantly, these mechanisms may exist side by side, as the complex link between personality and ostracism is likely driven by more than one singular mechanism.

In Study 1, using a nationally representative sample, we investigate the link between narcissism and the retrospective frequency of experiencing ostracism. In Study 2, we replicate this investigation using experience sampling data to explore everyday ostracism experiences of individuals with higher levels of narcissism. Additionally, Study 2 examines the role of narcissism in the accuracy of retrospectively estimating the frequency of being ostracized. Studies 3a, 3b, 3c, an integrative data analysis, and Study 4 test whether the relation between narcissism and ostracism is due to narcissists perceiving and classifying certain experiences more frequently as ostracism (i.e., *negative perceptions* mechanism), both for unambiguous (Studies 3a–3c and integrative data analysis) and more ambiguous social interactions (Study 4). Studies 5 and 6 test whether others indeed exclude narcissists more frequently (i.e., *target behavior* mechanism), both when explicitly learning about a collaborator's narcissistic traits (Study 5), and implicitly when inferring narcissists' traits from short introduction videos (Study 6). Finally, Study 7 examines the possible *reverse causality* relationship between ostracism and narcissism in a random-intercept cross-lagged panel model with measurements across 14 years. Specifically, we investigate whether deviations in ostracism are followed by deviations in narcissism 1 year later, and vice versa.

Method Statement

Transparency and Openness

All materials, analysis code, and data are available via the OSF (https://osf.io/hda4c; C. Büttner, Rudert, et al., 2024). There are two exceptions: Data for Study 1 underly data protection laws. Access to the data is granted to all researchers via an application to the German Institute for Economic Research (https://www.diw.de/en/diw_02.c.222829.en/access.html). For Study 1, we therefore only provide the analysis code. Data for Study 7 are part of the New Zealand Attitudes and Values Study (NZAVS) and are available from any member of the NZAVS advisory board. The analysis code used to test all models reported in this article is available on the OSF (https://osf.io/hda4c). We preregistered all hypotheses, sample size, exclusion criteria, and analysis plans of the experience sampling and experimental studies on AsPredicted (Study 2 study procedure: https://aspredicted.org/THK_7DZ, Study 2 specific hypotheses: https://aspredicted.org/KCV_QDP, Study 3a: https://aspredicted.org/xvwy-8zps.pdf, Study 3b: https://aspredicted.org/tgpq-srmh.pdf, Study 3c: https://aspredicted.org/qt3p-4gdt.pdf, Study 4: https://aspredicted.org/8cxt-jwkz.pdf, Study 5: https://aspredicted.org/zpdy-mnxk.pdf, Study 6: https://aspredicted.org/kyqg-7msy.pdf).

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Effect Size Measures

As effect size measures, we report correlation coefficients *r* for correlations, regression coefficients *b* for regression analyses, mixed-effects models, and the random-intercept cross-lagged panel model (RI-CLPM; Hamaker et al., 2015), Cohen's *d* for *t* tests and power analyses with Power ANalysis for GEneral Anova designs (PANGEA; Westfall, 2015), and Odd's ratios (*OR*s) for logistic regression models. Further, we report 95% confidence intervals (CI) for all effect sizes.

We report how we determined our sample sizes, all data exclusions (if any), all manipulations, and all measures in each study.

Study 1

Study 1 tests if individuals with higher narcissism scores retrospectively report more frequent ostracism than individuals with lower narcissism scores. We test this hypothesis with survey data from the innovation sample of the socioeconomic panel (see Goebel et al., 2019), an annual, nationally representative survey among German adults. We test the following hypothesis:

> *Hypothesis 1:* Participants with higher compared to lower levels of grandiose narcissism report more frequent ostracism during the last 2 months.

Moreover, ostracism typically threatens the need for self-esteem (e.g., Williams, 2007). At the same time, narcissism relates to a fragile sense of self-esteem (e.g., Bosson et al., 2008; Brummelman et al., 2016). It therefore appears important to explore whether self-esteem accounts for the potential effects of narcissism on ostracism frequency.

Method

Participants

We used the innovation sample of the socioeconomic panel wave from 2015 that contained all variables of interest. The innovation sample of the socioeconomic panel data on ostracism experiences has previously been used in publications investigating the relationship of ostracism with employment status (Albath et al., 2023), age (Rudert, Janke, & Greifeneder, 2020), personality (Rudert, Keller, et al., 2020), depression (Rudert, Janke, et al., 2021), sexual orientation (C. M. Büttner, Rudert, & Kachel, 2024), and health care utilization (C. M. Büttner, Lalot, et al., 2024). None of these publications concerned narcissism as a predictor variable. In total, 1,592 participants answered the narcissism and ostracism items (53.77% women, 46.23% men, M_{age} = 52.93, *SD* = 18.37, range = 17–96 years).

Measurements

Grandiose narcissism was assessed with the six-item short form of the Narcissistic Admiration and Rivalry Questionnaire (NARQ, Leckelt et al., 2018). The NARQ differentiates two distinct but related facets: *admiration* and *rivalry*. The admiration facet describes narcissists' ability to charm and manipulate others to self-enhance, while the rivalry facet describes how narcissists devalue others and act aggressively toward them to defend their sense of superiority. Both facets and the associated behaviors relate to the narcissist's urge to maintain a grandiose self-image (e.g., Back et al., 2013). Three items refer to the *admiration* facet "I deserve to be seen as a great personality." (sub-facet *grandiosity*), "Being a very special person gives me a lot of strength." (sub-facet *strive for uniqueness*), and "I manage to be the center of attention with my outstanding contributions." (sub-facet *charmingness*). Three items refer to the *rivalry* facet "I react annoyed if another person steals the show from me." (sub-facet *aggressiveness*), "I want my rivals to fail." (sub-facet *strive for supremacy*), and "Most people are somehow losers." (sub-facet *devaluation*). All items are measured on 6-point Likert scales (1 = *does not apply at all*, 6 = *fully applies*; Cronbach's $\alpha_{overall}$ = .80; Cronbach's $\alpha_{admiration}$ = .82; Cronbach's $\alpha_{rivalry}$ = .60[3]). Ostracism was measured with the four-item Ostracism Short Scale (Rudert, Keller, et al., 2020). Participants answer the question "In the last two months, how often have you experienced the following?" with respect to: "Other people have ignored me," "Other people have shut me out from conversations," "Other people have treated me as if I was not there," "Other people have excluded me from activities," on 7-point Likert scales indicating frequency (1 = *never*, 7 = *always*; Cronbach's α = .85). Self-esteem was assessed with one item ("I have a positive attitude toward myself," 1 = *not at all*, 7 = *applies fully*, *M* = 5.64, *SD* = 1.26, translated from Robins et al., 2001).

Results

As expected, narcissism and ostracism showed significant positive associations (see Table 1), indicating that higher narcissism levels are associated with more frequent retrospective ostracism. Interestingly, the associations reflected a stronger relationship between ostracism and the rivalry facet compared to the admiration facet of narcissism. The associations are depicted in Figure 1.

Exploratory Analysis: Self-Esteem

Narcissism Overall Score. Self-esteem correlated negatively with ostracism, $r(1{,}590) = -.20$, 95% CI [−.24, −.15], $p = .001$, but not with narcissism, $r(1{,}590) = -.001$, 95% CI [−.06, .04], $p = .786$. To find out whether narcissism explains variance in ostracism frequency above and beyond the association of ostracism with self-esteem, we conducted hierarchical linear regressions. Following the suggestions by Westfall and Yarkoni (2016) for estimating incremental validity in regression models using single predictors, we adjusted the predictors by their reliability (for the single-item measure of self-esteem, we assumed a reliability of .80) and then mean-centered them. Table 2 summarizes the results. Model comparison showed that narcissism explains an additional 6.60% of the variance in ostracism frequency, above and beyond the association of self-esteem and ostracism, $F(1, 1{,}589) = 62.10$, $p < .001$. We therefore conclude that the association of narcissism and ostracism is not a mere byproduct of their association with self-esteem.

Narcissism Admiration. Self-esteem did not significantly correlate with narcissism admiration, $r(1{,}587) = .05$, 95% CI [−.003, .09], $p = .067$. We followed the same approach as before and summarize the results in Table 2. Model comparison showed that narcissism admiration explains an additional 2.92% of the variance in ostracism

[3] This rather low reliability score has been found in earlier validations of the short NARQ-S and has been ascribed to its brevity (Leckelt et al., 2018).

Table 1
Descriptive Statistics and Associations of Narcissism and Ostracism in Study 1, N = 1,592

Variable	*M*	*SD*	Range	1	2	3	4
1. Ostracism frequency	1.75	0.77	1–7	—			
2. Narcissism	2.12	0.88	1–6	.13[a]***, 95% CI [.11, .15]	—		
3. Admiration	2.29	1.14	1–6	.08[a]***, 95% CI [.06, .09]	.90***, 95% CI [.89, .91]	—	
4. Rivalry	1.95	0.89	1–6	.14[a]***, 95% CI [.11, .16]	.84***, 95% CI [.82, .85]	.52***, 95% CI [.48, .55]	—

Note. Correlation coefficients are reported. CI = confidence interval.
[a] For models with skewness of residuals >1.00, ostracism was log-transformed, and regression coefficients are reported.
*** $p < .001$.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

frequency, above and beyond the association of self-esteem and ostracism, $F(1, 1{,}586) = 63.53$, $p < .001$. Therefore, the association of narcissism admiration and ostracism also goes beyond associations with self-esteem.

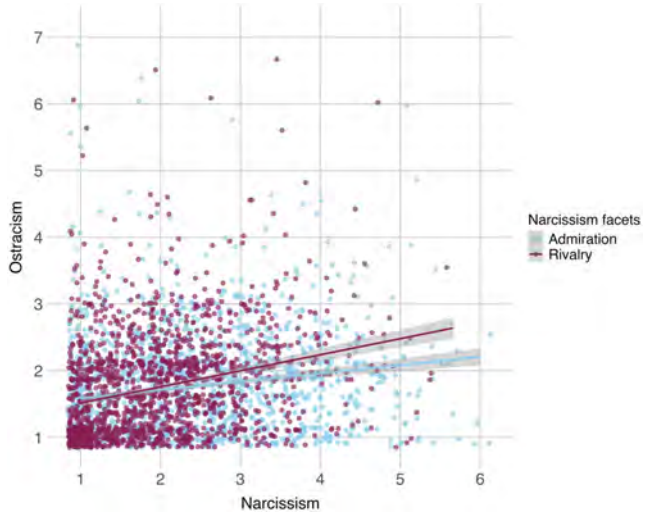
Narcissism Rivalry. Self-esteem correlates significantly with narcissism rivalry, $r(1{,}587) = -.07$, 95% CI [−.12, −.02], $p = .006$. We followed the same approach and summarize the results in Table 2. Model comparison showed that narcissism rivalry explains an additional 6.77% of the variance in ostracism frequency, $F(1, 1{,}586) = 122.31$, $p < .001$. Therefore, the association of narcissism rivalry and ostracism also goes beyond the associations with self-esteem.

Discussion

Using a nationally representative large-scale longitudinal sample, we show that individuals with higher levels of narcissism retrospectively report getting ostracized more frequently than individuals with lower levels of narcissism. Interestingly, this correlation was stronger for the rivalry compared to the admiration facet of narcissism. This corresponds to earlier research showing that especially the rivalry facet and the associated behaviors hamper popularity, whereas the admiration facet of narcissism may increase popularity, at least initially (Leckelt et al., 2015). Potentially, the antagonistic, rivalry side of grandiose narcissists may cause ostracism, thus pointing to a potential *target behavior* mechanism.

The representative sample analyzed in Study 1 provides new insights and allows for high generalizability. Assessing data with representative samples, however, often comes at the cost of relying on very few questions only that, in our case, referred to a rather extended time interval (i.e., 2 months). Because retrospective recall is subject to systematic and unsystematic influences (e.g., Ebner-Priemer & Trull, 2009; Napa Scollon et al., 2009), one could argue that the frequency measures we employed do not offer a veridical reflection of the actual number of exclusion situations that narcissists encounter. We address these concerns in Study 2, using an experience sampling approach that allows for higher measurement precision.

Figure 1
Narcissism (Admiration and Rivalry) Predicting Ostracism Frequency in Study 1



Note. Gray areas around regression lines represent standard errors. See the online article for the color version of this figure.

Study 2

Study 2 uses an experience sampling approach[4] to assess experiences of everyday ostracism depending on individuals' level of narcissism. Experience sampling is an umbrella term for assessing participants' affect, cognition, and behavior outside of the lab, for example, using participants' smartphones as sampling devices (e.g., Christensen et al., 2003). While minimizing recall biases due to the assessments being situated proximally to the event of interest (e.g., Napa Scollon et al., 2009), experience sampling allows to capture real-life experiences, thereby increasing external validity. Thus, experience sampling may capture narcissists' everyday perceptions of being excluded more accurately. Extending Study 1 further, we use the extended measure of NARQ (Back et al., 2013) to ensure higher reliability when looking at the admiration and rivalry subfacets separately.

Data collection was split into two phases: First, in the prescreening survey, participants filled out trait measures, including measures of narcissism. Next, they started the experience sampling part.

[4] We conducted a pilot experience sampling study with 113 participants over 21 days, please see OSF (https://osf.io/hda4c) for data, materials, and analysis code, as well as a summary of the results. The results generally align with those of Study 2; however, the pilot study used a dichotomized measure of narcissism, and there were technical difficulties at the sampling start which caused significant dropout.

Table 2
Hierarchical Linear Regressions Adjusted for Reliability Assessing the Effects of Narcissism, Admiration, Rivalry, and Self-Esteem on Ostracism Frequency in Study 1

Examined effect	*b*	*p*	R^2	VIF
Step 1				
Intercept	1.75, 95% CI [1.71, 1.78]	<.001	.038	
Self-esteem	−0.11, 95% CI [−0.13, −0.08]	<.001		
Step 2—Predictor narcissism				
Intercept	1.75, 95% CI [1.71, 1.78]	<.001	.103	
Self-esteem	−0.11, 95% CI [−0.13, −0.08]	<.001		1.00
Narcissism	0.20, 95% CI [0.16, 0.24]	<.001		1.00
Step 2—Predictor narcissism admiration				
Intercept	1.75, 95% CI [1.71, 1.78]	<.001	.074	
Self-esteem	−0.11, 95% CI [−0.14, −0.09]	<.001		1.00
Narcissism admiration	0.12, 95% CI [0.09, 0.15]	<.001		1.00
Step 2—Predictor narcissism rivalry				
Intercept	1.75, 95% CI [1.71, 1.78]	<.001	.106	
Self-esteem	−0.10, 95% CI [−0.12, −0.07]	<.001		1.00
Narcissism rivalry	0.18, 95% CI [0.15, 0.21]	<.001		1.00

Note. VIF = variance inflation factor; CI = confidence interval.

We test two sets of hypotheses. First, in line with Study 1, we test:

Hypothesis 1: Participants with higher levels of narcissism report more frequent ostracism during the last 2 months (i.e., in the pre-screening survey).

Hypothesis 2: Participants with higher levels of narcissism report more situations of everyday ostracism (i.e., in the experience sampling main study).

Moreover, in Study 2, we implemented a measure to test the *negative perceptions* mechanism, holding that individuals with higher levels of narcissism may be more sensitive in their perception of exclusion. Specifically, as an indicator of negative perception, we aimed to test whether individuals with higher levels of narcissism would retrospectively overestimate the number of ostracism experiences they had reported (see e.g., De Beurs et al., 1992; Ebner-Priemer & Trull, 2009) and whether they thought that they got ostracized more frequently than other people.

Hypothesis 3a: Participants with higher compared to lower levels of narcissism retrospectively estimate reporting more ostracism experiences than they actually reported.

And, based on narcissists' tendencies to self-victimize (McCullough et al., 2003), we also test whether:

Hypothesis 3b: Participants with higher compared to lower levels of narcissism retrospectively estimate reporting more ostracism experiences *compared to other people*, while controlling for the actual sum of ostracism experiences per participant.

Moreover, in exploratory fashion, we seek to test, as it was argued before, but, to our knowledge, never tested, whether individuals with higher levels of narcissism have higher rejection sensitivity (e.g., Cascio et al., 2015; Fossati et al., 2017; Poggi et al., 2019), which could make them more prone to perceiving exclusion.

We report methods and results concerning the prescreening part first, followed by the main study's methods and results.[5]

Prescreening

Method

Participants. We preregistered to sample 500 participants. In total, 495 participants (U.S. Americans, gender-balanced sample) completed the prescreening part for £5.65 (duration $M = 47.83$ min) on Prolific. Participants were excluded if they failed attention checks ($n = 2$), if they indicated not having participated in a serious manner (<6 on a 9-point scale, $n = 2$), or if they withdrew consent that their data can be analyzed ($n = 1$). As a consequence, 490 participants were retained in the sample ($M_{age} = 36.71$ years, $SD = 12.95$, 48.78% women, 47.93% men, 3.27% nonbinary).

Materials and Procedure. Participants gave informed consent, reported if they owned a smartphone, and were informed about the procedure of the 14-day study. Next, participants passed an attention check and answered the NARQ (Back et al., 2013; Cronbach's α = .86). Next, retrospective ostracism frequency in the last 2 months was assessed, as in Study 1, with the Ostracism Short Scale (Rudert, Keller, et al., 2020, Cronbach's α = .94). Then, participants reported on their rejection sensitivity with the Rejection Sensitivity Adult Questionnaire (Berenson et al., 2009; Cronbach's α = .84). This questionnaire presents participants with nine short scenarios (e.g., "You ask your parents or another family member for a loan to help you through a difficult financial time."). For each scenario, participants indicate their concern to be rejected (e.g., "How concerned or anxious would you be over whether or not your family would want to help you?") and their expectation to be rejected (e.g., "I would expect that they would agree to help as much as they can"). Expectations are reverse-coded and multiplied with concern ratings so that rejection sensitivity scores can range from 1 to 49 (Berenson et al., 2009). Participants provided demographic information and reported on the seriousness of their participation. Participants were thanked and had the opportunity to withdraw their answers from data analysis. All participants who completed the prescreening were eligible to participate in the experience sampling part.

Results

Table 3 shows all correlations between prescreening measures. As predicted, narcissism correlated positively with retrospective ostracism frequency in the last 2 months, $r(488) = .16$, 95% CI [.07, .25], $p < .001$. More specifically, the rivalry facet, $r(488) = .30$, 95% CI [.22, .38], $p < .001$, correlated significantly with retrospective ostracism frequency, but not the admiration facet, $r(488) = -.01$, 95% CI [−.10, .08], $p = .793$.

Exploratory Preregistered Analysis: Rejection Sensitivity. Rejection sensitivity correlated positively with retrospective ostracism

[5] This study is part of a larger project on everyday ostracism experiences, and the data set has been used in previous investigations of everyday ostracism (C. M. Büttner, Ren, et al., 2024; C. M. Büttner, Rudert, & Kachel, 2024; C. M. Büttner & Greifeneder, 2024). We here focus on describing everyday ostracism experiences of grandiose narcissists and only report the variables needed for these analyses.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Table 3
Zero-Order Correlations and Descriptive Statistics in the Prescreening for Study 2, and Experience Sampling Ostracism Frequency in the Main Study 2

Variable	*M*	*SD*	Range	1	2	3	4	5	6
1. Retrospective ostracism frequency	2.58	1.50	1–7	—					
2. Grandiose narcissism	2.72	0.85	1–5.67	.16*** [.07, .25]	—				
3. Admiration	3.21	1.15	1–6.56	−.01 [−.10, .08]	.85*** [.82, .87]	—			
4. Rivalry	2.23	0.95	1–5.56	.30*** [.22, .38]	.76*** [.72, .80]	.30*** [.21, .38]	—		
5. Rejection sensitivity	13.09	6.88	1–46.67	.46*** [.39, .53]	−.02 [−.11, .07]	−.21*** [−.30, −.13]	.23*** [.14, .31]	—	
6. Experience sampling ostracism frequency	3.06	3.77	0–26	.17** [.06, .27]; .24[a]*** [.14, .34]	.13* [.02, .24]; .10[a] [−.007, .21]	.12* [.01, .23]; .07[a] [−.04, .17]	.09 [−.02, .20]; .10[a] [−.006, .21]	.17** [.07, .28]; .21[a]*** [.10, .31]	—

Note. Admiration and rivalry are facets of grandiose narcissism. Experience sampling ostracism frequency denotes the sum score of event-contingent ostracism and time-contingent ostracism reported by each participant. Brackets reflect 95% confidence intervals.
[a] Experience sampling ostracism frequency was severely skewed (skewness = 2.04), we therefore additionally report results with log-transformation ln(+1).
* $p < .05$. ** $p < .01$. *** $p < .001$.

frequency, $r(488) = .46$, 95% CI [.39, .53], $p < .001$, but not with overall narcissism, $r(488) = -.02$, 95% CI [−.10, .07], $p = .666$. However, rejection sensitivity correlated *negatively* with the admiration facet, $r(488) = -.21$, 95% CI [−.30, −.13], $p < .001$, and *positively* with the rivalry facet, $r(488) = .23$, 95% CI [.14, .31], $p < .001$. We conducted hierarchical linear regressions to assess whether narcissism explains variance in ostracism frequency above and beyond the association of ostracism with rejection sensitivity. Again, following the suggestions by Westfall and Yarkoni (2016) for estimating incremental validity in regression models using single predictors, we adjusted the predictors by their reliability and then mean-centered them. We summarize the results in Table 4. Model comparisons showed that overall narcissism explains an additional 2.79% of the variance in ostracism frequency, above and beyond the association of rejection sensitivity and ostracism, $F(1, 487) = 18.80$, $p < .001$. The admiration facet also explains an additional 0.70% of the variance in ostracism frequency, $F(1, 487) = 8.60$, $p = .027$, and the rivalry facet explains an additional 4.14% of the variance in ostracism frequency, $F(1, 487) = 46.58$, $p < .001$, see Table 4. We conclude that the association of narcissism and ostracism explains unique variance beyond their association with rejection sensitivity.

Main Study (Experience Sampling)

Method

Participants. Of the 490 prescreened participants, 323 (M_{age} = 38.04 years, *SD* = 13.15, 48.30% women, 48.60% men, 3.10% nonbinary) participated in the entire 14-day experience sampling study.

Materials and Procedure. Participants downloaded the app Expiwell (https://www.expiwell.com) and the specific study. Using the app, participants could indicate whenever they feel excluded and or ignored (i.e., *event-contingent sampling*). In addition to the event-contingent sampling, each evening, participants indicated if they had experienced ostracism situations during the day that they had not already reported (i.e., *time-contingent sampling*). We introduced this measure to avoid underreporting of exclusion events (e.g., when being excluded during a work meeting, it might not be possible to use the smartphone immediately to report the experience). Moreover, the evening questionnaires were implemented to ascertain that participants were still actively participating in the study. Therefore, participants were only allowed to miss a maximum of two questionnaires per week (i.e., four in total). In a separate survey after the experience sampling ended, we assessed retrospective estimates of ostracism experiences (i.e., "What do you think, summing over the last 14 days, how many situations did you report where you felt excluded and/or ignored?"). We subtracted the actual sum of ostracism experiences from this retrospective assessment reported by each participant, so that 0 reflects accurate recall, a positive score reflects retrospective overestimation, and a negative score reflects retrospective underestimation. We also assessed self-comparisons of participants' own ostracism frequency with that of others (i.e., "Please compare your experiences to those of others. I believe that the number of situations where I felt excluded and/or ignored, totaled over the last 14 days is … 1 = much lower than other people experience, 4 = as many as other people experience, 7 = much higher than other people experience"). In total, 315 participants answered this questionnaire.

Table 4

Hierarchical Linear Regressions Adjusted for Reliability Assessing the Effects of Narcissism, Admiration, Rivalry, and Rejection Sensitivity on Ostracism Frequency in Study 2

Examined effect	*b*	*p*	R^2	VIF
Step 1				
Intercept	2.58, 95% CI [2.46, 2.70]	<.001	.209	
Rejection sensitivity	0.09, 95% CI [0.08, 0.11]	<.001		
Step 2				
Intercept	2.58, 95% CI [2.47, 2.70]	<.001	.237	
Rejection sensitivity	0.09, 95% CI [0.08, 0.11]	<.001		1.00
Narcissism	0.28, 95% CI [0.15, 0.41]	<.001		1.00
Step 2—Predictor narcissism admiration				
Intercept	2.58, 95% CI [2.46, 2.70]	<.001	.216	
Rejection sensitivity	0.10, 95% CI [0.08, 0.11]	<.001		1.05
Narcissism admiration	0.11, 95% CI [0.01, 0.21]	.027		1.05
Step 2—Predictor narcissism rivalry				
Intercept	2.58, 95% CI [2.47, 2.70]	<.001	.250	
Rejection sensitivity	0.08, 95% CI [0.07, 0.10]	<.001		1.05
Narcissism rivalry	0.30, 95% CI [0.19, 0.42]	<.001		1.05

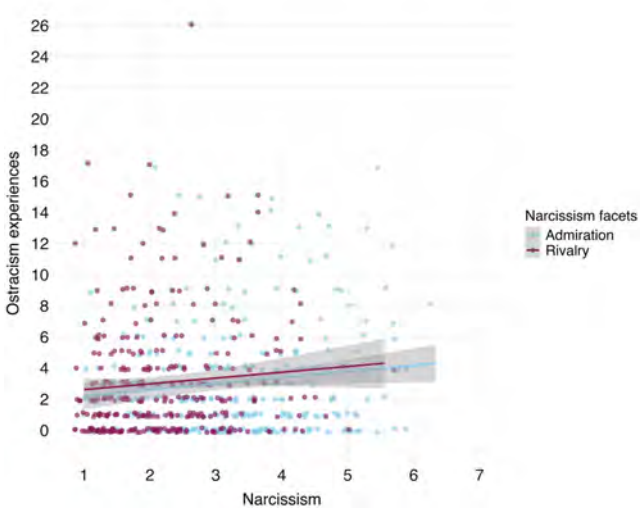
Note. VIF = variance inflation factor; CI = confidence interval.

Results

Participants reported 853 event-contingent events and 254[6] time-contingent events. These were summed to build one score of exclusion experiences per participant for the entire 14 days, which we refer to as experience sampling ostracism frequency in what follows. Experience sampling ostracism frequency correlated positively with narcissism, $r(320) = .13$, 95% CI [.02, .24], $p = .017$. The admiration facet also correlated positively with experience sampling ostracism frequency, $r(320) = .12$, 95% CI [.01, .23], $p = .031$, but the rivalry facet did not, $r(320) = .09$, 95% CI [−.02, .20], $p = .112$, see Figure 2.

Figure 2

Narcissism (Admiration and Rivalry) Predicting Experience Sampling Ostracism Frequency in Study 2



Note. Gray areas around regression lines represent standard errors. See the online article for the color version of this figure.

To test Hypothesis 3a that individuals with higher levels of narcissism retrospectively estimate reporting more ostracism experiences *than they actually reported*, we computed a score of retrospective estimation. On average, participants overestimated the number of reported experiences by almost one experience, $M = 0.92$, $SD = 3.38$, range = −5 to 14. In total, 158 participants (50.48%) accurately estimated the number of reported experiences, 89 participants (28.43%) overestimated, and 66 participants (21.09%) underestimated how many experiences they reported. This estimate correlates positively with narcissism, albeit not significantly, $r(312) = .11$, 95% CI [−.001, .22], $p = .053$, see Figure 3 for a depiction. The same was true for the admiration facet, $r(312) = .09$, 95% CI [−.02, .20], $p = .112$, and the rivalry facet, $r(312) = .08$, 95% CI [−.02, .19], $p = .135$.

While we preregistered the approach to subtract the actual sum of ostracism experiences from participants' retrospective assessment, we acknowledge that difference scores are often criticized for amplifying measurement error (van Breukelen, 2013). Therefore, in exploratory fashion, we also computed a linear regression model using a covariance approach (i.e., using narcissism *and* the actual sum of ostracism experiences as predictors of participants' retrospective assessment). Both overall narcissism, $b = .55$, 95% CI [0.10, 1.01], variance inflation factor (VIF) = 1.01, $p = .018$, and the actual sum of ostracism experiences, $b = .82$, 95% CI [0.72, 0.92], VIF = 1.01, $p < .001$, predicted participants' retrospective assessment. The same results can be observed for the admiration facet, $b = .33$, 95% CI [.004, .65], VIF = 1.01, $p = .048$, but not for the rivalry facet, $b = .38$, 95% CI [−.04, .80], VIF = 1.01, $p = .075$.

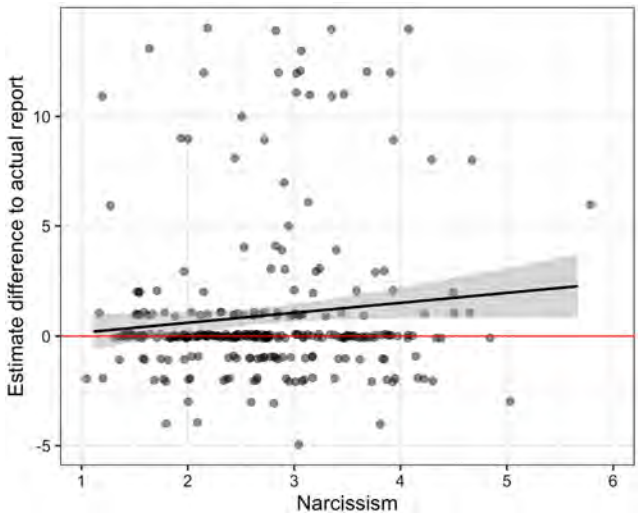
To test Hypothesis 3b, as preregistered, we computed a linear model with individuals' retrospective estimates of reported ostracism experiences *compared to other people* as the dependent variable, while controlling for the actual sum of ostracism experiences per participant. On average, participants reported experiencing slightly less ostracism than others, and a one-sample *t* test confirmed that the mean rating of own ostracism experiences compared to others' ostracism experiences ($M = 3.00$, $SD = 1.29$, range = 1–7) was significantly lower than the midpoint of the scale (4), $t(314) = -13.74$, $p < .001$, $d = -0.77$, 95% CI [−0.90, −0.65]. Narcissism did not significantly correlate with retrospective estimates of reported ostracism experiences *compared to other people*, $r(313) = -.01$, 95% CI [−.11, .10], $p = .917$, and neither did the narcissism admiration, $r(313) = .02$, 95% CI [−.09, .13], $p = .757$, nor the narcissism rivalry facet, $r(313) = -.03$, 95% CI [−.14, .08], $p = .552$. In the linear model, controlling for the actual sum of ostracism experiences per participant and contrary to Hypothesis 3b, narcissism was not associated with individuals' retrospective ostracism experience compared to others, $b = -0.09$, 95% CI [−0.26, 0.07], VIF = 1.01, $p = .250$. However, as detailed before, narcissism was associated with the actual sum of ostracism experiences, $b = 0.14$, 95% CI [0.11, 0.18], VIF = 1.01, $p < .001$. Regarding the facets of narcissism, neither narcissism admiration, $b = -0.03$, 95% CI [−0.15, 0.08], VIF = 1.01, $p = .550$, nor narcissism rivalry, $b = -0.10$, 95% CI [−0.25, 0.05], VIF = 1.01, $p = .182$, was associated with individuals' retrospective ostracism experience compared to others.

[6] We omitted one extreme outlier from analyses who reported 110 additional time-contingent ostracism experiences.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Figure 3

Narcissism Predicting Retrospective Estimate Difference to Actual Number of Reported Ostracism Experiences in the Experience Sampling Part, in Study 2



Note. The horizontal line ($y = 0$) marks accurate recall. Positive values on the *y*-axis represent retrospective overestimation, negative values represent retrospective underestimation. Gray areas represent standard errors. See the online article for the color version of this figure.

Discussion

Study 2 employs experience sampling, revealing that individuals with higher levels of narcissism report more exclusion experiences in daily life compared to less narcissistic individuals. This replicates and extends findings from Study 1 with an in situ measurement. Interestingly, differential effects arose for retrospective versus experience sampling ostracism frequency. In particular, admiration did not significantly correlate with the retrospective frequency of ostracism, potentially because admiration fosters behaviors that make individuals more likable and socially accepted, thus leading to fewer recalled instances of being ostracized (e.g., Back et al., 2013; Leckelt et al., 2015; Miller et al., 2021). Moreover, admiration may bias memory toward remembering positive social interactions and downplaying or forgetting instances of ostracism due to their focus on social validation and likability (e.g., Benson et al., 2019; Miller et al., 2021). The tendency to seek others' approval may further spur selective memory that emphasizes inclusion and minimizes exclusion, leading to fewer recalled instances of being ostracized. Rivalry, in contrast, correlated strongly with retrospective ostracism frequency, likely due to its association with behaviors that provoke negative social reactions and rejection (e.g., Back et al., 2013; Holtzman et al., 2010; Wright et al., 2017). In particular, antagonistic behaviors associated with narcissistic rivalry likely lead to more frequent and memorable instances of conflict, rejection, and ostracism (e.g., Leckelt et al., 2015; McCullough et al., 2003). At the same time, rivalry is associated with a tendency to perceive others more negatively (e.g., Back et al., 2013), and this tendency may spread to a heightened memory of negative social interactions, including ostracism. Together, these biases toward negative social interactions may reinforce their perception of being frequently ostracized, especially in retrospective recall (e.g., Ebner-Priemer & Trull, 2009). Interestingly, different from the associations with retrospective ostracism frequency, both admiration and rivalry correlated positively with experience sampling ostracism frequency. This may reflect that in daily life, individuals high in either facet of narcissism experience more frequent ostracism. However, only admiration ($p = .031$) but not rivalry ($p = .112$) correlated significantly with experience sampling ostracism frequency. This might seem counterintuitive given the adaptive nature of admiration but it could point to others' differential reactions to individuals high in admiration versus individuals high in rivalry: In daily life, individuals high in rivalry may provoke direct conflict through their behavior (e.g., Back et al., 2013; Miller et al., 2021) rather than subtle ostracism. In contrast, individuals high in admiration may be popular and liked by others, therefore, confronting them directly may seem unjustified and reflect badly on the confronting individual (e.g., Rudert et al., 2018). In such cases, ostracism as a more subtle form of punishment for deviating behaviors of individuals high in admiration, like manipulativeness or competitiveness (e.g., Back et al., 2013; Miller et al., 2021), may be the choice of means. Importantly, punishing norm-violating behavior in direct confrontation versus subtle ostracism are often orthogonal behaviors (e.g., Eriksson et al., 2021; Molho et al., 2020; Rudert et al., 2023), supporting the idea that while admiration traits may elicit less direct conflict (e.g., Leckelt et al., 2015), they could elicit more everyday ostracism. To summarize, the differences in the association of narcissism with retrospective recall of ostracism frequency versus experience sampling of ostracism experiences may have two reasons: First, memory plays a greater role in retrospective recall and rivalry may have left stronger traces in biasing memory. Second, experience sampling may have been better fit to capture that, in daily life, ostracism is often the only socially acceptable instrument of punishment for individuals high in admiration while individuals high in rivalry experience direct confrontation and not ostracism.

The present findings may also offer support for the proposed *target behavior mechanism*: There was a positive correlation between the rivalry facet of narcissism and rejection sensitivity. Rejection sensitivity is argued to develop in children after repeated experiences of being rejected (e.g., Downey & Feldman, 1996). As such, one could argue that narcissistic traits such as rivalry correlate positively with rejection sensitivity because rivalry traits foster interpersonally maladaptive narcissistic behaviors (e.g., Back et al., 2013; Holtzman et al., 2010; Wright et al., 2017) that then lead to more frequent ostracism and rejection and, as a consequence, to higher rejection sensitivity (e.g., Downey & Feldman, 1996). Put differently, rivalry behaviors may create a cycle where repeated ostracism reinforces sensitivity to future rejection. In contrast, our findings show that admiration correlates negatively with rejection sensitivity because admiration traits foster interpersonally adaptive narcissistic behaviors (e.g., Back et al., 2013; Leckelt et al., 2015; Miller et al., 2021). Based on the differential correlations with rejection sensitivity, the experience sampling data may thus provide first cautious support for a *target behavior* mechanism in narcissists' higher frequency of ostracism. Taken together, the differential effects of admiration and rivalry on ostracism frequency and rejection sensitivity support the idea of a *target behavior* mechanism in narcissistic individuals: Individuals with high levels of rivalry may engage in behaviors that elicit rejection and reinforce a cycle of

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

ostracism and heightened rejection sensitivity. Those with high levels of admiration, despite experiencing ostracism frequently in daily life, engage in socially adaptive behaviors that generally reduce rejection sensitivity. These findings highlight the complex dynamics of narcissistic traits and their impact on individuals' experiences of ostracism and sensitivity to rejection.

We additionally assessed the accuracy of recalled experiences (i.e., how many experiences participants thought they had reported, also in comparison to other people). Results from this measure may again point to the *negative perceptions* mechanism: Individuals with higher levels of narcissism retrospectively overestimated how many experiences they had reported (by trend: $p = .053$). The next set of studies aimed to put the claim that narcissists are overly ready to perceive ostracism to an experimental test.

Studies 3a–3c

Studies 3a, 3b, and 3c aimed to test the *negative perceptions* mechanism, holding that individuals with higher levels of narcissism may be more sensitive in their perception of exclusion, in an experimental setting. To test whether individuals with higher levels of narcissism more readily perceive to be excluded, we adapted the Cyberball paradigm (Williams & Jarvis, 2006). We created different conditions by varying the levels of inclusion in the ball-tossing game (i.e., being included,[7] partially excluded, or completely excluded). We then examined if participants' perceptions of their share of ball throws change as an indicator of perceived social participation (see Renneberg et al., 2012 for a similar approach).

In each study, we preregistered two partly opposing predictions. First, in line with the idea that individuals with higher levels of narcissism display a heightened sensitivity to any exclusion situation, we hypothesize:

> *Hypothesis 4a:* In both exclusion conditions (i.e., partially and completely excluded participants), participants with higher compared to lower levels of narcissism report receiving fewer ball throws (*full sensitivity hypothesis*, reflected in a main effect of narcissism).

Importantly, previous research noted that narcissists' hostile attribution of others' behavior is particularly prominent, if the situation is ambiguous (e.g., McCullough et al., 2003). Ambiguity in perceiving exclusion would be particularly present, if exclusion was only partial. Therefore, alternatively to the *full sensitivity hypothesis*, we hypothesized that:

> *Hypothesis 4b:* Only in the partial exclusion condition (i.e., 20% of ball throws), participants with higher compared to lower levels of narcissism report receiving fewer ball throws (*partial sensitivity hypothesis*, reflected in an interaction effect of narcissism and experimental condition).

Method

Design and Participants

All materials and hypotheses were preregistered (see Transparency and Openness section), including a priori power analyses with G*Power (Faul et al., 2007, see preregistrations in the Transparency and Openness statement). For all studies, inclusion criteria for data analysis were giving informed consent, not reporting a factually impossible percentage of ball throws (i.e., >50%; $n_{3a} = 4$, $n_{3b} = 4$, $n_{3c} = 3$), passing attention checks ($n_{3a} = 64$, $n_{3b} = 9$, $n_{3c} = 9$), a high level of self-reported seriousness of participation (>5 on a 9-point scale, $n_{3a} = 1$, $n_{3b} = 2$, $n_{3c} = 1$), and no self-exclusion from data analysis ($n_{3a} = 3$, $n_{3b} = 2$, $n_{3c} = 2$). We describe sample characteristics for each study in Table 5.

Materials and Procedure

In all studies, participants first gave informed consent. Next, participants reported on their grandiose narcissism using the NARQ (Back et al., 2013; 1 = *not agree at all*, 6 = *agree completely*). Participants then played Cyberball, a virtual ball-tossing game designed so that two other players either include or exclude the participant (e.g., Williams et al., 2000; Williams & Jarvis, 2006). We adapted the paradigm to create two exclusion conditions (between subjects): In the complete exclusion condition, participants received only 6.66% of ball tosses (i.e., two at the beginning, and then no more). In the partial exclusion, participants received 20% of ball tosses (i.e., 6 of 30 tosses, see Telesca et al., 2024, for a categorization of conditions in Cyberball). In Studies 3b and 3c, the Cyberball game was preceded by an introduction of all players, including the participant. This change was introduced to increase the credibility of the game. In all studies, immediately after the Cyberball game, we assessed reflexive need fulfillment as a manipulation check with four items on 9-point Likert scales (Rudert & Greifeneder, 2016; e.g., "During the game I felt … 1 = *rejected*, 9 = *accepted*"). As our main variables of interest, participants indicated how many percent of the ball throws they had received and how much they had actively participated in the game (1 = *not at all*, 7 = *very much*). Finally, participants provided demographic information and reported on the seriousness of their participation.[8] Participants were thanked and had the opportunity to withdraw their answers from data analysis.

Results

Manipulation Checks

In all studies, being completely compared to partially excluded significantly lowered need fulfillment, perceived percentage of ball

[7] For Study 3a, we initially preregistered to compare three Cyberball conditions, including an inclusion condition (33% of ball throws) to test the full sensitivity hypothesis. However, it became apparent that there was no hypersensitivity to inclusion. Therefore, we did not incorporate an inclusion condition in Studies 3b and 3c. To be concise, we report all analyses comparing the exclusion and partial exclusion conditions only. For transparency, we report all analyses involving the inclusion condition within the analysis scripts, see OSF (https://osf.io/hda4c).

[8] In Studies 3b and 3c, we also assessed perceptions of victimization with six semantic differentials (e.g., 1 = *Cyberball works against people like me*, 9 = *Cyberball works in favor of people like me*). In exploratory fashion, we also assessed how participants evaluate the other players' behavior (four semantic differentials, adapted from Rudert et al., 2018, e.g., "The other players' behavior in Cyberball was 1 = unacceptable, 9 = acceptable." We also assessed participants' locus of attribution (one item, adapted from McAuley et al., 1992, "The reason for the course of the Cyberball game was … 1 = inside of me, 7 = outside of me"). The analyses are reported within the analysis scripts on the OSF (https://osf.io/hda4c/).

Table 5
Sample Descriptions and Descriptive Statistics for the Main Variables Assessed in Studies 3a, 3b, and 3c

Variable	Study 3a	Study 3b	Study 3c
Platform	Prolific academic	Amazon Mechanical Turk	Prolific academic
Country	The United Kingdom	The United States	The United Kingdom
N	239	771	756
Age: *M* (*SD*)	38.74 (13.13)	42.67 (12.78)	39.16 (13.20)
Gender	148 women, 91 men	365 women, 392 men, five nonbinary, nine no answer	377 women, 371 men, six nonbinary, two no answer
Narcissism: *M* (*SD*)	2.45 (0.68)	2.44 (0.83)	2.40 (0.69)
Admiration: *M* (*SD*)	2.77 (0.86)	2.85 (1.06)	2.70 (0.86)
Rivalry: *M* (*SD*)	2.12 (0.76)	2.04 (0.88)	2.10 (0.79)
Perceived balls (%): *M* (*SD*)			
Partial exclusion	16.23 (6.65)	17.08 (7.42)	16.15 (5.91)
Complete exclusion	6.32 (1.02)	6.03 (5.96)	5.66 (3.93)
Cyberball participation: *M* (*SD*)			
Partial exclusion	3.83 (1.70)	4.10 (1.68)	3.58 (1.58)
Complete exclusion	2.33 (1.15)	2.49 (1.44)	2.13 (0.91)
Need fulfillment: *M* (*SD*)			
Partial exclusion	3.79 (1.61)	4.09 (1.95)	3.86 (1.58)
Complete exclusion	2.31 (1.15)	2.49 (1.69)	2.47 (1.46)

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

throws, and perceptions of actively participating in the game (all comparisons in one-sided t tests, $p < .001$, see Table 5 for descriptive statistics).

Moderator Analyses of Perceptions in Cyberball

Narcissism was mean-centered prior to all analyses. Testing the hypothesis that narcissism would change perceptions of being excluded, we tested whether individuals with higher levels of narcissism would report receiving fewer ball throws in Cyberball than less narcissistic individuals. In all studies, we preregistered to also run analyses of the effects of narcissism and Cyberball condition on perceived active participation and need fulfillment. We computed multiple regression models of narcissism and condition (partial exclusion = 0.5 vs. complete exclusion = −0.5) predicting perceptions of ball tosses in %, participation in Cyberball, and need fulfillment. We summarize the inferential statistics in Figure 4.[9] Importantly, we do not find consistent evidence for a main effect of narcissism that would align with Hypothesis 4a (full sensitivity hypothesis). Except in Study 3b, there were no main effects of narcissism on perceived ball throws, perception of active participation in the Cyberball game, or need fulfillment. As can also be seen in Figure 4, except in Study 3b, there were no significant interaction effects of narcissism and experimental condition on perceived ball throws, lending no support to Hypothesis 4b (*partial sensitivity hypothesis*). Even in Study 3b, the interaction effect was small, and the confidence interval was close to 0, $b = -1.36$, 95% CI [−2.48, −0.25], VIF = 1.00, $p = .016$.

Integrative Data Analysis of Studies 3a–3c

The effect of narcissism on perceptions of being excluded in a completely versus partially excluding Cyberball game in Studies 3a–3c was inconclusive. Therefore, in exploratory fashion, we conducted an integrative data analysis (Curran & Hussong, 2009) to gauge the overall effect across the three studies by combining them into one data set ($N = 1{,}766$) and adding study as a fixed factor (i.e., fixed-effects integrative data analysis). In a linear regression model predicting perceived ball throws, there was a significant main effect of experimental condition, $b = 10.67$, 95% CI [10.12, 11.21], VIF = 1.00, $p < .001$, a significant main effect of narcissism (mean-centered), $b = 0.92$, 95% CI [0.56, 1.28], VIF = 1.00, $p < .001$, and a significant interaction between narcissism and experimental condition in predicting perceived ball throws, $b = -0.82$, 95% CI [−1.55, −0.10], VIF = 1.00, $p = .027$. The integrative data analysis thus supports a moderating effect of narcissism in the perception of being excluded in terms of received ball throws. Figure 5 shows that, in disagreement with both hypotheses, individuals with higher levels of narcissism reported receiving *more* ball throws across all three studies, and the effect of narcissism was stronger in the complete exclusion condition compared to the partial exclusion condition. Figure 5 also shows that the observed effects are primarily driven by Study 3b.

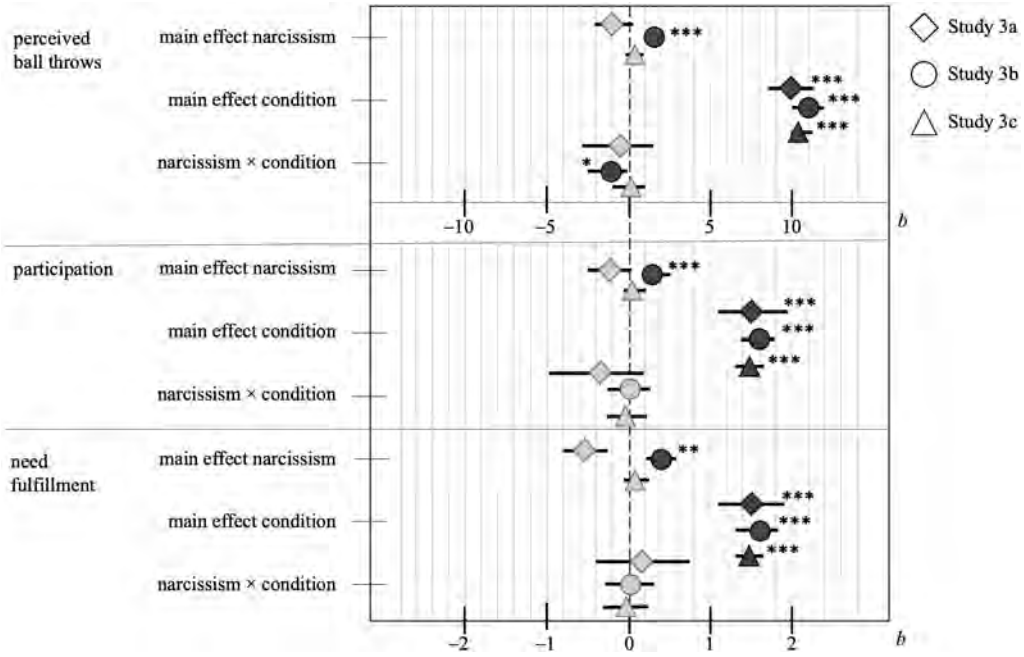
In a linear regression model predicting perceptions of participation in the Cyberball game, there was a significant main effect of experimental condition, $b = 1.53$, 95% CI [1.40, 1.66], VIF = 1.00, $p < .001$, a significant main effect of narcissism (mean-centered), $b = .22$, 95% CI [.13, .31], VIF = 1.00, $p < .001$, but no significant interaction between narcissism and experimental condition, $b = .004$, 95% CI [−.17, .18], VIF = 1.00, $p = .956$, meaning that individuals with higher levels of narcissism reported *more* participation during Cyberball across studies, but this effect was irrespective of the experimental condition.

Finally, in a linear regression model predicting need fulfillment, there was a significant effect of condition, $b = 1.50$, 95% CI [1.34, 1.65], VIF = 1.00, $p < .001$, a significant effect of narcissism (mean-centered), $b = .11$, 95% CI [.01, .21], VIF = 1.00, $p = .035$, but no significant interaction effect, $b = -.11$, 95% CI [−.32, .09], VIF = 1.00, $p = .281$, meaning that individuals with higher levels of

[9] We conducted additional preregistered analyses using narcissism admiration and narcissism rivalry as predictors. These results largely align with those of the presented analyses using the overall narcissism score and can be found in the additional online materials (OSF https://osf.io/hda4c: Studies 3a–3c supplemental analyses of narcissism admiration and rivalry).

Figure 4

Narcissism and Experimental Condition Predicting Perceived Ball Throws, Perceptions of Participation, and Need Fulfillment in Studies 3a–3c



Note. Regression coefficients b are displayed as effect sizes (*x*-axis) and horizontal lines are 95% confidence intervals. Effects in Study 3a are indicated with squares, effects in Study 3b are indicated with circles, and effects in Study 3c are indicated with triangles. Black indicates significant effects, gray indicates nonsignificant effects. Narcissism was mean-centered and condition was effect-coded in all analyses (partial exclusion = 0.5 vs. complete exclusion = −0.5).
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

narcissism reported *more* need fulfillment across the three studies. Still, this effect was irrespective of the experimental condition.

Discussion

Taken together, Studies 3a, 3b, and 3c offer no clear support for a heightened sensitivity of individuals with higher levels of narcissism to exclusion in an experimental setting like Cyberball. On the contrary, an integrative data analysis showed that individuals with higher levels of narcissism rather reported higher levels of *inclusion* and that these reports were largely independent of being completely or partially excluded in Cyberball. However, the present studies showed effects in different directions and share several limitations that affect what can be learned about narcissists' perceptions of exclusion. Most importantly, Cyberball may still be a rather unambiguous social situation, in which participants can easily determine the degree of inclusion or exclusion by paying attention to the number of throws received. Put differently, the standard Cyberball game may not offer room for subjectively construing the ostracism experience as different from what is objectively happening during the game (see Rudert & Greifeneder, 2016). Relatedly, Cyberball has been criticized in the past for its lack of social context, which may limit the questions that can be answered within this paradigm (e.g., C. M. Büttner et al., 2021; Rudert et al., 2023; Wesselmann et al., 2019). In daily life, social interactions are likely much more complex, and their interpretation is often more ambiguous. As a consequence, it may be unclear to individuals if they are factually excluded or included at the moment, depending on the social situation, but also their personality-based attribution patterns, such as narcissism (e.g., McCullough et al., 2003). To find out whether the negative perceptions mechanism shows in situations that are more ambiguous in terms of exclusionary cues, Study 4 uses ambiguous scenarios.

Study 4

Study 4 seeks to test the *negative perceptions hypothesis* again experimentally with high internal validity *and* more social context. Previous research noted that narcissists' hostile attribution of others' behavior is particularly prominent, if the situation is ambiguous (e.g., McCullough et al., 2003). Study 4 therefore tests the *negative perceptions hypothesis* using ambiguous social scenarios in six vignettes with various exclusionary cues.

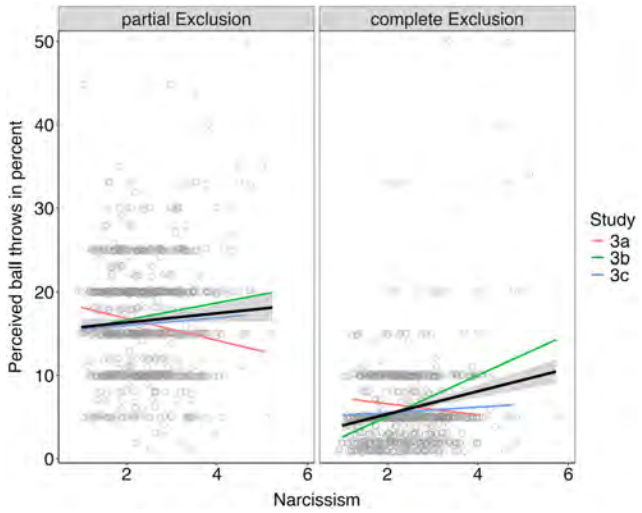
We preregistered that:

> *Hypothesis 5:* Participants with higher compared to lower levels of narcissism categorize ambiguous social interactions more often as social exclusion.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Figure 5

Narcissism and Experimental Condition Predicting Perceived Ball Throws in the Integrative Data Analysis of Studies 3a–3c



Note. Black line represents the overall regression line in the integrative data analysis. Colored lines represent regression lines in the individual studies. Gray area around the overall regression line represents standard error. See the online article for the color version of this figure.

Method

Design and Participants

For feasibility reasons, we expected to be unable to collect more than 300 participants. An a priori sensitivity analysis conducted with G*Power (Faul et al., 2007) suggested that 300 participants would be a large enough sample size to detect effect sizes of a small magnitude ($f^2 = 0.026$), with a statistical power of at least .80 and an α error of .05. Data were collected in November 2021 and December 2021. We preregistered to collect data in a local university lab for six consecutive weeks with the possibility to switch to online data collection in case of new COVID-19 regulations that prevented or slowed down data collection. Unfortunately, due to distance-learning measures, the on-site collection did not result in the targeted number of participants, so we eventually had to switch to online data collection, sampling students from two European universities.

In total, 300 participants completed the study for course credit or the chance to win gift vouchers ($n = 145$ in the lab, and $n = 155$ online). Of these, 265 participants answered all questions. In addition to answering all questions, inclusion criteria for data analysis were passing attention checks ($n = 4$), a high level of self-reported seriousness of participation (>5 on a 9-point scale, $n = 1$), and no self-exclusion from data analysis ($n = 2$). Overall, 258 participants fulfilled all inclusion criteria ($M_{age} = 23.46$ years, $SD = 4.79$, 80.62% women, 18.22% men, three persons chose not to answer).

Materials and Procedure

Participants first provided informed consent. Next, participants reported on their grandiose narcissism (NARQ, Back et al., 2013; Cronbach's $\alpha = .84$) and read six vignettes. Vignette 3, for example, read as follows:

> Please imagine you are having the following conversation with a friend.
>
> Person A: … and then we went to this amazing concert last summer, the stage show was just great!
>
> You: I think I was there. … Do you mean band X?
>
> Person A: Yes, that's the one! Oh, you were there? I must have forgotten that.

After each vignette (order randomized), participants rated the extent of perceived social exclusion using two items: "I'm being excluded in this scenario" and "I'm being ignored in this scenario" (1 = *not at all*, 7 = *very much*). We preregistered that the two items would be averaged into one ostracism score if they correlated highly (Spearman–Brown coefficient >.65). This was the case (Spearman–Brown coefficient = .80), resulting in one *ostracism perception index* per vignette. Finally, participants provided demographic information and reported on the seriousness of their participation. Participants were thanked and had the opportunity to withdraw their answers from data analysis.

Results

In total, we analyzed 1,548 ratings of ostracism perception (i.e., ratings of six vignettes by 258 participants). Mean ostracism perception varied between the vignettes (see Table 6, for descriptive statistics). As hypothesized, in a mixed-effects model with random intercepts for both participants and vignettes (i.e., participants rated multiple vignettes, and each vignette was rated by multiple participants), narcissism positively predicted ostracism perception: $b = 0.39$, 95% CI [0.19, 0.60], $p < .001$ (see Figure 6, for an overview of effects by vignette). Moreover, both facets of narcissism, admiration, $b = 0.21$, 95% CI [0.06, 0.35], $p = .006$, and rivalry, $b = 0.35$, 95% CI [0.15, 0.55], $p < .001$, showed similarly large effects.[10]

Discussion

In line with the *negative perceptions* mechanism, we hypothesized that individuals with higher levels of narcissism categorize ambiguous social interactions more often as social exclusion. Supporting this hypothesis, we observed overall higher levels of perceived ostracism for individuals with higher narcissism scores. This was true for both the admiration and the rivalry narcissism facet. In summary, the *negative perceptions* mechanism has been demonstrated in ambiguous (Study 4) but not unambiguous (Cyberball exclusion in Studies 3a–3c) exclusion scenarios. We now turn to a second explanatory mechanism that may exist next to narcissists' negative perceptions of ambiguous exclusion situations: Their group-disturbing behaviors drive ostracism, that is, there is a *target behavior* mechanism in the relationship between narcissism and ostracism.

[10] We controlled for data collection mode (lab vs. online) in all analyses. Neither the effects nor their significance levels changed as a function of controlling for data collection mode, see R script on the OSF (https://osf.io/hda4c).

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Table 6
Descriptive Statistics of Ostracism Perception and Narcissism in Study 4

Variable	*M*	*SD*
Ostracism perception		
Vignette 1	6.17	1.15
Vignette 2	3.89	1.71
Vignette 3	3.49	1.69
Vignette 4	2.28	1.59
Vignette 5	3.84	1.66
Vignette 6	3.97	1.75
Narcissism	2.42	0.59
Admiration	2.92	0.83
Rivalry	1.92	0.61

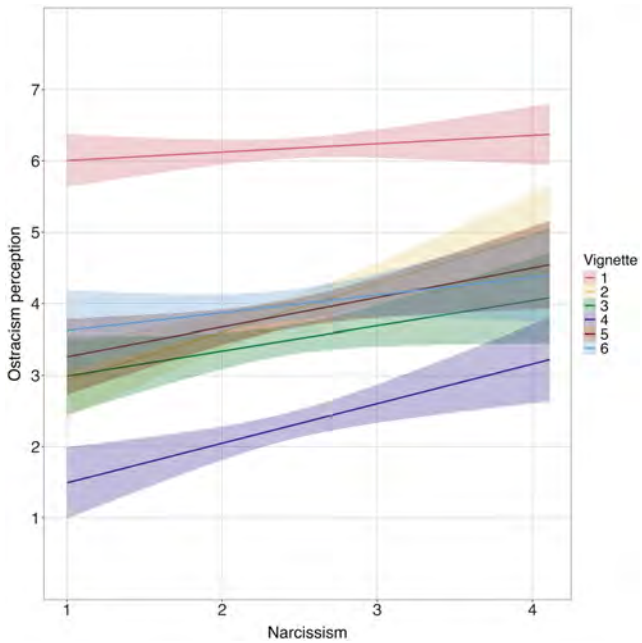
Study 5

Study 5 turns to the possibility that individuals with higher levels of narcissism not only perceive to be ostracized more often than others but that they factually get ostracized more frequently by others. In particular, Study 5 tests the *target behavior* mechanism from the perspective of people excluding narcissists (i.e., sources of ostracism).

We preregistered that:

> *Hypothesis 6a:* Individuals high compared to average or low in the admiration facet of grandiose narcissism are more likely excluded.

Figure 6
Narcissism Predicting Ostracism Perception in Six Vignettes (Colored), in Study 4



Note. Lighter areas represent standard errors. See the online article for the color version of this figure.

> *Hypothesis 6b:* Individuals high compared to average or low in the rivalry facet of grandiose narcissism are more likely excluded.

Additionally, based on previous research on the differential effects of admiration versus rivalry on narcissists' popularity (Leckelt et al., 2015), we preregistered that:

> *Hypothesis 6c:* Individuals high in the rivalry facet of grandiose narcissism are more likely excluded than individuals high in the admiration facet of grandiose narcissism.

Method

Design and Participants

Data was collected online via Prolific Academic (U.K. residents). Participants were randomly assigned to a 2 (narcissism facet: admiration vs. rivalry) × 3 (low vs. average vs. high in that narcissism facet)-between-subjects-design. To detect the hypothesized effect of narcissism information on exclusion decisions, assuming a medium-sized effect ($w = .30$)[11] for the hypothesized comparisons (i.e., $df = 1$ for all hypothesis tests), with a power = .90 and α set to .05, G*Power (Faul et al., 2007) suggests a required total sample size of $N = 351$. Data collection aimed at a plus of approximately 10%, so 386 individuals in total, to ensure enough data points in case there are drop-outs.

In total, 385 participants completed the study. Participants were removed from data analysis if they reported not completing the study in a serious way (i.e., <6 on a 9-point scale, $n = 5$), did not want their data to be used ($n = 2$), or failed the attention check ($n = 57$, see below). Overall, 321 participants fulfilled all inclusion criteria ($M_{age} = 39.74$ years, $SD = 12.70$, 50.16% women, 48.28% men, three non-binary, and two persons chose not to answer).

Materials and Procedure

The paradigm was adapted from Rudert, Keller, et al. (2020).

Instruction. Participants were told that they would participate in a "Study on Teamwork" for a compensation of £0.50 on Prolific. They were told that the study aimed to assess the effects of certain personality traits on the selection of partners and subsequent cooperation. They were informed that they would solve a collaborative creativity task in groups of two by communicating via a chat but that they would remain completely anonymous throughout the study. After providing informed consent, participants were told that they were randomly assigned as the leader of the team and could select a

[11] We originally planned and preregistered to conduct experience sampling ostracism frequency denotes the sum score of event-contingent ostracism and time-contingent ostracism reported by each participant quare tests in subsets of the experimental conditions with planned contrasts. These original analyses are reported within the analysis scripts as additional online material OSF (https://osf.io/hda4c). Following feedback during the revision process, we opted for binary logistic regressions over Chi-square tests to provide meaningful effect sizes (i.e., Odd's ratios, ORs). Moreover, using orthogonal linear and quadratic contrasts that capture both gradual and nonlinear patterns across conditions, reduces the need for additional pairwise comparisons. Therefore, the preregistered exploratory analyses (i.e., average-admiration vs. low-admiration, average-admiration vs. high-admiration, as well as average-rivalry vs. low-rivalry and average-rivalry vs. high-rivalry) are available in the OSF (https://osf.io/hda4c) R scripts.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

partner who would work together with them on the task. Ostensibly, all other participants provided personality information at the beginning of the study that the participant could base their decision on. To encourage participants to take the choice seriously, they were told that there would be a bonus payment that depended on their team's performance. All partners could receive a bonus of up to 15 pence per person (in fact, all participants received that bonus after completing the study).

Personality Information. Participants either saw the three items of the admiration sub-scale of the NARQ-S, a measure of grandiose narcissism (Back et al., 2013, i.e., "I deserve to be seen as a great personality.", "Being a very special person gives me a lot of strength.", "I manage to be the center of attention with my outstanding contributions."), or they saw the three items of the rivalry sub-scale of the NARQ-S (i.e., "I react annoyed if another person steals the show from me.", "I want my rivals to fail.", "Most people are somehow losers."). They were told that all potential partners answered these questions and that typically, each person falls into one of three clusters: high, average, or low. To not evoke stereotypes about narcissists, we termed the admiration facet "Specialty" and the rivalry facet "Assertiveness."

Participants in the admiration condition then read:

> People who fall in the high "Specialty" cluster have a strong need to be unique from others, have a strong need to be acknowledged by others, and are more charming than most people.
>
> People who fall in the average "Specialty" cluster have an average need to be unique from others, have an average need to be acknowledged by others, and are averagely charming.
>
> People who fall in the low "Specialty" cluster have a low need to be unique from others, have a low need to be acknowledged by others, and are less charming than most people.

Participants in the rivalry condition were told:

> People who fall in the high "Assertiveness" cluster have a strong need to be better than others, tend to devalue others more often than most people, and are more competitive than most people.
>
> People who fall in the average "Assertiveness" cluster have an average need to be better than others, tend to devalue others as often as most people do, and are averagely competitive.
>
> People who fall in the low "Assertiveness" cluster have a low need to be better than others, tend to devalue others less often than most people, and are less competitive than most people.

Ostracism Decision. Participants received a request, ostensibly, from a potential partner (in the study: "Participant #2," here: target) asking to collaborate with them on the creativity task. After seeing the partner's results on the personality questionnaire, participants could choose to either accept (i.e., inclusion decision) or decline their request (i.e., exclusion decision). They were told that "If you accept their request, you will proceed to solve the creativity task together. If you decline their request, you will be paired with another participant at random."

Attention Check. Finally, all participants answered the question "Which option represents the information you received about Participant #2?" For participants in one of the three admiration conditions, the three answer options were "Participant #2 falls in the low/average/high Specialty cluster." For participants in one of the three rivalry conditions, the three answer options were "Participant #2 falls in the low/average/high Assertiveness cluster."

Results

Overall, 38.63% of participants chose to decline the partner's request (i.e., exclude them). Table 7 shows the distribution of inclusion and exclusion decisions per condition.

Admiration

We tested whether targets high compared to average or low on the admiration facet of narcissism are more likely excluded (Hypothesis 6a) using a binary logistic regression model with linear (i.e., testing for linear increases or decreases in decisions to exclude as admiration levels increase from low to high) and quadratic contrasts (i.e., testing for non-linear relationships between low, average, and high admiration levels). The model shows a significant quadratic effect, $b = 0.60$, $p < .001$, $OR = 1.83$ 95% CI [1.39, 2.52], but no significant linear effect, $b = 0.34$, $p = .090$, $OR = 1.40$ 95% CI [0.95, 2.07]. Indeed, as hypothesized, decisions to exclude were highest in the high admiration condition, followed by the low admiration condition. Decisions to exclude were lowest in the average admiration condition, see Table 7.

Rivalry

Next, we tested whether targets scoring high compared to average or low on the rivalry facet of narcissism were more likely excluded (Hypothesis 6b) using the same approach as before. The model shows a significant linear effect, $b = 0.87$, $p < .001$, $OR = 2.39$ 95% CI [1.58, 3.72], and a significant quadratic effect, $b = 0.34$, $p = .006$, $OR = 1.41$ 95% CI [1.11, 1.81]. This suggests that, as hypothesized, as rivalry increases (from low to average to high), the likelihood of exclusion also increases. At the same time, both low and high rivalry levels are associated with a higher likelihood of decisions to exclude compared to the average rivalry level, see Table 7.

Comparing High Rivalry and High Admiration

Finally, we tested whether targets scoring high on the rivalry compared to those scoring high on the admiration facet of narcissism were more likely excluded (Hypothesis 6c) using a binary logistic regression model in the subset of only those in the high rivalry and high admiration condition. Descriptively, participants in the rivalry-high condition chose to exclude the other

Table 7
Distribution of Inclusion and Exclusion Decisions by Experimental Condition in Study 5

Experimental condition	Decision to include(%)	Decision to exclude(%)
Low admiration	62.50	37.50
Average admiration	87.93	12.07
High admiration	46.00	54.00
Low rivalry	69.57	30.43
Average rivalry	72.73	27.27
High rivalry	28.57	71.43

participant more often than participants in the admiration-high condition (see Table 7). However, this difference was not significant, $b = 0.76$, $p = .065$, $OR = 2.13$ 95% CI [0.96, 4.82].

Discussion

Study 5 illustrates that more compared to less narcissistic individuals are excluded more often when others learn about their narcissistic traits. Rivalry seems to weigh heavier than admiration which is in line with previous findings that rivalry drives behaviors that make narcissists less likable in social interactions (e.g., Leckelt et al., 2015). Moreover, the notion that rivalry renders individuals unattractive cooperation partners is in line with findings showing that people who do not or cannot contribute to group goals get ostracized more frequently (e.g., Rudert, Hales, et al., 2021; Rudert, Keller, et al., 2020; Rudert et al., 2023; Wesselmann et al., 2013). Among the comments participants could leave voluntarily after the debriefing, one participant in the average-rivalry condition noted: "I think most of all you don't want someone who is too much headstrong and rock the boat for the other team members normally it does not end well." This aligns well with previous findings that individuals with higher levels of narcissism may be disturbing in groups because, for instance, they act aggressively, don't help others, and put their own goals over the group's needs (e.g., Brunell et al., 2021; Holtzman et al., 2010; Krizan & Johar, 2015; Lannin et al., 2014; Miller et al., 2021; Schröder-Abé & Fatfouta, 2019). In contrast, participants anticipated that high admiration may also render cooperation more difficult. For instance, one participant in the high admiration condition wrote "I chose not to pick this participant as I was the leader and I felt they might be hard to work with." Again, this aligns with findings that individuals ostracize those who could hinder cooperation (e.g., Hales et al., 2016; Rudert et al., 2023; Rudert, Hales, et al., 2021; Rudert, Keller, et al., 2020) and that individuals high in narcissism prioritize their own interests over cooperating with others to achieve group goals (e.g., Back et al., 2013; Miller et al., 2021). Conversely, low admiration may also hinder cooperation when individuals lack the confidence or initiative to engage actively in group efforts. This argument is backed up by studies showing that narcissism may aid leadership and team performance (at least initially, e.g., Ong et al., 2016; Roberts et al., 2018). Taken together, having an average level of admiration seems to mark the "sweet spot" for cooperation, as indicated by the lowest percentage of exclusion decisions (see Table 7).

One could argue that, in real life, people do not carry their personality traits around with them in written text. While there is evidence that people can accurately detect narcissism in others (e.g., Grafeman et al., 2015; Lukowitsky & Pincus, 2013) and narcissists accurately perceive how they are viewed by others (e.g., Carlson et al., 2011), we wanted to put the *target behavior* mechanism to the test again in a more subtle, natural context: Watching narcissists introduce themselves.

Study 6

Study 6 again tests the *target behavior* mechanism from a source perspective of those who ostracize, however, in a more subtle, more realistic setting. To achieve this, Study 6 uses video footage of a get-acquainted situation.

We preregistered that:

> *Hypothesis 7:* Participants report higher ostracism intentions toward individuals who are high versus low in narcissism.

Further, in this study, we control for participants' own grandiose narcissism, target attractiveness, target gender, participant gender, and the interaction of target gender and participant gender. In exploratory fashion, we also pre-registered to test whether participants who score higher (vs. lower) in narcissism themselves show higher intentions to ostracize (reflected in a main effect of participant narcissism on ostracism intentions). Further, we pre-registered to test whether participants who score higher (vs. lower) in narcissism themselves exclude other narcissists more often (reflected in an interaction effect of participant narcissism and target narcissism on ostracism intentions).

Method

Design and Participants

Data was collected in a local university lab. All factors were assessed within-person (i.e., all participants rated all videos). We ran an a priori power analysis with PANGEA (Westfall, 2015). Based on earlier findings on ostracism intentions toward individuals high versus low in narcissism in a student project (not reported here), we expected big effects of narcissism (i.e., Cohen's $d = 1.72$). However, accounting for the subtlety of detecting narcissism in a short video introduction (vs. in a text vignette), we halved the expected effect size (i.e., Cohen's $d = 0.86$). We specified two random factors (i.e., participant and video stimulus), one fixed effect (low vs. high narcissism), eight videos per narcissism level, and PANGEA's default settings for variances. Based on resource constraints, we expected to be unable to recruit more than $N = 120$ participants. PANGEA suggested this yields a power of 0.843 for detecting the fixed effect of narcissism.

In total, 152 participants completed the study. Participants were removed from data analysis if they reported not seriously completing the study (i.e., <6 on a 9-point scale, $n = 3$), withdrawing consent to analyze their data ($n = 6$), or failing an attention check (i.e., "Please select *not at* all," $n = 2$). One test run was also excluded from data analysis. Overall, 140 participants fulfilled all inclusion criteria ($M_{age} = 24.28$ years, $SD = 7.09$, 80% women, 18.57% men, one non-binary, one person chose not to answer).

Materials and Procedure

Participants were told that they would participate in a study on how people form first impressions.

Video Selection. Participants watched 16 introduction videos by previous participants in a research study (from here-on: targets) that were taken from the PILS study, a large-scale study on personality processes (Geukes et al., 2019). Each video depicts a getting-acquainted sequence. Of importance for our project is that the PILS study recorded the narcissism level of the filmed individuals (as measured with the NARQ, Back et al., 2013). With the filmed individuals' consent, 179 videos were available for further use in research. Sampling based on the filmed individuals' narcissism scores, we reviewed the 40 videos from those who were highest in

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

self-reported grandiose narcissism and the 40 videos from those who were lowest in self-reported grandiose narcissism. We further selected videos so that they were as comparable as possible on target attractiveness (as rated by uninvolved observers on a scale from 1 = *not attractive* to 7 = *very attractive*, in the original study) within the two groups (i.e., low vs. high narcissism), had an equal distribution of men and women, and were between 30 and 60 s long. The final set included eight videos each from targets with higher and lower narcissism.

Ostracism Measure. Before watching the videos, participants read the following:

> Please imagine that you are attending the first meeting of a newly founded initiative that wants to advocate for the interests of students at the University of Basel. The goal of the initiative is to gather and advocate for student interests, but also to enable social networking across departments, have fun together, and do things together. The first meeting of the initiative will be held via zoom and aims to allow smaller groups to come together. To get together in smaller groups, all participants enter a chat. The group sizes are not predetermined. Before entering the chat, everyone introduces themselves to each other. You will see 16 introduction videos of other participants on the next pages, each lasting between 30 to 60 seconds. You can message people in the chat yourself and you can receive messages from others. On the next pages you will see the 16 videos and underneath you will answer questions about whether you would actively approach the person in the chat or whether you would rather ignore the person in the chat.

Then, participants rated for each video how much they agreed with the following two statements (a) "I would actively write to this person." 1 = *does not apply at all*, 7 = *applies completely* (i.e., intention to approach), and (b) "I would rather ignore this person.," 1 = *does not apply at all*, 7 = *applies completely* (i.e., intention to ignore). The two items correlated at $r = -.67$ (repeated measures correlation controlling for participant and video using the *rmcorr* R-package, Bakdash & Marusich, 2017), therefore, as preregistered (preregistered cut-off for sufficiently high correlation >|.65|), we reverse-coded the intention to approach item and averaged both items into one ostracism intention score.

After rating all videos, as a control variable, we assessed participants' own grandiose narcissism (NARQ, Back et al., 2013, Cronbach's $\alpha = .84$, $M = 2.71$, $SD = 0.75$). After that, participants gave demographic information and were fully debriefed. Finally, participants rated how seriously they had participated and had a chance to withdraw their answers from data analysis. Participants could choose to be compensated with partial course credit or with approximately 7$ in the local currency (for a study duration of 20–25 min).

Results

To test our main hypothesis, as preregistered, we computed a mixed-effects model with ostracism intention as the dependent variable and narcissism (high vs. low) as the independent variable. We specified random effects for both participants and video stimulus (i.e., participants rated multiple videos, and each video was rated by multiple participants). Intentions to ostracize were higher for high narcissism ($M = 4.00$, $SD = 1.62$) compared to low narcissism videos ($M = 3.48$, $SD = 1.45$), albeit not significantly higher, $b = -0.52$, 95% CI [−1.02, −0.03], $p = .056$. As preregistered, we repeated the analyses controlling for participants' own narcissism, target attractiveness, target gender, participant gender, and the interaction of target gender and participant gender. Again, there was no significant effect of narcissism, $b = -0.56$, 95% CI [−1.07, −0.04], VIF = 1.11, $p = .072$.

Exploratory Analyses Exact Narcissism Scores

As preregistered, we re-ran the analyses using targets' exact narcissism score as assessed in the PILS study (vs. a factorial assessment of narcissism as low vs. high). The effect of the exact narcissism score on ostracism intentions was not significant, $b = .27$, 95% CI [−0.003, 0.55], $p = .073$, also when controlling for all control variables listed above, $b = .29$, 95% CI [−0.002, 0.58], VIF = 1.13, $p = .096$. In exploratory fashion (not pre-registered), we also re-ran the analyses using targets' exact narcissism *admiration* scores and targets' exact narcissism *rivalry* scores. There was no effect of the exact admiration score on ostracism intentions, $b = .22$, 95% CI [−0.08, 0.52], $p = .165$, but there was a significant effect of targets' rivalry score on ostracism intentions, $b = .28$, 95% CI [0.03, 0.52], $p = .042$. Both admiration and rivalry scores had no significant effects when controlling for all control variables listed above; admiration: $b = .23$, 95% CI [−0.08, 0.54], VIF = 1.11, $p = .199$; rivalry: $b = .29$, 95% CI [0.04, 0.55], VIF = 1.13, $p = .060$.

Exploratory Analyses Participants' Narcissism Scores

As preregistered, we also tested whether participants who score higher (vs. lower) in narcissism themselves show higher intentions to ostracize (i.e., main effect of participant narcissism on ostracism intentions). This was not the case, $b = 0.04$, 95% CI [−0.15, 0.22], $p = .709$. Further, we tested whether participants who score higher (vs. lower) in narcissism themselves exclude other narcissists more (i.e., interaction effect of participant narcissism and narcissism on ostracism intentions). There was no interaction effect of participant narcissism and video narcissism on intentions to ostracize, $b = -.02$, 95%CI [−0.16, 0.12], VIF = 1.72, $p = .799$.

Discussion

Study 6 reveals that narcissistic rivalry evokes ostracism intentions in others, even in introductory videos as short as 30–60 s. Interestingly, the effects of targets' admiration scores on ostracism intentions were not significant ($p = .165$). This aligns with the stronger correlations of rivalry and retrospective ostracism frequency (compared to admiration and retrospective ostracism frequency) observed in Studies 1 and 2 and may be attributed to interpersonal processes observed in earlier research: While narcissistic admiration initially boosts narcissists' popularity, over time, rivalry behaviors deteriorate narcissists' popularity (Leckelt et al., 2015). In line with this, expressions of rivalry may be more strongly associated with ostracism intentions, even in short introductions such as in the present study.

The effects observed in the main analysis (effect of target narcissism high vs. low on ostracism intentions) were smaller than anticipated, although we found a general tendency in line with our predicted direction. Using the r2glmm package (Jaeger, 2017), we approximated the observed effect size for the main analysis. We found that the main analysis yielded an effect of Cohen's $d = 0.62$

which is smaller than the preregistered effect size of $d = 0.86$. A follow-up power analysis with PANGEA (Westfall, 2015) suggested that the present study only had 57.70% to detect the observed effect size. Further, analyses in PANGEA showed that to detect the observed effect with at least 80% power and 140 participants, 13 videos per group are needed. Including more videos from the present data set was not possible without compromising the comparability of the two groups regarding gender, attractiveness, and video length.

Previous work has called for efforts to study interactions of target and source personality in decisions to ostracize (Rudert, Keller, et al., 2020). This study shows that it does not take a narcissist to ostracize another narcissist: In the utilized paradigm, individuals with higher levels of narcissism did not show higher ostracism intentions per se, and they also did not show higher ostracism intentions toward other narcissists. Instead, ostracism intentions toward narcissists were unaffected by participants' own narcissism, gender, and the attractiveness of the target.

Even though participants only imagined meeting the targets from the videos, the introduction videos were real and thus high in external validity. Overall, it is remarkable that narcissism—at least its rivalry facet—evokes ostracism intentions in such a short time period.

Study 7

So far, we have seen that individuals with higher levels of narcissism report more ostracism, more readily perceive ostracism in ambiguous situations (*negative perceptions* mechanism), and are ostracized more frequently by others (*target behavior* mechanism). Study 7 turns to the third possible mechanism explaining the relationship between ostracism and narcissism: The *reverse causality* mechanism (Nielsen & Knardahl, 2015), that is, the idea that narcissism may not only be the antecedent of experiencing ostracism but also an outcome of it. Testing such associations necessitates longitudinal data (Nielsen et al., 2017), ideally over several years, since personality change processes may take years or even decades (e.g., Chopik & Grimm, 2019; Weidmann et al., 2023; Wetzel et al., 2020). Study 7 tests the *reverse causality* mechanism in a longitudinal study from New Zealand comprising 14 yearly assessments of a representative national sample.

Although there is some discussion around the temporal stability of narcissism, some investigations find that narcissism is moderately stable over the lifespan (e.g., Chopik & Grimm, 2019; Cramer, 2011; Edelstein et al., 2012; Wink & Donahue, 1995). Other research finds that there is significant within-person variability in daily grandiose narcissism based on interpersonal experiences like helping someone (Giacomin & Jordan, 2016). These sets of findings are not inconsistent to each other but suggest that there is stability and change in a complex construct such as narcissism. Accordingly, and in line with a *reverse causality* mechanism, we hypothesize that:

Hypothesis 8a: Deviations in ostracism are followed by deviations in narcissism, and:

Hypothesis 8b: Deviations in narcissism are followed by deviations in ostracism.[12]

Longitudinal representative studies are designed to assess key topics consistently over time. They therefore cannot assess every construct in as much detail as studies specifically designed to answer one specific question. Fortunately for the present case, the NZAVS assessed measures that show strong overlap to the ones used in this contribution so far. In particular, in line with previous research (e.g., Stronge et al., 2016, 2019), we use psychological entitlement as a proxy for narcissism. Psychological entitlement has been proposed as a key aspect of grandiose narcissism (Krizan & Herlache, 2018). As a proxy of ostracism experiences, we use "feeling like an outsider," again in line with previous research (see Albath et al., 2023).

Method

Participants

We used data from the New Zealand Attitudes and Values Study (NZAVS), a large, longitudinal national probability panel study. A publicly available list of publications using NZAVS data can be accessed at https://osf.io/75snb/wiki/Publications/. The present contribution addresses associations of different variables than previous publications. At the time of contribution, 14 annual waves are available (2009–2022). From all available data, $n = 132$ were removed from the analyses due to missing information in the variables of interest, leaving data of $N = 72{,}722$ individuals for the analyses (4,089 missing patterns for the single-group RI-CLPM; 6,106 missing patterns for the multigroup RI-CLPM). For an overview of key demographics and descriptive statistics at each assessment, see Table 8.

Measures

All measures were assessed at each time point using the same wording. Psychological entitlement was assessed with two items from Campbell et al. (2004; "Feel entitled to more of everything" and "Deserve more things in life," both assessed with 1 = *strongly disagree* to 7 = *strongly agree*"). Both items showed a medium-to-strong positive correlation at each annual wave (Spearman's rho = .46–.59, all $ps < .001$) and were averaged into one index. Outsider feelings were assessed using one item ("Feel like an outsider"; 1 = *very inaccurate*, 7 = *very accurate*; Hagerty & Patusky, 1995).

Analytic Approach

To investigate the associations between narcissism and ostracism longitudinally, we conducted a RI-CLPM (Hamaker et al., 2015) using the *lavaan* R-package (Rosseel, 2012). RI-CLPMs are quickly becoming the method of choice for examining temporal within-person associations as they separate stable, between-person variance from residual within-person variance (Hamaker, 2023; Hamaker et al., 2015). We estimated a RI-CLPM including narcissism and outsider feelings from Wave 01 to Wave 14. Given that there were no theoretical reasons to assume variation in the estimates across waves, we modeled all temporal associations as a stationary process.

[12] We conducted additional multigroup RI-CLPM analyses to test potential age effects in the reciprocal relationship of ostracism and narcissism. These analyses can be found in the additional online materials (OSF at https://osf.io/hda4c: Study 7: Supplemental analyses of age differences).

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Table 8
Sample Demographic Characteristics and Descriptive Statistics Over 14 Annual Waves

Wave (year)	1 (2009)	2 (2010)	3 (2011)	4 (2012)	5 (2013)	6 (2014)	7 (2015)	8 (2016)	9 (2017)	10 (2018)	11 (2019)	12 (2020)	13 (2021)	14 (2022)
N	6,513	4,440	6,879	12,167	18,254	15,820	13,942	21,933	17,071	47,948	42,681	38,550	34,131	33,721
Age														
M (*SD*)	48.54 (15.74)	51.46 (15.22)	50.94 (15.96)	49.59 (15.02)	48.14 (14.07)	49.83 (14.03)	51.30 (13.89)	50.12 (13.93)	51.83 (13.77)	49.09 (13.86)	52.05 (13.86)	53.45 (13.69)	54.89 (13.65)	54.11 (15.70)
Range	18–98	18–95	18–96	18–95	18–94	18–95	19–96	18–97	18–98	18–99	18–96	18–96	18–97	18–98
Gender (woman[a])	3,883	2,732	4,301	7,605	11,440	9,989	8,719	13,710	10,783	29,944	27,149	24,499	21,768	21,234
Narcissism														
M (*SD*)	2.82 (1.43)	2.92 (1.38)	2.83 (1.31)	2.88 (1.36)	2.82 (1.33)	2.71 (1.29)	2.66 (1.28)	2.65 (1.29)	2.57 (1.26)	2.60 (1.28)	2.45 (1.22)	2.40 (1.21)	2.32 (1.24)	2.31 (1.25)
Outsider feelings														
M (*SD*)	3.00 (1.66)	2.90 (1.56)	2.95 (1.62)	2.93 (1.61)	3.01 (1.63)	3.00 (1.59)	3.02 (1.62)	3.11 (1.65)	3.11 (1.65)	2.85 (1.73)	2.95 (1.75)	3.25 (1.76)	2.96 (1.75)	3.03 (1.78)

[a] Gender is assessed as a binary construct in the New Zealand Attitudes and Values Study.

As a result, the temporal associations from, for instance, Wave 01 to Wave 02 are identical to the ones from Wave 13 to Wave 14. The RI-CLPM also estimates random intercepts for narcissism and outsider feelings. These random intercepts reflect participants' average levels of narcissism and outsider feelings across all 14 assessments. This is done by separately fixing the factor loadings of each variable at each measurement occasion to one and by allowing the two random intercepts to correlate. We assess model fit in our analysis using three key indicators: CFI, RMSEA, and SRMR. The RI-CLPM was estimated using full information maximum likelihood to account for missing data to minimize loss of information. We report unstandardized estimates for easier interpretability.

Results

The RI-CLPM tested whether narcissism and outsider feelings show longitudinal associations over 14 years. Both variables were entered as manifest variables at all waves. Fit indices with full stationarity indicate excellent model fit, $\chi^2(357) = 3{,}544.35$, $p < .001$; CFI = .99, RMSEA = .011 [.011, .011], SRMR = .04. The correlations between the random intercepts displayed in Figure 7 indicate that, generally, individuals with higher narcissism also report higher outsider feelings, $b = 0.36$, 95% CI [0.35, 0.37], $p < .001$. Moreover, narcissism and outsider feelings were positively correlated cross-sectionally at all 14 waves (all $p < .001$).

With respect to the within-person associations, we first examined the autoregressive paths. Contrary to traditional CLPMs, autoregressive paths in RI-CLPMs do not capture the stability of a construct over time. Rather, they show whether deviations from a typical level at one wave "spill over" to the next wave (Osborne & Little, 2024). Since we modeled within-person changes as a stationary process, autoregressive effects remain constant. As shown in Figure 7, autoregressive estimates for both constructs were positive and significant, indicating that within-person deviations at one wave carried over to subsequent within-person deviations in the same variables over time. For instance, a 1-unit departure from a person's typical narcissism level at time *T* was associated with a 0.14-unit increase from their narcissism level at time T + 1.

With respect to the within-person cross-lagged associations between narcissism and outsider feelings, within-person deviations in narcissism predicted within-person changes in outsider feelings from 1 year to the next, $b = 0.013$, 95% CI [0.005, 0.020], $p = .001$, and within-person increases in outsider feelings predicted increases in narcissism from 1 year to the next, $b = 0.007$, 95% CI [0.003, 0.010], $p < .001$. To test whether these cross-lagged associations differed significantly in magnitude, we constrained the estimates of all cross-lagged paths to equality. Constraining these paths resulted in no significant decline in model fit, $\Delta\chi^2(1) = 2.213$, $p = .137$, indicating no significant difference in the cross-lagged effects. Together, these findings indicate that deviations in outsider feelings are followed by deviations in individuals' narcissism levels 1 year later and vice versa.

Discussion

Study 7 aimed to shed light on a possible *reverse causality* mechanism between narcissism and ostracism experiences. Replicating findings from Studies 1 and 2, cross-sectionally, narcissism and

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

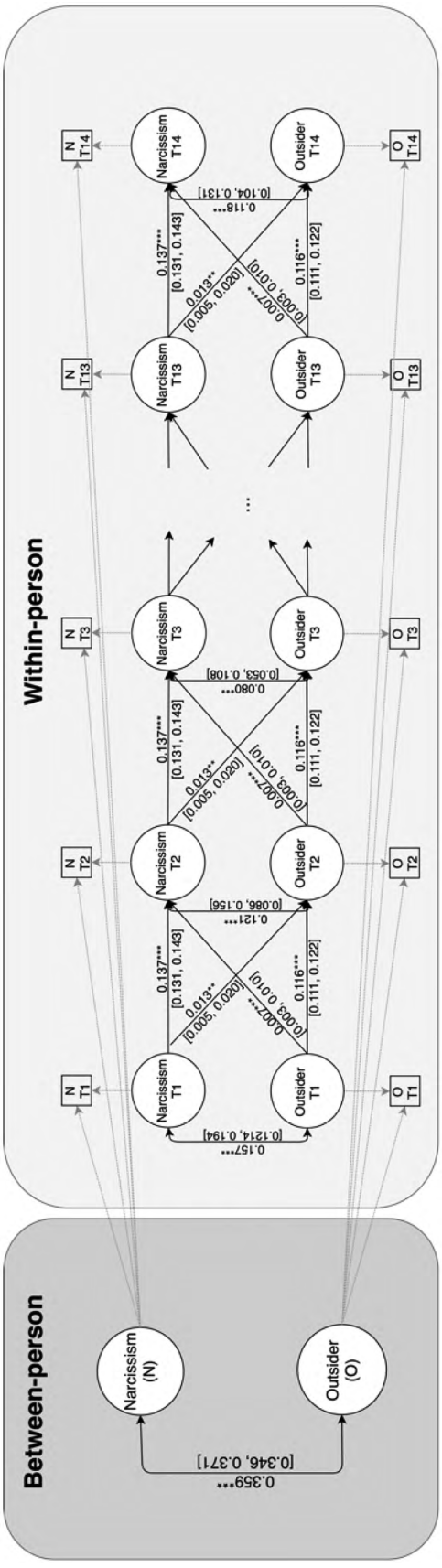


Figure 7
Random-Intercept Cross-Lagged Panel Model of Narcissism and Outsider Feelings

Note. Coefficients are unstandardized. For better readability, we omitted Waves 4–12 from the figure. T = time point.
$^{**}p < .01$. $^{***}p < .001$.

outsider feelings were robustly positively associated across all fourteen waves. Findings indicate that changes in outsider feelings are followed by changes in individuals' narcissism levels 1 year later, *and*—in support of the investigated *reverse causality* mechanism—changes in narcissism are followed by changes in individuals' outsider feelings 1 year later.

General Discussion

Extant research has demonstrated the negative consequences of being ostracized (e.g., C. M. Büttner, Ren, et al., 2024; Chen et al., 2020; Rudert, Janke, et al., 2021). Compared to its negative consequences, the question of who gets ostracized in the first place has received considerably less attention (but see, e.g., Albath et al., 2023; C. M. Büttner, Rudert, & Kachel, 2024; Rudert, Keller, et al., 2020, for exceptions). Our investigation shows that individuals with higher levels of grandiose narcissism report and experience frequent ostracism, even though their leadership qualities might suggest resilience to ostracism (e.g., Back et al., 2013; Brunell et al., 2008). In particular, individuals with higher narcissism levels report more frequent ostracism, both in retrospective recall and through real-time experience sampling assessments of daily life. This research investigated three underlying mechanisms explaining the association between higher levels of narcissism and more frequent reports of ostracism: First, narcissists' *negative perceptions* may cause them to perceive ostracism more readily. Second, narcissists' group-disturbing behaviors may cause others to factually exclude them more often, reflecting a *target behavior* mechanism. Third, a *reverse causality* mechanism may be at play, where negative social experiences, like ostracism, gradually alter personality traits, like narcissism, over time (e.g., Nielsen & Knardahl, 2015). Together, these three mechanisms, as well as the integration of the perspective of those who get ostracized (i.e., the targets of ostracism) and the perspective of those who decide to ostracize (i.e., the sources of ostracism) provide a powerful framework to study the interplay of personality risk factors and frequent negative social experiences. We discuss this framework and the corresponding findings from the presented studies in what follows.

A Framework for Research on Risk Factors for Frequent Negative Social Experiences

Negative Perceptions of Ambiguous Social Cues

The present findings show that individuals with higher levels of narcissism exhibit biased recall of their daily ostracism experiences as well as their lower threshold for perceiving to be excluded in ambiguous (but not unambiguous) exclusion situations constitute one reason for their higher frequency of reporting ostracism (i.e., *negative perceptions* mechanism, Nielsen & Knardahl, 2015). Importantly, this lower threshold of perceiving ostracism was only clearly apparent for ambiguous cues of social exclusion. At least two different reasons may underly narcissists' more frequent reports of ostracism in ambiguous scenarios (see also Geukes et al., 2019): First, individuals with higher levels of narcissism may be hypersensitive to perceiving exclusion, because they interpret ambiguous situations to be exclusionary; or, second, individuals with higher levels of narcissism *strategically report* perceiving exclusion, that is, they *strategically report* more frequent exclusion to appear as

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

victims in the eyes of others and/or their own eyes. Presenting as a victim of frequent ostracism may be strategic, because it allows to discount narcissists' accountability for failures (e.g., "Everybody ignores me at work, no wonder I cannot give it my all!") and accentuate their achievements when they are successful (e.g., "Even though everybody ignores me at work, I am still the top achiever in my department!," e.g., McCullough et al., 2003). Presenting oneself as a victim to others may be less believable in situations with a clear, unambiguous reason for ostracism, thereby fostering this mechanism specifically in ambiguous exclusion scenarios. Future research should aim to disentangle hypersensitivity to ostracism and strategic reporting experimentally. Moreover, in the present contribution, ambiguity was operationalized as to whether a situation can be characterized as ostracism in the first place. Williams (1997) noted that "a particular feature of ostracism [is]: it is inherently ambiguous" (p. 142). However, ambiguity in ostracism perception may emerge in many different ways, for instance, as a function of uncertainty regarding the reason for why one has been ostracized (e.g., C. M. Büttner & Greifeneder, 2024). Importantly, when targets cannot find a concrete reason for why they were ostracized, their negative experiences are amplified (Sommer et al., 2001). Future research should examine different aspects of ambiguity in ostracism perception that could be systematically manipulated in experimental designs (e.g., subtlety of ostracism, uncertainty regarding the ostracizers' intent, or lack of knowledge about the reasons for being excluded, e.g., Chen et al., 2010).

Further fueling the negative perceptions of narcissistic individuals, narcissistic rivalry was associated with higher rejection sensitivity in the present studies. Potentially, the reason for this link is frequent interpersonally maladaptive narcissistic behaviors caused by rivalry (e.g., Back et al., 2013; Holtzman et al., 2010; Wright et al., 2017) that then lead to more frequent ostracism and rejection and, as a consequence, to higher rejection sensitivity (e.g., Downey & Feldman, 1996). This aligns with other findings on negative interpersonal experiences that then shape individuals' negative perceptions: For instance, in the case of sexual minorities, experiences of interpersonal violence, rejection, and ostracism render sexual minorities hypersensitive to expecting negativity in social interactions, and, as a consequence, they perceive exclusion and other forms of discrimination more readily (e.g., Baams et al., 2020; C. M. Büttner, Rudert, & Kachel, 2024). Therefore, future research on the interplay of personality traits, individuals' expectations (see also Jauch et al., 2023), and negative social experiences (see also C. M. Büttner, Jauch, et al., 2024) may benefit from considering individuals' history of negative interpersonal experiences to learn more about the origins of altered social perceptions.

Target Behavior Inferred From Explicitly Described and Implicitly Perceived Traits

As a second explanatory mechanism of the association of narcissism and ostracism, the present findings suggest that others factually ostracize narcissists more frequently (i.e., *target behavior* mechanism, Nielsen & Knardahl, 2015). This link was apparent when participants were explicitly informed about narcissistic traits, especially about their rivalry traits, and when participants watched short introduction videos of narcissists. In line with previous research on narcissistic (un)popularity (e.g., Leckelt et al., 2015), rivalry thus seems to weigh heavier than admiration in individuals' decisions to ostracize narcissists.

Ostracizing those who threaten society's social functioning is a mechanism as ancient as humanity itself (e.g., Kurzban & Leary, 2001; Williams, 2009) that exists across cultures (e.g., Uskul & Over, 2014, 2017) and can even be observed in animals (e.g., Raleigh & McGuire, 1986; Slavík et al., 2015; Williams, 2002, 2009). By ostracizing those who constitute a threat, a group may ultimately become stronger (e.g., Rudert et al., 2023). The egotistical, uncooperative, and rude behavior of narcissists may be considered a threat to group cohesion (e.g., Holtzman et al., 2010; Miller et al., 2021; Zeigler-Hill et al., 2019). Moreover, the exclusion of individuals with higher levels of narcissism may be justified, if it has a corrective influence on narcissists' behavior. Future research should aim to uncover if and under which circumstances ostracism may have a corrective influence on narcissists' group behavior. Future research may also examine potential context effects of decisions to ostracize individuals with higher levels of narcissism. For instance, the admiration facet of narcissism may aid narcissists' career success, explaining why many leaders display narcissistic traits (e.g., Back et al., 2013; Brunell et al., 2008). Ostracizing superiors at work may prove more difficult, or even impossible, compared to ostracizing an equal (e.g., Fiset et al., 2017). However, among equals, narcissistic leaders may be frequently excluded. As such, workplace ostracism experiences of narcissists may depend, at least partly, on status differences. Moreover, in real life, ostracizing others may have negative consequences for the ostracizing person. For instance, the ostracizing individuals, the sources, may be punished by others if ostracism is not perceived as justified (e.g., Rudert et al., 2018; Rudert, Ruf, & Greifeneder, 2020). Previous research has also documented negative emotional effects on those who ostracize others (e.g., Legate et al., 2013, 2021). Future research should explore the decision-making process underlying ostracizing narcissists in real life. This includes weighing the emotional consequences against the benefits of ostracizing narcissists for the group. Ironically, to avoid repercussions, ostracizers might opt for subtler exclusion tactics which may make ambiguous exclusion situations more likely, for instance, in occupational contexts (e.g., Robinson et al., 2013).

Reverse Causality of Personality Traits and Negative Social Experiences

A nationally representative panel study showed that the association of narcissism and ostracism is robust in 14 yearly assessment waves. Moreover, changes in ostracism were followed by changes in individuals' narcissism levels 1 year later, *and*, vice versa, changes in narcissism were followed by changes in individuals' ostracism levels 1 year later, indicating support for a *reverse causality mechanism* (Nielsen & Knardahl, 2015). This aligns with previous findings that ostracism experiences change momentary self-perceptions of targets' personality in negative ways, for instance, by lowering agreeableness (e.g., Hales et al., 2016; Wirth et al., 2024). However, changes in personality *over several years*, elicited by ostracism, are a novel insight. This finding highlights the need for designing interventions to combat ostracism, for instance in the workplace or at school, to prevent negative downward spirals of frequent ostracism experiences and maladaptive changes in personality traits that foster more ostracism. Moreover, the cross-lagged impact of ostracism experiences on narcissism shows that the corrective influence of ostracism

on narcissism fails. Instead, ostracism seems to solidify narcissistic traits over time.

Importantly, the question remains whether the results would be different for even younger individuals' personality processes, especially for children's experiences of ostracism and the development of narcissistic traits. Previous research shows that narcissism generally declines in adult age (e.g., Weidmann et al., 2023) and that grandiose narcissism may develop in children as young as 8 years old (e.g., Thomaes et al., 2008). Further, adverse experiences in childhood have been associated with the development of narcissism, including experience like being neglected by others (e.g., Clemens et al., 2022; Gao et al., 2024), a form of ostracism. Our data only included adults aged 18 years or older, and, representative for the New Zealand society, the sample was rather old (i.e., mean age ranged from 48.14 to 54.89 years). The question therefore remains open whether, already in childhood, a vicious cycle could ensue, in which ostracism experiences accentuate narcissistic tendencies, and narcissism, in turn, leads to more frequent ostracism. From a lifespan perspective on the interplay of personality and social experiences, future research may test whether narcissists' ostracism experiences manifest in fewer stable and/or lower quality social connections over time (see also Kaufman et al., 2020). Such associations could in turn impede narcissists' mental health and life satisfaction (e.g., Rudert, Janke et al., 2021; Rudert, Keller, et al., 2020).

A potential limitation to the interpretation of the present findings is that narcissism was studied in healthy student, community, and representative samples. In line with previous research, narcissism scores were low in most individuals (e.g., Leckelt et al., 2018). Therefore, it is not easy to draw conclusions about severely narcissistic individuals based on the present data. However, even small increases in narcissism have been shown to increase violence and aggression and hinder successful relationship formation (e.g., Kjærvik & Bushman, 2021; Wurst et al., 2017). Future research may investigate whether the effects of narcissism on perceptions of ostracism or others' decisions to ostracize individuals with higher levels of narcissism are even more pronounced for individuals with pathological levels of narcissism. A similar argument can be made for the experience of ostracism. As our studies show, fortunately, most individuals do not experience ostracism daily. However, previous research shows that even small increases in ostracism frequency significantly increase the risk of developing severe mental health issues (e.g., Chen et al., 2020; Rudert, Janke, & Greifeneder, 2021).

Integrating Targets' Experiences and Sources' Decisions

The present contribution illustrates that much can be learned by jointly researching individuals' negative social experiences (here: ostracism) from a target perspective as well as decisions to behave negatively toward others (here: decisions to ostracize) from a source perspective. In previous research, targets' experiences and sources' decisions were often investigated within separate lines of research (for exceptions, see C. M. Büttner, Rudert, & Kachel, 2024; Rudert et al., 2023). However, integrating both perspectives affords holistic insights into negative social experiences as well as underlying reasons for frequent negative social experiences. Moreover, previous research noted differences in targets' and sources' perceptions regarding the most prominent reasons for ostracism (i.e., norm violations vs. expendability in group efforts, see Rudert et al., 2023). These differences are missed when investigations focus exclusively on targets versus sources. In the case of narcissists, the present studies show that targets' and sources' perceptions align in that individuals with higher levels of narcissism get ostracized more often. However, sources predominantly base their decisions on rivalry traits of narcissists, while, at least in reports of everyday ostracism by targets, admiration traits also play an important role. Moreover, in line with previous research (e.g., Rudert et al., 2023), Study 5 demonstrates that sources decide strategically whom to ostracize: Instead of condemning all levels of narcissism in interaction partners, sources strategically keep individuals with average levels of admiration in their teams. A compelling question for future research that necessitates both the targets' and sources' perspectives on ostracism is whether narcissistic targets report different reasons for getting ostracized than the sources who ostracized them. For instance, it could be that individuals with higher levels of narcissism attribute more self-serving and face-keeping reasons for getting ostracized, such as external attributions to the sources' malicious intent. Such attributions would allow individuals with higher levels of narcissism to keep face and not change their social behavior. Conversely, if sources' decisions to ostracize individuals with higher levels of narcissism are mainly driven by narcissists' group-disturbing behaviors (e.g., Brunell et al., 2011; Leckelt et al., 2015), this should manifest in more frequent attributions to narcissists' norm violations as the reason for ostracism. Moreover, these perceptions may be shaped by cultural differences: While we already recruited participants from five different countries (Germany, the United States, the UnitedKingdom, Switzerland, and New Zealand), future research should also aim to test bidirectional links between narcissism and ostracism in less Westernized cultures, because the experience of ostracism (e.g., Uskul & Over, 2014, 2017), the choice of ostracism as a form of social punishment (e.g., Eriksson et al., 2021; Molho et al., 2020), and the prevalence and social perception of narcissism (e.g., Fatfouta et al., 2021; Foster et al., 2003; Jauk et al., 2021) all differ across cultures.

Conclusion

Individuals with higher levels of grandiose narcissism report more frequent experiences of ostracism (being excluded and ignored, Williams, 2009) compared to less narcissistic individuals. This association is strong over the entire adult lifespan. Narcissists' more frequent reports of ostracism are rooted in narcissists' biased perception of ambiguous situations as exclusionary, as well as sources' decisions to ostracize individuals with higher levels of narcissism, particularly based on their antagonistic, norm-violating rivalry traits. Over time, changes in ostracism prompt changes in narcissism, and changes in narcissism prompt changes in ostracism, in line with a *reverse causality* mechanism of negative social experiences and personality changes (Nielsen & Knardahl, 2015). Together, our findings offer a framework to understand personality risk factors of frequent negative social experiences that integrates targets' perceptions, behaviors perceived by sources, and temporal changes in personality and social experiences.

References

Adams, J. M., Florell, D., Alex Burton, K., & Hart, W. (2014). Why do narcissists disregard social-etiquette norms? A test of two explanations for

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

why narcissism relates to offensive-language use. *Personality and Individual Differences*, *58*, 26–30. https://doi.org/10.1016/j.paid.2013.09.027

Albath, E. A., Büttner, C. M., Rudert, S. C., Sibley, C. G., & Greifeneder, R. (2023). Young, unemployed, excluded: Unemployed young adults report more ostracism. *European Journal of Social Psychology*, *53*(6), 1078–1097. https://doi.org/10.1002/ejsp.2953

Baams, L., Kiekens, W. J., & Fish, J. N. (2020). The rejection sensitivity model: Sexual minority adolescents in context. *Archives of Sexual Behavior*, *49*(7), 2259–2263. https://doi.org/10.1007/s10508-019-01572-2

Back, M. D., Küfner, A. C. P., Dufner, M., Gerlach, T. M., Rauthmann, J. F., & Denissen, J. J. A. (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

Bakdash, J. Z., & Marusich, L. R. (2017). Repeated measures correlation. *Frontiers in Psychology*, *8*, Article 456. https://doi.org/10.3389/fpsyg.2017.00456

Baughman, H. M., Dearing, S., Giammarco, E., & Vernon, P. A. (2012). Relationships between bullying behaviours and the Dark Triad: A study with adults. *Personality and Individual Differences*, *52*(5), 571–575. https://doi.org/10.1016/j.paid.2011.11.020

Benson, A. J., Jeschke, J., Jordan, C. H., Bruner, M. W., & Arnocky, S. (2019). Will they stay or will they go? Narcissistic admiration and rivalry predict ingroup affiliation and devaluation. *Journal of Personality*, *87*(4), 871–888. https://doi.org/10.1111/jopy.12441

Berenson, K. R., Gyurak, A., Ayduk, O., Downey, G., Garner, M. J., Mogg, K., Bradley, B. P., & Pine, D. S. (2009). Rejection sensitivity and disruption of attention by social threat cues. *Journal of Research in Personality*, *43*(6), 1064–1072. https://doi.org/10.1016/j.jrp.2009.07.007

Blinkhorn, V., Lyons, M., Collier, E. S., & Almond, L. (2021). The relationship between narcissism and acceptance of violence revealed through a game designed to induce social ostracism. *The Journal of Social Psychology*, *161*(3), 261–271. https://doi.org/10.1080/00224545.2020.1816884

Bosson, J. K., Lakey, C. E., Campbell, W. K., Zeigler-Hill, V., Jordan, C. H., & Kernis, M. H. (2008). Untangling the links between narcissism and self-esteem: A theoretical and empirical review. *Social and Personality Psychology Compass*, *2*(3), 1415–1439. https://doi.org/10.1111/j.1751-9004.2008.00089.x

Brummelman, E., Thomaes, S., & Sedikides, C. (2016). Separating narcissism from self-esteem. *Current Directions in Psychological Science*, *25*(1), 8–13. https://doi.org/10.1177/0963721415619737

Brunell, A. B., Buelow, M. T., & Trost, Z. (2021). Narcissism and the experience of pain. *Personality and Individual Differences*, *169*(1), Article 109852. https://doi.org/10.1016/j.paid.2020.109852

Brunell, A. B., Gentry, W. A., Campbell, W. K., Hoffman, B. J., Kuhnert, K. W., & Demarree, K. G. (2008). Leader emergence: The case of the narcissistic leader. *Personality and Social Psychology Bulletin*, *34*(12), 1663–1676. https://doi.org/10.1177/0146167208324101

Brunell, A. B., Staats, S., Barden, J., & Hupp, J. M. (2011). Narcissism and academic dishonesty: The exhibitionism dimension and the lack of guilt. *Personality and Individual Differences*, *50*(3), 323–328. https://doi.org/10.1016/j.paid.2010.10.006

Büttner, C., Rudert, S. C., Albath, E., Sibley, C. G., & Greifeneder, R. (2024). *Narcissists' experience of ostracism*. https://osf.io/hda4c

Büttner, C. M., & Greifeneder, R. (2024). Everyday ostracism experiences of depressed individuals: Uncovering the role of attributions using experience sampling. *Journal of Affective Disorders Reports*, *17*, Article 100804. https://doi.org/10.1016/j.jadr.2024.100804

Büttner, C. M., Jauch, M., Marinucci, M., Williams, K. D., Greifeneder, R., Riva, P., & Rudert, S. C. (2024). It will (never) stop hurting: Do repeated or chronic experiences of exclusion lead to hyper- or hyposensitive psychological responses? *Group Processes & Intergroup Relations*, *27*(2), 256–277. https://doi.org/10.1177/13684302221140002

Büttner, C. M., Lalot, F., Rudert, S. C., & Greifeneder, R. (2024). Ostracism experiences are associated with more frequent doctor visits over time. *European Journal of Health Psychology*. Advance online publication. https://doi.org/10.1027/2512-8442/a000161

Büttner, C. M., Ren, D., Stavrova, O., Rudert, S. C., Williams, K. D., & Greifeneder, R. (2024). Ostracism in everyday life: A framework of threat and behavioral responses in real life. *Journal of Personality and Social Psychology*. Advance online publication. https://doi.org/10.1037/pspi0000471

Büttner, C. M., & Rudert, S. C. (2022). Why didn't you tag me?!: Social exclusion from Instagram posts hurts, especially those with a high need to belong. *Computers in Human Behavior*, *127*, Article 107062. https://doi.org/10.1016/j.chb.2021.107062

Büttner, C. M., Rudert, S. C., & Greifeneder, R. (2021). Depressed and excluded: Do depressive symptoms moderate recovery from ostracism? *Journal of Affective Disorders*, *294*, 730–736. https://doi.org/10.1016/j.jad.2021.07.075

Büttner, C. M., Rudert, S. C., & Kachel, S. (2024). Ostracism experiences of sexual minorities: Investigating targets' experiences and perceptions by others. *Personality and Social Psychology Bulletin*. Advance online publication. https://doi.org/10.1177/01461672241240675

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., Bonacci, A. M., Shelton, J., Exline, J. J., & Bushman, B. J. (2004). Psychological entitlement: Interpersonal consequences and validation of a self-report measure. *Journal of Personality Assessment*, *83*(1), 29–45. https://doi.org/10.1207/s15327752jpa8301_04

Campbell, W. K., Bush, C. P., Brunell, A. B., & Shelton, J. (2005). Understanding the social costs of narcissism: The case of the tragedy of the commons. *Personality and Social Psychology Bulletin*, *31*(10), 1358–1368. https://doi.org/10.1177/0146167205274855

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

Cascio, C. N., Konrath, S. H., & Falk, E. B. (2015). Narcissists' social pain seen only in the brain. *Social Cognitive and Affective Neuroscience*, *10*(3), 335–341. https://doi.org/10.1093/scan/nsu072

Chen, Z., Law, A. T., & Williams, K. D. (2010). The uncertainty surrounding ostracism: Threat amplifier or protector? In R. M. Arkin, K. C. Oleson, & P. J. Carroll (Eds.), *Handbook of the uncertain self* (pp. 291–302). Psychology Press.

Chen, Z., Poon, K.-T., DeWall, C. N., & Jiang, T. (2020). Life lacks meaning without acceptance: Ostracism triggers suicidal thoughts. *Journal of Personality and Social Psychology*, *119*(6), 1423–1443. https://doi.org/10.1037/pspi0000238

Chester, D. S., & DeWall, C. N. (2016). Sound the alarm: The effect of narcissism on retaliatory aggression is moderated by dACC reactivity to rejection. *Journal of Personality*, *84*(3), 361–368. https://doi.org/10.1111/jopy.12164

Chopik, W. J., & Grimm, K. J. (2019). Longitudinal changes and historic differences in narcissism from adolescence to older adulthood. *Psychology and Aging*, *34*(8), 1109–1123. https://doi.org/10.1037/pag0000379

Christensen, T. C., Barrett, L. F., Bliss-Moreau, E., Lebo, K., & Christensen, T. C. (2003). A practical guide to experience-sampling procedures. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being*, *4*(1), 53–78. https://doi.org/10.1023/A:1023609306024

Clemens, V., Fegert, J. M., & Allroggen, M. (2022). Adverse childhood experiences and grandiose narcissism—Findings from a population-representative sample. *Child Abuse & Neglect*, *127*, Article 105545. https://doi.org/10.1016/j.chiabu.2022.105545

Cramer, P. (2011). Narcissism through the ages: What happens when narcissists grow older? *Journal of Research in Personality*, *45*(5), 479–492. https://doi.org/10.1016/j.jrp.2011.06.003

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Curran, P. J., & Hussong, A. M. (2009). Integrative data analysis: The simultaneous analysis of multiple data sets. *Psychological Methods*, *14*(2), 81–100. https://doi.org/10.1037/a0015914

Czarna, A. Z., Zajenkowski, M., Maciantowicz, O., & Szymaniak, K. (2021). The relationship of narcissism with tendency to react with anger and hostility: The roles of neuroticism and emotion regulation ability. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues*, *40*(11), 5499–5514. https://doi.org/10.1007/s12144-019-00504-6

Dashineau, S. C., Edershile, E. A., Simms, L. J., & Wright, A. G. C. (2019). Pathological narcissism and psychosocial functioning. *Personality Disorders: Theory, Research, and Treatment*, *10*(5), 473–478. https://doi.org/10.1037/per0000347

De Beurs, E., Lange, A., & Van Dyck, R. (1992). Self-monitoring of panic attacks and retrospective estimates of panic: Discordant findings. *Behaviour Research and Therapy*, *30*(4), 411–413. https://doi.org/10.1016/0005-7967(92)90054-K

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

Downey, G., & Feldman, S. I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology*, *70*(6), 1327–1343. https://doi.org/10.1037/0022-3514.70.6.1327

Ebner-Priemer, U. W., & Trull, T. J. (2009). Ambulatory assessment: An innovative and promising approach for clinical psychology. *European Psychologist*, *14*(2), 109–119. https://doi.org/10.1027/1016-9040.14.2.109

Edelstein, R. S., Newton, N. J., & Stewart, A. J. (2012). Narcissism in midlife: Longitudinal changes in and correlates of women's narcissistic personality traits. *Journal of Personality*, *80*(5), 1179–1204. https://doi.org/10.1111/j.1467-6494.2011.00755.x

Eriksson, K., Strimling, P., Gelfand, M., Wu, J., Abernathy, J., Akotia, C. S., Aldashev, A., Andersson, P. A., Andrighetto, G., Anum, A., Arikan, G., Aycan, Z., Bagherian, F., Barrera, D., Basnight-Brown, D., Batkeyev, B., Belaus, A., Berezina, E., Björnstjerna, M., … Van Lange, P. A. M. (2021). Perceptions of the appropriate response to norm violation in 57 societies. *Nature Communications*, *12*(1), Article 1481. https://doi.org/10.1038/s41467-021-21602-9

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*, Article 111163. https://doi.org/10.1016/j.paid.2021.111163

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*(2), 175–191. https://doi.org/10.3758/BF03193146

Fiset, J., Al Hajj, R., & Vongas, J. G. (2017). Workplace ostracism seen through the lens of power. *Frontiers in Psychology*, *8*, Article 1528. https://doi.org/10.3389/fpsyg.2017.01528

Fossati, A., Somma, A., & Borroni, S. (2017). The multidimensionality of pathological narcissism from the perspective of social ostracism: A study in a sample of Italian University students. *Personality and Individual Differences*, *116*, 309–313. https://doi.org/10.1016/j.paid.2017.05.009

Foster, J. D., Keith Campbell, W., & Twenge, J. M. (2003). Individual differences in narcissism: Inflated self-views across the lifespan and around the world. *Journal of Research in Personality*, *37*(6), 469–486. https://doi.org/10.1016/S0092-6566(03)00026-6

Gao, S., Yu, D., Assink, M., Chan, K. L., Zhang, L., & Meng, X. (2024). The association between child maltreatment and pathological narcissism: A three-level meta-analytic review. *Trauma, Violence, & Abuse*, *25*(1), 275–290. https://doi.org/10.1177/15248380221147559

Geukes, K., Breil, S. M., Hutteman, R., Nestler, S., Küfner, A. C. P., & Back, M. D. (2019). Explaining the longitudinal interplay of personality and social relationships in the laboratory and in the field: The PILS and the CONNECT study. *PLOS ONE*, *14*(1), Article e0210424. https://doi.org/10.1371/journal.pone.0210424

Giacomin, M., & Jordan, C. H. (2016). The wax and wane of narcissism: Grandiose narcissism as a process or state. *Journal of Personality*, *84*(2), 154–164. https://doi.org/10.1111/jopy.12148

Goebel, J., Grabka, M. M., Liebig, S., Kroh, M., Richter, D., Schröder, C., & Schupp, J. (2019). The German socio-economic panel (SOEP). *Jahrbücher für Nationalökonomie und Statistik*, *239*(2), 345–360. https://doi.org/10.1515/jbnst-2018-0022

Grafeman, S. J., Barry, C. T., Marcus, D. K., & Leachman, L. L. (2015). Interpersonal perceptions of narcissism in an at-risk adolescent sample: A social relations analysis. *Journal of Research on Adolescence*, *25*(1), 92–100. https://doi.org/10.1111/jora.12088

Grapsas, S., Brummelman, E., Back, M. D., & Denissen, J. J. A. (2020). The "why" and "how" of narcissism: A process model of narcissistic status pursuit. *Perspectives on Psychological Science*, *15*(1), 150–172. https://doi.org/10.1177/1745691619873350

Hagerty, B. M. K., & Patusky, K. (1995). Developing a measure of sense of belonging. *Nursing Research*, *44*(1), 9–13. https://doi.org/10.1097/00006199-199501000-00003

Hales, A. H., Kassner, M. P., Williams, K. D., & Graziano, W. G. (2016). Disagreeableness as a cause and consequence of ostracism. *Personality and Social Psychology Bulletin*, *42*(6), 782–797. https://doi.org/10.1177/0146167216643933

Hamaker, E. L. (2023). The within-between dispute in cross-lagged panel research and how to move forward. *Psychological Methods*. Advance online publication. https://doi.org/10.1037/met0000600

Hamaker, E. L., Kuiper, R. M., & Grasman, R. P. P. P. (2015). A critique of the cross-lagged panel model. *Psychological Methods*, *20*(1), 102–116. https://doi.org/10.1037/a0038889

Holtzman, N. S., Vazire, S., & Mehl, M. R. (2010). Sounds like a narcissist: Behavioral manifestations of narcissism in everyday life. *Journal of Research in Personality*, *44*(4), 478–484. https://doi.org/10.1016/j.jrp.2010.06.001

Jaeger, B. (2017). *R2glmm: Computes R squared for mixed (multilevel) models* (R package Version 0.1.2) [Computer software]. https://CRAN.R-project.org/package=r2glmm

Jauch, M., Büttner, C. M., Rudert, S. C., & Greifeneder, R. (2023). Expecting exclusion: Does bracing for the worst buffer the pain of social exclusion? *European Journal of Social Psychology*, *53*(4), 746–765. https://doi.org/10.1002/ejsp.2934

Jauch, M., Rudert, S. C., & Greifeneder, R. (2022). Social pain by non-social agents: Exclusion hurts and provokes punishment even if the excluding source is a computer. *Acta Psychologica*, *230*, Article 103753. https://doi.org/10.1016/j.actpsy.2022.103753

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

Kaufman, S. B., Weiss, B., Miller, J. D., & Campbell, W. K. (2020). Clinical correlates of vulnerable and grandiose narcissism: A personality perspective. *Journal of Personality Disorders*, *34*(1), 107–130. https://doi.org/10.1521/pedi_2018_32_384

Kenntemich, C., Büttner, C. M., & Rudert, S. C. (2024). The pursuit of approval: Social media users' decreased posting latency following online exclusion as a form of acknowledgment-seeking behavior. *Personality and Social Psychology Bulletin*. Advance online publication. https://doi.org/10.1177/01461672241297824

Kjærvik, S. L., & Bushman, B. J. (2021). The link between narcissism and aggression: A meta-analytic review. *Psychological Bulletin*, *147*(5), 477–503. https://doi.org/10.1037/bul0000323

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

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Krizan, Z., & Johar, O. (2015). Narcissistic rage revisited. *Journal of Personality and Social Psychology*, *108*(5), 784–801. https://doi.org/10.1037/pspp0000013

Kurzban, R., & Leary, M. R. (2001). Evolutionary origins of stigmatization: The functions of social exclusion. *Psychological Bulletin*, *127*(2), 187–208. https://doi.org/10.1037/0033-2909.127.2.187

Lamarche, V. M., & Seery, M. D. (2019). Come on, give it to me baby: Self-esteem, narcissism, and endorsing sexual coercion following social rejection. *Personality and Individual Differences*, *149*, 315–325. https://doi.org/10.1016/j.paid.2019.05.060

Lannin, D. G., Guyll, M., Krizan, Z., Madon, S., & Cornish, M. (2014). When are grandiose and vulnerable narcissists least helpful? *Personality and Individual Differences*, *56*, 127–132. https://doi.org/10.1016/j.paid.2013.08.035

Leckelt, M., Küfner, A. C. P., Nestler, S., & Back, M. D. (2015). Behavioral processes underlying the decline of narcissists' popularity over time. *Journal of Personality and Social Psychology*, *109*(5), 856–871. https://doi.org/10.1037/pspp0000057

Leckelt, M., Wetzel, E., Gerlach, T. M., Ackerman, R. A., Miller, J. D., Chopik, W. J., Penke, L., Geukes, K., Küfner, A. C. P., Hutteman, R., Richter, D., Renner, K.-H., Allroggen, M., Brecheen, C., Campbell, W. K., Grossmann, I., & Back, M. D. (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

Legate, N., DeHaan, C. R., Weinstein, N., & Ryan, R. M. (2013). Hurting you hurts me too: The psychological costs of complying with ostracism. *Psychological Science*, *24*(4), 583–588. https://doi.org/10.1177/0956797612457951

Legate, N., Weinstein, N., & Ryan, R. M. (2021). Ostracism in real life: Evidence that ostracizing others has costs, even when it feels justified. *Basic and Applied Social Psychology*, *43*(4), 226–238. https://doi.org/10.1080/01973533.2021.1927038

Lukowitsky, M. R., & Pincus, A. L. (2013). Interpersonal perception of pathological narcissism: A social relations analysis. *Journal of Personality Assessment*, *95*(3), 261–273. https://doi.org/10.1080/00223891.2013.765881

Lutz, S., Büttner, C. M., & Neumann, D. (2024). A window to what we missed: Effects of self- versus other-exclusion on social media users' fundamental needs, emotional responses, and online coping behaviors. *Media Psychology*, *27*(3), 401–427. https://doi.org/10.1080/15213269.2023.2242769

Martinez, M. A., Zeichner, A., Reidy, D. E., & Miller, J. D. (2008). Narcissism and displaced aggression: Effects of positive, negative, and delayed feedback. *Personality and Individual Differences*, *44*(1), 140–149. https://doi.org/10.1016/j.paid.2007.07.012

Mazinani, Z., Shakiba, S., Pourshahbaz, A., & Vahedi, M. (2021). Five Factor Narcissism and threat to fundamental needs following social exclusion engendered by the Cyberball game. *Personality and Individual Differences*, *168*, Article 110279. https://doi.org/10.1016/j.paid.2020.110279

McAuley, E., Duncan, T. E., & Russell, D. W. (1992). Measuring causal attributions: The revised Causal Dimension Scale (CDSII). *Personality and Social Psychology Bulletin*, *18*(5), 566–573. https://doi.org/10.1177/0146167292185006

McCullough, M. E., Emmons, R. A., Kilpatrick, S. D., & Mooney, C. N. (2003). Narcissists as "victims": The role of narcissism in the perception of transgressions. *Personality and Social Psychology Bulletin*, *29*(7), 885–893. https://doi.org/10.1177/0146167203029007007

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

Molho, C., Tybur, J. M., Van Lange, P. A. M., & Balliet, D. (2020). Direct and indirect punishment of norm violations in daily life. *Nature Communications*, *11*(1), Article 3432. https://doi.org/10.1038/s41467-020-17286-2

Napa Scollon, C., Prieto, C.-K., & Diener, E. (2009). Experience sampling: Promises and pitfalls, strength and weaknesses. In E. Diener (Ed.), *Assessing well-being* (Vol. 39, pp. 157–180). Springer Netherlands. https://doi.org/10.1007/978-90-481-2354-4_8

Nielsen, M. B., Glasø, L., & Einarsen, S. (2017). Exposure to workplace harassment and the Five Factor Model of personality: A meta-analysis. *Personality and Individual Differences*, *104*, 195–206. https://doi.org/10.1016/j.paid.2016.08.015

Nielsen, M. B., & Knardahl, S. (2015). Is workplace bullying related to the personality traits of victims? A two-year prospective study. *Work & Stress*, *29*(2), 128–149. https://doi.org/10.1080/02678373.2015.1032383

Ong, C. W., Roberts, R., Arthur, C. A., Woodman, T., & Akehurst, S. (2016). The leader ship is sinking: A temporal investigation of narcissistic leadership. *Journal of Personality*, *84*(2), 237–247. https://doi.org/10.1111/jopy.12155

Osborne, D., & Little, T. D. (2024). The random intercept cross-lagged panel model. In T. D. Little (Ed.), *Longitudinal structural equation modeling* (pp. 286–337). Guilford Press.

Peterson, J. L., & DeHart, T. (2014). In defense of self-love: An observational study on narcissists' negative behavior during romantic relationship conflict. *Self and Identity*, *13*(4), 477–490. https://doi.org/10.1080/15298868.2013.868368

Poggi, A., Richetin, J., & Preti, E. (2019). Trust and rejection sensitivity in personality disorders. *Current Psychiatry Reports*, *21*(8), Article 69. https://doi.org/10.1007/s11920-019-1059-3

Raleigh, M. J., & McGuire, M. T. (1986). Animal analogues of ostracism: Biological mechanisms and social consequences. *Ethology & Sociobiology*, *7*(3–4), 201–214. https://doi.org/10.1016/0162-3095(86)90048-8

Reidy, D. E., Foster, J. D., & Zeichner, A. (2010). Narcissism and unprovoked aggression. *Aggressive Behavior*, *36*(6), 414–422. https://doi.org/10.1002/ab.20356

Renneberg, B., Herm, K., Hahn, A., Staebler, K., Lammers, C.-H., & Roepke, S. (2012). Perception of social participation in borderline personality disorder. *Clinical Psychology & Psychotherapy*, *19*(6), 473–480. https://doi.org/10.1002/cpp.772

Rhodewalt, F., & Morf, C. C. (1995). Self and interpersonal correlates of the Narcissistic Personality Inventory: A review and new findings. *Journal of Research in Personality*, *29*(1), 1–23. https://doi.org/10.1006/jrpe.1995.1001

Roberts, R., Woodman, T., & Sedikides, C. (2018). Pass *me* the ball: Narcissism in performance settings. *International Review of Sport and Exercise Psychology*, *11*(1), 190–213. https://doi.org/10.1080/1750984X.2017.1290815

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

Robinson, S. L., O'Reilly, J., & Wang, W. (2013). Invisible at work: An integrated model of workplace ostracism. *Journal of Management*, *39*(1), 203–231. https://doi.org/10.1177/0149206312466141

Roche, M. J., Pincus, A. L., Conroy, D. E., Hyde, A. L., & Ram, N. (2013). Pathological narcissism and interpersonal behavior in daily life. *Personality Disorders: Theory, Research, and Treatment*, *4*(4), 315–323. https://doi.org/10.1037/a0030798

Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of Statistical Software*, *48*(2), 1–36. https://doi.org/10.18637/jss.v048.i02

Rudert, S. C., & Greifeneder, R. (2016). When it's okay that I don't play: Social norms and the situated construal of social exclusion. *Personality and Social Psychology Bulletin*, *42*(7), 955–969. https://doi.org/10.1177/0146167216649606

Rudert, S. C., Hales, A. H., & Büttner, C. M. (2021). Stay out of our office (vs. our pub): Target personality and situational context affect ostracism

intentions. *Journal of Experimental Social Psychology*, *95*, Article 104142. https://doi.org/10.1016/j.jesp.2021.104142

Rudert, S. C., Janke, S., & Greifeneder, R. (2020). The experience of ostracism over the adult life span. *Developmental Psychology*, *56*(10), 1999–2012. https://doi.org/10.1037/dev0001096

Rudert, S. C., Janke, S., & Greifeneder, R. (2021). Ostracism breeds depression: Longitudinal associations between ostracism and depression over a three-year-period. *Journal of Affective Disorders Reports*, *4*, Article 100118. https://doi.org/10.1016/j.jadr.2021.100118

Rudert, S. C., Keller, M. D., Hales, A. H., Walker, M., & Greifeneder, R. (2020). Who gets ostracized? A personality perspective on risk and protective factors of ostracism. *Journal of Personality and Social Psychology*, *118*(6), 1247–1268. https://doi.org/10.1037/pspp0000271

Rudert, S. C., Möring, J. N. R., Kenntemich, C., & Büttner, C. M. (2023). When and why we ostracize others: Motivated social exclusion in group contexts. *Journal of Personality and Social Psychology*, *125*(4), 803–826. https://doi.org/10.1037/pspi0000423

Rudert, S. C., Reutner, L., Greifeneder, R., & Walker, M. (2017). Faced with exclusion: Perceived facial warmth and competence influence moral judgments of social exclusion. *Journal of Experimental Social Psychology*, *68*, 101–112. https://doi.org/10.1016/j.jesp.2016.06.005

Rudert, S. C., Ruf, S., & Greifeneder, R. (2020). Whom to punish? How observers sanction norm-violating behavior in ostracism situations. *European Journal of Social Psychology*, *50*(2), 376–391. https://doi.org/10.1002/ejsp.2606

Rudert, S. C., Sutter, D., Corrodi, V. C., & Greifeneder, R. (2018). Who's to blame? Dissimilarity as a cue in moral judgments of observed ostracism episodes. *Journal of Personality and Social Psychology*, *115*(1), 31–53. https://doi.org/10.1037/pspa0000122

Schröder-Abé, M., & Fatfouta, R. (2019). Shades of narcissistic dishonesty: Grandiose versus vulnerable narcissism and the role of self-conscious emotions. *Journal of Economic Psychology*, *71*, 148–158. https://doi.org/10.1016/j.joep.2018.06.003

Slavík, O., Horký, P., & Maciak, M. (2015). Ostracism of an albino individual by a group of pigmented catfish. *PLOS ONE*, *10*(5), Article e0128279. https://doi.org/10.1371/journal.pone.0128279

Smith, A., & Williams, K. D. (2004). R U There? Ostracism by cell phone text messages. *Group Dynamics: Theory, Research, and Practice*, *8*(4), 291–301. https://doi.org/10.1037/1089-2699.8.4.291

Sommer, K. L., Williams, K. D., Ciarocco, N. J., & Baumeister, R. F. (2001). When silence speaks louder than words: Explorations into the intrapsychic and interpersonal consequences of social ostracism. *Basic and Applied Social Psychology*, *23*(4), 225–243. https://doi.org/10.1207/S15324834BASP2304_1

Stronge, S., Cichocka, A., & Sibley, C. G. (2016). Narcissistic self-esteem or optimal self-esteem? A latent profile analysis of self-esteem and psychological entitlement. *Journal of Research in Personality*, *63*, 102–110. https://doi.org/10.1016/j.jrp.2016.06.016

Stronge, S., Cichocka, A., & Sibley, C. G. (2019). The heterogeneity of self-regard: A latent transition analysis of self-esteem and psychological entitlement. *Journal of Research in Personality*, *82*, Article 103855. https://doi.org/10.1016/j.jrp.2019.103855

Telesca, A., Telari, A., Consonni, M., De Panfilis, C., & Riva, P. (2024). On the other side of ostracism: A systematic literature review of the cyberball overinclusion condition. *Cogent Psychology*, *11*(1), Article 2336362. https://doi.org/10.1080/23311908.2024.2336362

Thomaes, S., Stegge, H., Bushman, B. J., Olthof, T., & Denissen, J. (2008). Development and validation of the Childhood Narcissism Scale. *Journal of Personality Assessment*, *90*(4), 382–391. https://doi.org/10.1080/00223890802108162

Twenge, J. M., & Campbell, W. K. (2003). "Isn't it fun to get the respect that we're going to deserve?" Narcissism, social rejection, and aggression. *Personality and Social Psychology Bulletin*, *29*(2), 261–272. https://doi.org/10.1177/0146167202239051

Uskul, A. K., & Over, H. (2014). Responses to social exclusion in cultural context: Evidence from farming and herding communities. *Journal of Personality and Social Psychology*, *106*(5), 752–771. https://doi.org/10.1037/a0035810

Uskul, A. K., & Over, H. (2017). Culture, social interdependence, and ostracism. *Current Directions in Psychological Science*, *26*(4), 371–376. https://doi.org/10.1177/0963721417699300

van Breukelen, G. J. P. (2013). ANCOVA versus CHANGE from baseline in nonrandomized studies: The difference. *Multivariate Behavioral Research*, *48*(6), 895–922. https://doi.org/10.1080/00273171.2013.831743

Wallace, H. M., Scheiner, B. R., & Grotzinger, A. (2016). Grandiose narcissism predicts willingness to behave badly, without proportional tolerance for others' bad behavior. *Current Psychology*, *35*, 234–243. https://doi.org/10.1007/s12144-016-9410-x

Watson, P. J., & Morris, R. J. (1991). Narcissism, empathy and social desirability. *Personality and Individual Differences*, *12*(6), 575–579. https://doi.org/10.1016/0191-8869(91)90253-8

Weidmann, R., Chopik, W. J., Ackerman, R. A., Allroggen, M., Bianchi, E. C., Brecheen, C., Campbell, W. K., Gerlach, T. M., Geukes, K., Grijalva, E., Grossmann, I., Hopwood, C. J., Hutteman, R., Konrath, S., Küfner, A. C. P., Leckelt, M., Miller, J. D., Penke, L., Pincus, A. L., … Back, M. D. (2023). Age and gender differences in narcissism: A comprehensive study across eight measures and over 250,000 participants. *Journal of Personality and Social Psychology*, *124*(6), 1277–1298. https://doi.org/10.1037/pspp0000463

Wesselmann, E. D., Cardoso, F. D., Slater, S., & Williams, K. D. (2012). To be looked at as though air: Civil attention matters. *Psychological Science*, *23*(2), 166–168. https://doi.org/10.1177/0956797611427921

Wesselmann, E. D., Michels, C., & Slaughter, A. (2019). Understanding common and diverse forms of social exclusion. In S. C. Rudert, R. Greifeneder, & K. D. Williams (Eds.), *Current directions in ostracism, social exclusion, and rejection research* (1st ed., pp. 1–17). Routledge.

Wesselmann, E. D., Wirth, J. H., Pryor, J. B., Reeder, G. D., & Williams, K. D. (2013). When do we ostracize? *Social Psychological and Personality Science*, *4*(1), 108–115. https://doi.org/10.1177/1948550612443386

Westfall, J. (2015). *PANGEA: Power analysis for general ANOVA designs*. https://jakewestfall.org/publications/pangea.pdf

Westfall, J., & Yarkoni, T. (2016). Statistically controlling for confounding constructs is harder than you think. *PLOS ONE*, *11*(3), Article e0152719. https://doi.org/10.1371/journal.pone.0152719

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*(2), 479–496. https://doi.org/10.1037/pspp0000266

Williams, K. D. (1997). Social ostracism. In R. M. Kowalski (Ed.), *Aversive interpersonal behaviors* (pp. 133–170). Plenum Press. https://doi.org/10.1007/978-1-4757-9354-3_7

Williams, K. D. (2002). *Ostracism: The power of silence*. Guilford Press.

Williams, K. D. (2007). Ostracism. *Annual Review of Psychology*, *58*(1), 425–452. https://doi.org/10.1146/annurev.psych.58.110405.085641

Williams, K. D. (2009). Ostracism: A temporal need-threat model. *Advances in Experimental Social Psychology*, *41*, 275–314. https://doi.org/10.1016/S0065-2601(08)00406-1

Williams, K. D., Cheung, C. K. T., & Choi, W. (2000). Cyberostracism: Effects of being ignored over the Internet. *Journal of Personality and Social Psychology*, *79*(5), 748–762. https://doi.org/10.1037/0022-3514.79.5.748

Williams, K. D., & Jarvis, B. (2006). Cyberball: A program for use in research on interpersonal ostracism and acceptance. *Behavior Research Methods*, *38*(1), 174–180. https://doi.org/10.3758/BF03192765

Wink, P., & Donahue, K. (1995). Implications of college-age narcissism for psychosocial functioning at midlife: Findings from a longitudinal study of women. *Journal of Adult Development*, *2*(2), 73–85. https://doi.org/10.1007/BF02251256

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Wirth, J. H., Hales, A. H., & Buelow, M. T. (2024). Ostracism negatively impacts working self-perceptions of personality. *European Journal of Social Psychology*, *54*(4), 911–932. https://doi.org/10.1002/ejsp.3058

Wirth, J. H., Sacco, D. F., Hugenberg, K., & Williams, K. D. (2010). Eye gaze as relational evaluation: Averted eye gaze leads to feelings of ostracism and relational devaluation. *Personality and Social Psychology Bulletin*, *36*(7), 869–882. https://doi.org/10.1177/0146167210370032

Wright, A. G. C., Stepp, S. D., Scott, L. N., Hallquist, M. N., Beeney, J. E., Lazarus, S. A., & Pilkonis, P. A. (2017). The effect of pathological narcissism on interpersonal and affective processes in social interactions. *Journal of Abnormal Psychology*, *126*(7), 898–910. https://doi.org/10.1037/abn0000286

Wurst, S. N., Gerlach, T. M., Dufner, M., Rauthmann, J. F., Grosz, M. P., Küfner, A. C. P., Denissen, J. J. A., & Back, M. D. (2017). Narcissism and romantic relationships: The differential impact of narcissistic admiration and rivalry. *Journal of Personality and Social Psychology*, *112*(2), 280–306. https://doi.org/10.1037/pspp0000113

Zeigler-Hill, V., Vrabel, J. K., McCabe, G. A., Cosby, C. A., Traeder, C. K., Hobbs, K. A., & Southard, A. C. (2019). Narcissism and the pursuit of status. *Journal of Personality*, *87*(2), 310–327. https://doi.org/10.1111/jopy.12392

Received June 4, 2024
Revision received November 27, 2024
Accepted December 5, 2024 ■

This document is copyrighted by the American Psychological Association or one of its allied publishers.
This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.