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Revitalizing Narcissistic Perfectionism: Evidence of the Reliability and the Validity of an Emerging Construct

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Abstract Theorists have long speculated about narcissistic perfectionism—an outwardly directed need for perfection marked by grandiosity, entitlement, and lofty expectations for others. This study provides evidence of reliability and predictive validity for an emerging model of narcissistic perfectionism using two waves of measurement and multiple data sources (self-report and informant-report) in a sample of 155 undergraduate students. As hypothesized, confirmatory factor analysis showed manifest indicators of narcissistic perfectionism cohered together as a constellation of traits while showing reliability and factorial validity across time and source. Hierarchical multiple regression indicated narcissistic perfectionism uniquely and incrementally predicted anger beyond competing measures of other-oriented perfectionism and narcissism. Informant-reports of narcissistic perfectionism uniquely predicted anger beyond self-reports. These results offer promising empirical support for the often discussed, but seldom tested, concept of narcissistic perfectionism.

Keywords Perfectionism · Narcissism · Anger · Informant · Reliability · Validity

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The number of models and measures of perfectionism has burgeoned in recent years. Empirical integration has led to higher-order constructs such as perfectionistic strivings (e.g., setting unrealistically high standards for oneself) and perfectionistic concerns (e.g., showing intense concern over mistakes and sharp rebuke in response to imperfections), which have provided a much needed foundation for perfectionism research (Blankstein and Dunkley 2002).

Amidst these advances, certain forms of perfectionism have been neglected, such as the tendency to direct one's need for perfection outward toward others in a demanding and hyper-critical way. Consider a grandiose boss who intensely demands perfection of her employee, or an entitled husband who responds to perceived faults in his spouse with harsh criticism. Such anecdotes are common, yet there is presently no conceptual model that fully captures this personality style.

Hewitt and Flett (1990, 1991) have published important work describing other-oriented perfectionism, which is characterized by holding perfectionistic expectations for others. Research suggests other-oriented perfectionism is a "dark" form of perfectionism linked to intimacy problems (Stoeber 2014), yet it shows little relation to interpersonal difficulties after controlling for other forms of perfectionism (Mackinnon et al. 2012). Perhaps due to this poorer predictive utility, other-oriented perfectionism has often been neglected whereas other dimensions are clearly represented in the broad domains of perfectionistic strivings and perfectionistic concerns. Similar to how models of perfectionism advanced with the addition of self-criticism (Blankstein and Dunkley 2002), we believe other-oriented perfectionism may yet find a valued place within a broader trait constellation to better reflect the harsh and the critical personality described by theory.

Accounts of lofty and unreasonable standards for others are commonly represented in theoretical descriptions of narcissism, yet the absence of other-directed perfectionism in

contemporary empirical models points to a discrepancy between theory and research in narcissism. To stimulate research on the potential overlap between narcissism and perfectionism (particularly in perfectionism toward others), we propose a constellation of perfectionistic and narcissistic traits, which we call *narcissistic perfectionism*.

Theoretical Description of Narcissistic Perfectionism

The narcissism-perfectionism link is often discussed but rarely studied. Theoretical accounts focus on the role of both *intra*personal perfectionism (i.e., perfectionism directed at oneself) and *inter*personal perfectionism (i.e., perfectionism directed at others). Rothstein (1999) claims a prominent role for intrapersonal perfectionism in narcissism, noting the core of narcissism rests in a "felt quality of perfection" (p. 17), which is needed to maintain self-esteem. Similarly, Sorotzkin (1985) described perfectionism as a concomitant personality trait that helps narcissists maintain a grandiose sense of self. Thus, perfection is one way narcissists protect their fragile sense of self and avoid the shame that would accompany loss of admiration from others.

Perfectionistic demands of others are also discussed in theoretical descriptions of narcissism, albeit more briefly. Theory suggests narcissists "readily announce their perfectionistic strivings and ideals, often in combination with their contempt for the perceived imperfections of other people" (Ronningstam 2011, p. 93). Others suggest narcissists "impose their self-created standards on others, [and] demand that others submit to their way of doing things" (Millon and Davis 1996, p. 719). However, the expectation of others' perfection is not clearly represented in prominent models of narcissism (see also Nealis et al. 2015).

Perfectionistic expectations for others are consistent with accepted notions that narcissists are engaged in various, often contradictory, efforts to maintain a coherent sense of self and perceived superiority over others (Morf and Rhodewalt 2001a, b). Psychoanalysts describe how narcissists regulate their sense of self through other people by fusing themselves to idealized others, which allows them to maintain grandiosity through their association with these idealized others (Kohut 1972). This is consistent with data showing narcissistic women seek out attractive friends through which to attain a sense of superiority (Jonason and Schmitt 2012). By setting high standards for these idealized others and ensuring they meet these standards, narcissistic individuals can continue to garner a felt sense of importance. For example, a narcissistic father might derive a grandiose sense of self from the flawless performance of his daughter during a hockey game, and thus continually demand perfection from her to protect his sense of self.

Although contemporary research highlights the tendency of narcissists to be competitive and derogate others to maintain a sense of superiority (Besser and Priel 2010; Nicholls and Stukas 2011), perfectionistic demands for others may coincide with other motives that operate at different cognitive and affective levels to maintain a sense of superiority and self-worth (Elliot and Thrash 2001). Indeed, these two opposing motives (i.e., seeking out valued others while belittling competition) may fluctuate over time, and operate in different contexts (e.g., shared goals trigger perfectionistic demands of others, whereas competitive environments do not). These motives may also differ between individuals, with friends, family, and subordinates being held to exacting standards while peers or strangers are not.

Empirical Evidence on and Theoretical Formulation of Narcissistic Perfectionism

Given the limitations of other-oriented perfectionism and extant models of narcissism, we believe the key to narcissistic perfectionism rests in a constellation of traits that cohere together, rather than a single trait. Moderate associations between other-oriented perfectionism and narcissism support these links (Watson et al. 1999–2000), suggesting narcissistic and perfectionistic traits may co-occur to create the harsh and critical style of outwardly directed perfectionism described by theory. A recent study showed support for narcissistic perfectionism as a constellation of traits (Nealis et al. 2015). This study supported the proposed measurement model for narcissistic perfectionism involving grandiosity, entitlement, high standards for others, and other-oriented perfectionism. This model of narcissistic perfectionism incrementally predicted aversive social behavior (conflict with others) and hostile cognitions (derogatory thoughts about others) beyond self-critical perfectionism.

Cognitive theorists explain the role of perfectionism in narcissism as a result of dysfunctional schemas of entitlement and grandiose expectations for others (Beck et al. 2004; Ellis 1997). Research has also identified grandiosity (including superiority) as an important trait for distinguishing people who critically evaluate others from people who critically evaluate themselves (Trumpeter et al. 2006). Other narcissistic traits, such as self-admiration and authority, do not distinguish people who critically evaluate others from people who critically evaluate themselves (Trumpeter et al. 2006). Entitled individuals lash out (South et al. 2003; Witte et al. 2002), especially when their lofty expectations for others go unmet. Because the most widely used measure of narcissism, the Narcissistic Personality Inventory (Raskin and Terry 1988), has received considerable criticism regarding its conceptual and psychometric properties (e.g., Ackerman et al. 2011), we sought alternative measures of entitlement and grandiose narcissism that were relatively brief while demonstrating good psychometric properties. For these reasons, we use the Psychological Entitlement Scale (PES; Campbell et al. 2004) and the

narcissism subscale of the Dirty Dozen (Jonason and Webster 2010) in the present study.

Few measures of high standards for others and other-oriented perfectionism are empirically validated. To allow the widely used measure of other-orientated perfectionism (Hewitt and Flett 1991) to be used for comparison, we use the only two remaining measures of this trait in the present study: the high standards for others subscale of the Perfectionism Inventory (Hill et al. 2004), and an earlier measure of other-oriented perfectionism (Hewitt and Flett 1990). These single-trait measures of perfectionistic expectations of others capture the harsh, outwardly directed expectations and evaluations placed on close others in a manner consistent with theory. Considered together, these four traits (grandiosity, entitlement, high standards for others, and other-oriented perfectionism) form narcissistic perfectionism.

Narcissistic Perfectionism and Anger

Theory suggests the dominant affective response of the narcissistic perfectionist is anger.

Classical theory describes narcissistic rage—intense anger when a narcissist's grandiosity is threatened or if idealized others fail to satisfy a narcissist's grandiose expectations (Kohut 1972). Perfectionistic demands of others form a root for angry responses to disappointments, particularly when others do not satisfy their grandiose, entitled demands (Beck et al. 2004; Ellis 1976). For example, narcissists will "hold others in contempt for being inferior or just being average" (Millon et al. 2000, p. 271). Due to over-identification with idealized others, perceived failures of close others may be perceived as direct threats to the narcissist's own superiority. Like more direct threats to superiority (Witte et al. 2002), the dominant reaction is to become angry and lash out at the perceived faults of those (formerly) idealized others.

For a model of narcissistic perfectionism to be useful, it should predict anger where other perfectionism measures (e.g., other-oriented perfectionism) have not (Haring et al. 2003; Mackinnon et al. 2012; Saboonchi and Lundh 2003), while uniquely predicting anger beyond facets of narcissism (Twenge and Campbell 2003; Witte et al. 2002). Entitlement rage, a component of narcissism included in the Pathological Narcissism Inventory (Pincus et al. 2009), represents anger resulting from the failure of others to satisfy one's narcissistic needs (e.g., recognizing one as special or offering admiration) and may relate to psychological reactance resulting from thwarted superiority motives (Bushman et al. 2003). While we believe narcissistic perfectionists also experience anger when their needs for superiority are thwarted, this is thought to relate to the perceived failure of others to live up to the lofty expectations imposed on them more than the failure of others to recognize one as special. Thus, anger is an important consequence to both pathological narcissism and narcissistic perfectionism, with distinct root processes. If narcissistic perfectionism incrementally predicts anger beyond entitlement rage, it would suggest pathological narcissism and narcissistic perfectionism have distinct features and that narcissistic perfectionism is non-redundant. This is a particularly strict challenge against which to evaluate the usefulness of narcissistic perfectionism as an emerging construct.

Needed Conceptual and Methodological Advances

While the research by Nealis et al. (2015) provides initial support for the uniqueness of narcissistic perfectionism beyond a competing model of perfectionism (i.e., self-critical perfectionism), it did not test if narcissistic perfectionism is unique beyond existing measures of other-oriented perfectionism and narcissism. Furthermore, this research supported the uniqueness of narcissistic perfectionism in predicting behavioral (conflict) and cognitive outcomes (derogation), but neglects affective experiences (e.g., anger). Our study helps fill these gaps.

Existing research on narcissistic perfectionism (e.g., Nealis et al. 2015; Stoeber et al. 2015) is over-reliant on self-report data, which is problematic when studying maladaptive personality traits (Klonsky et al. 2002). Research shows perfectionists and narcissists use self-presentation strategies that over-represent or conceal certain traits (Hewitt et al. 2003; Stoeber and Hotham 2013). Perfectionistic and narcissistic people may also grow accustomed to their behavior and fail to provide accurate self-reports. In contrast, including informant-reports would make use of the perceptions of others to overcome self-report bias (Vazire 2006) and improve our understanding of narcissistic perfectionism, which is thought to often express itself in social contexts (Millon and Davis 1996). Our study advances research by including aggregated ratings from multiple informants, which provide higher quality estimates of a person's personality as perceived by others. This follows recommendations regarding the use of multiple measures and multiple sources to avoid the methodological limitations of self-report data (Podsakoff and Organ 1986).

As personality traits are generally assumed to be stable over time, many studies neglect to test questions regarding temporal stability. Our study uses two waves of measurement separated by 4 weeks, allowing the test-retest reliability of narcissistic perfectionism to be examined.

Objectives and Hypotheses

Our study sought to expand on previous research (e.g., Nealis et al. 2015) by providing needed evidence for the reliability and validity of narcissistic perfectionism. The first objective

was to test the rank-order stability and reliability of narcissistic perfectionism. Narcissistic perfectionism is considered a constellation of traits that describes tendencies that are generally consistent across time. We hypothesized that narcissistic perfectionism would show high test-retest reliability across two measurement occasions separated by 4 weeks, and that the factor structure would replicate across those two occasions.

The second objective was to test the convergence of narcissistic perfectionism across two sources: self-report and informant-report. Research suggests modest convergence between self- and informant-reports of personality, such as pathological narcissism (Lukowitsky and Pincus 2013) and self-critical perfectionism (Sherry et al. 2013). We hypothesized the factor structure of narcissistic perfectionism would replicate using informant reports, and that informant-reported narcissistic perfectionism would show a moderate overlap with self-reports.

Our third objective was to test the uniqueness and predictive utility of narcissistic perfectionism when predicting anger. For narcissistic perfectionism to stand as a unique construct, it should predict anger beyond narcissism and other-oriented perfectionism. To test the uniqueness and utility of narcissistic perfectionism, we compare it to three covariates: other-oriented perfectionism (Hewitt and Flett 1991), a global measures of narcissism (Jones and Paulhus 2014), and entitlement rage (Pincus et al. 2009). We hypothesized narcissistic perfectionism would incrementally predict anger above and beyond these other measures. As informant-reports are thought to provide additional information beyond self-reports by circumventing self-presentation biases accompanying perfectionism and narcissism (Sherry et al. 2013), we hypothesized informant reports of narcissistic perfectionism would uniquely predict anger beyond self-reported narcissistic perfectionism.

Method

Participants

We recruited 155 undergraduates (119 women; 36 men). Participants had an average age of 20.7 years ($SD = 3.0$), and were mostly of European (70.3 %) or Asian (12.9 %) descent. We call these participants "targets." We recruited 588 "informants" (364 women; 224 men) from target participants' social networks. Informants included family members (41 %), romantic partners, (7 %), friends (39 %), and other relationships (e.g., roommate; 13 %). Informants had an average age of 30.2 years ($SD = 14.8$), and were mostly of European (73.3 %) or Asian (11.2 %) descent. Most informants indicated they were very familiar (32.4 %) or extremely familiar (56.8 %) with their target participant, and over half of the informants reported living in the same household (22.7 %) or same city (28.8 %) as their target participant. Informants reported knowing target participants for an average of 10.5 years ($SD = 9.0$). Informants reported face-to-face contact with targets an average of 3.7 days per week ($SD = 2.6$) and some form of communication with targets (e.g., phone or email) an average of 5.1 days per week ($SD = 2.1$).

Measures

Narcissistic perfectionism (self- and informant-reports) and anger were measured using multiple manifest indicators, which provide more accurate estimates of model parameters than single indicators (Byrne 2001). For all scales, items were averaged to calculate total scores.

Narcissistic Perfectionism Measurement of narcissistic perfectionism involved four scales: the narcissism subscale of the *Dirty Dozen* scale (DD-N; Jonason and Webster 2010), the *Psychological Entitlement Scale* (PES; Campbell et al. 2004), the high standards for others subscale of the *Perfectionism Inventory* (PI-HSFO; Hill et al. 2004), and Hewitt and Flett's (1990) *other-oriented perfectionism* (OOP) scale. The 4-item DD-N (e.g., "I tend to expect special favors from others") was rated on a 9-point scale from 1 (*strongly disagree*) to 9 (*strongly agree*). Research supports the reliability and validity of this scale (Jonason and Webster 2010). Internal consistency in our study was acceptable for self-reports at Wave 1 ($\alpha = .78$, 95 % CI [.72, .83]), Wave 2 ($\alpha = .80$, 95 % CI [.74, .85]), and informant-reports at Wave 1 ($\alpha = .89$, 95 % CI [.86, .92]).

The 9-item PES (e.g., "Things should go my way") was rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Research supports the reliability and validity of this scale (Campbell et al. 2004). Internal consistency for this measure was acceptable for self-reports at Wave 1 ($\alpha = .85$, 95 % CI [.81, .88]), Wave 2 ($\alpha = .89$, 95 % CI [.87, .92]), and informant-reports at Wave 1 ($\alpha = .91$, 95 % CI [.89, .93]).

The 7-item PI-HSFO (e.g., "I often get frustrated over other people's mistakes") was rated on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Research supports the reliability and validity of this scale (Hill et al. 2004). Internal consistency for this measure was acceptable for self-reports at Wave 1 ($\alpha = .86$, 95 % CI [.82, .89]), Wave 2 ($\alpha = .87$, 95 % CI [.84, .90]), and informant-reports at Wave 1 ($\alpha = .91$, 95 % CI [.89, .93]).

The 8-item OOP (e.g., "I cannot help getting upset if someone I know makes mistakes") was rated on a 5-point scale, from 1 (*strongly disagree*) to 5 (*strongly agree*). Research supports the reliability and validity of this scale (Hewitt and Flett 1990). Internal consistency for this measure was acceptable for self-reports at Wave 1 ($\alpha = .86$, 95 % CI [.82, .89]), Wave 2 ($\alpha = .90$, 95 % CI [.88, .92]), and informant-reports at Wave 1 ($\alpha = .93$, 95 % CI [.91, .95]).

Informant-reports of narcissistic perfectionism involved modified versions of the DD-N, PES, PI-HSFO, and OOP. Self-report items (e.g., "I have high expectations for the people who are important to me") were modified into informant-report items (e.g., "They have high expectations for the people who are important to them"). All other attributes of the scale (e.g., number of items, item-response scale) remained identical. There are no published studies testing the reliability and validity of the informant-report versions of these scales.

Anger Anger was measured using three scales: the hostility subscale of the *Multiple Affect Adjective Checklis*t (MAACL; Zuckerman and Lubin 1965), the anger subscale of the *Profile of Mood States* (POMS; McNair et al. 1971), and the anger subscale of the *Aggression Questionnaire* (AQ; Buss and Perry 1992). All three measures asked participants to report on their mood over the previous week. The 24-item MAACL (e.g., "irritated") was rated on a 5-point scale from 0 (*not at all*) to 4 (*extremely*). Research supports the reliability and validity of this scale (Lubin et al. 2001). Internal consistency for this measure was high at Wave 1 ($\alpha = .91$, 95 % CI [.89, .93]) and 2 ($\alpha = .92$, 95 % CI [.90, .94]). Four-week test-retest reliability for this scale was moderate ($r = .55$, $p < .001$). The 12-item POMS (e.g., "spiteful") was rated on a 5-point scale from 0 (*not at all*) to 4 (*extremely*). Research supports the reliability and validity of this scale (McNair et al. 1971). Internal consistency for this measure was high at Wave 1 ($\alpha = .88$, 95 % CI [.85, .91]) and 2 ($\alpha = .90$, 95 % CI [.88, .92]). Four-week test-retest reliability for this scale was moderate ($r = .58$, $p < .001$). The 7-item AQ (e.g., "Sometimes I flew off the handle for no good reason.") was rated on a 5-point scale, from 1 (*extremely uncharacteristic of me*) to 5 (*extremely characteristic of me*). Research supports the reliability and validity of this scale (Buss and Perry 1992). Internal consistency for this measure was acceptable at Wave 1 ($\alpha = .77$, 95 % CI [.71, .82]) and 2 ($\alpha = .76$, 95 % CI [.69, .81]). Four-week test-retest reliability for this scale was high ($r = .75$, $p < .001$).

Covariates Single-measure indicators of other-oriented perfectionism, narcissism, and entitlement rage included the short form of the other-oriented perfectionism subscale of the *Multidimensional Perfectionism Scale* (HFMPS-OOP; Hewitt and Flett 1991; Hewitt et al. 2008), the narcissism subscale of the *Short Dark Triad* (SD3-N; Jones and Paulhus 2014), and the entitlement rage subscale of the *Pathological Narcissism Inventory* (PNI-ER; Pincus et al. 2009), respectively. The 5-item HFMPS-OOP (e.g., "If I ask someone to do something, I expect it to be done flawlessly") was rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Studies support the reliability and validity of this scale (Hewitt et al. 2008). Internal consistency for this measure was acceptable at Wave 1 ($\alpha = .75$, 95 % CI [.68, .80]) and 2 ($\alpha = .84$, 95 % CI [.79, .87]). Four-week test-retest reliability for this scale was high ($r = .72$, $p < .001$).

The 9-item SD3-N (e.g., "Many group activities tend to be dull without me") was rated on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Evidence supports the reliability and validity of this scale (Furnham et al. 2013). Internal consistency for this measure was acceptable at Wave 1 ($\alpha = .73$, 95 % CI [.67, .79]) and 2 ($\alpha = .72$, 95 % CI [.64, .78]). Four-week test-retest reliability for this scale was high ($r = .83$, $p < .001$).

The 8-item PNI-ER (e.g., "I typically get very angry when I'm unable to get what I want from others.") was rated on a 6-point scale from 0 (*not at all like me*) to 5 (*very much like me*). Evidence supports the reliability and validity of this scale (Pincus et al. 2009). Internal consistency for this measure was high at Wave 1 ($\alpha = .85$, 95 % CI [.81, .88]) and 2 ($\alpha = .88$, 95 % CI [.85, .91]). Four-week test-retest reliability for this scale was high ($r = .78$, $p < .001$).

Procedure

Our study involved two waves of measurement separated by 28 days. Before beginning our study, targets provided a list of five potential informants. Informants were required to meet three inclusion criteria: knowing the target reasonably well, knowing the target for at least 3 months, and interacting with the target in some capacity (e.g., face-to-face, telephone, text message, etc.) at least twice per week. At Wave 1, participants completed self-report measures of narcissistic perfectionism, anger, and covariates in the lab. Informants were contacted via e-mail and invited to complete internet-based measures. We obtained an average of 3.89 informants ($SD = 1.36$) for each target. Of the possible 775 informants invited to participate, 75.9 % completed our study. Targets returned to complete measures of narcissistic perfectionism, anger, and covariates at Wave 2, which occurred an average of 30.11 ($SD = 1.88$) days after Wave 1. Overall, 98.1 % of targets finished both waves of our study.

Results

Missing Data

At Wave 1, 0.2 % of target participants' data were missing. Three participants (1.9 %) did not complete Wave 2. For participants that completed Wave 2, less than .01 % of target participants' Wave 2 data were missing. Informant reports were not completed for 4 of the 155 target participants (2.6 %). Across completed informant reports, 4.1 % of data was missing. No target participants were missing both informant reports and Wave 2 data.

Missing data were imputed for Wave 1 and Wave 2 self-report data and for completed informant reports using expectation maximization (Scheffer 2002). Missing data was not imputed for target participants who did not complete Wave 2 or did not obtain informant reports. Full-information Maximum Likelihood (FIML) estimation was used to account for these missing data in confirmatory factor analyses (Muthen and Muthen 2007).

Descriptive Statistics and Inter-Rater Agreement

Means, standard deviations, and ranges for manifest indicators of narcissistic perfectionism, anger, and single-measure covariates are in Table 1. Means for the DD-N and OOP were comparable to other samples (Hewitt and Flett 1990; Webster and Jonason 2013) whereas means for the PES, PI-HSO, PNI-ER, and AQ were lower than other samples (Buss and Perry 1992; Campbell et al. 2004; Hill et al. 2004; Pincus et al. 2009). Due to revisions to the POMS, MAACL, and SD3-N, no suitable comparisons could be made. Ranges of the PES, POMS, and MAACL showed some restriction, with attenuation evident with the highest values. Internal consistencies were acceptable for all manifest indicators of narcissistic perfectionism (> .78), anger (> .76), and covariates (> .70).

We assessed inter-rater agreement among informants using intra-class correlations (ICCs) to justify aggregation across informant reports for each target participant. Calculation used the ICC (1, k) model for absolute agreement (McGraw and Wong 1996; Shrout and Fleiss 1979). Only participants with at least four informant reports were included in analyses ($N = 102$) to maximize sample size and avoid missing data. ICCs indicated moderate agreement among informants for the DD-N (.57), PES (.60), PI-HSO (.59), and OOP (.55) according to guidelines for inter-rater agreement (LeBreton and Senter 2008). We aggregated informant reports by averaging indicators of narcissistic perfectionism across all informant-reports provided for each target participant.

Reliability and Factorial Validity of Narcissistic Perfectionism

Correlations We adapted multitrait-multimethod matrices to test patterns of convergence and divergence in manifest indicators of narcissistic perfectionism across time and between sources (i.e., multitrait-multisource). Bivariate correlations between manifest indicators of narcissistic perfectionism across three measurement types (self-reports at Wave 1, self-reports at Wave 2, and informant-reports at Wave 1) are shown in Table 2.

Table 1 Means, standard deviations, and ranges for manifest indicators and covariates

		Wave 1					Wave 2				
		N	*M*	*SD*	Range		*N*	*M*	*SD*	Range	
					Possible	Actual				Possible	Actual
Narcissistic perfectionism (self-report)	DD-N	155	5.6	1.7	1–9	1.0–9.0	152	5.3	1.7	1–9	1.5–9.0
	PES	155	2.9	1.1	1–8	1.0–6.4	152	2.8	1.2	1–8	1.0–6.2
	HSFO	155	2.4	0.9	1–5	1.0–4.9	152	2.5	0.9	1–5	1.0–4.9
	OOP	155	1.7	0.7	1–5	1.0–4.4	152	1.7	0.8	1–5	1.0–4.5
Narcissistic perfectionism (informant-report)	DD-N	151	4.7	1.4	1–9	1.0–9.0	–	–	–	–	–
	PES	151	2.9	0.9	1–8	1.3–5.4	–	–	–	–	–
	HSFO	151	2.3	0.7	1–5	1.0–4.3	–	–	–	–	–
	OOP	151	1.8	0.5	1–5	1.0–4.0	–	–	–	–	–
Anger (self-report)	MAACL	155	1.1	0.5	0–4	0.2–2.8	152	1.1	0.5	0–4	0.1–2.5
	POMS	155	1.0	0.7	0–4	0.0–3.3	152	1.0	0.8	0–4	0.0–3.5
	AQ	155	2.1	0.8	1–5	1.0–4.9	152	2.0	0.7	1–5	1.0–4.6
HFMPS-OOP (self-report)	155	3.8	1.1	1–7	1.2–6.4		152	3.6	1.3	1–7	1.0–7.0
SD3-N (self-report)	155	2.9	0.7	1–5	1.1–4.8		152	2.9	0.6	1–5	1.3–4.4
PNI-ER (self-report)	155	2.2	1.0	0–5	0.1–5.0		152	2.0	1.1	0–5	0.0–5.0

DD-N Jonason and Webster's (2010) narcissism subscale of the Dirty Dozen, *PES* Campbell et al.'s (2004) Psychological Entitlement Scale, *PI-HSFO* Hill et al.'s (2004) high standards for others subscale of the Perfectionism Inventory, *OOP* Hewitt and Flett's (1990) other-oriented perfectionism subscale, *HFMPS-OOP* Hewitt and Flett's (1991) Multidimensional Perfectionism Scale, *SD3-N* Jones and Paulhus' (2014) narcissism subscale of the Short Dark Triad, *PNI-ER* Entitlement rage subscale of Pincus et al.'s (2009) Pathological Narcissism Inventory, *POMS* anger subscale of McNair et al.'s (1971) Profile of Mood States, *AQ* anger subscale of Buss and Perry's (1992) Aggression Questionnaire, *MAACL* Hostility subscale of Zuckerman and Lubin's (1965) Multiple Affect Adjective Checklist. Informant reports were aggregated across all informants for each target participant

Table 2 Multitrait-multisource table for manifest indicators of narcissistic perfectionism across time (wave 1 and wave 2) and across source (self-report and informant-report)

Method	Trait	Self-report (Wave 1)				Self-report (Wave 2)				Informant-report (Wave 1)[a]			
		1	2	3	4	1	2	3	4	1	2	3	4
Self-report (Wave 1)	1. DD-N	1.0	.43***	.45***	.44***	**.79***	.42***	.45***	.42***	**.38***	.30***	.24**	.26**
	2. PES		1.0	.39***	.59***	.49***	**.84***	.35***	.49***	.30***	**.50***	.27***	.42***
	3. PI-HSFO			1.0	.59***	.41***	.41***	**.64***	.53***	.18*	.23**	**.32***	.32***
	4. OOP				1.0	.47***	.63***	.55***	**.80***	.32***	.37***	.33***	**.46***
Self-report (Wave 2)	1. DD-N					1.0	.52***	.55***	.48***	**.33***	.36***	.26**	.32***
	2. PES						1.0	.40***	.61***	.31***	**.41***	.19*	.35***
	3. PI-HSFO							1.0	.68***	.19*	.25**	**.33***	.35***
	4. OOP								1.0	.30***	.34***	.28***	**.46***
Informant-report (Wave 1) [a]	1. DD-N									1.0	.59***	.51***	.58***
	2. PES										1.0	.69***	.76***
	3. PI-HSFO											1.0	.78***
	4. OOP												1.0

[a] Correlations with informant reports are based on $N = 151$. All other correlations based on $N = 155$. *DD-N* Jonason and Webster's (2010) narcissism subscale of the Dirty Dozen, *PES* Campbell et al.'s (2004) Psychological Entitlement Scale, *PI-HSFO* Hill et al.'s (2004) high standards for others subscale of the Perfectionism Inventory, *OOP* Hewitt and Flett's (1990) other-oriented perfectionism subscale. Correlations for the same measures across time (test-retest) and across source (convergence) are boldface. Correlations around .10 signify small effects; correlations around .30 signify medium effects; correlations around .50 signify large effects

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

As hypothesized, correlations among manifest indicators of narcissistic perfectionism at each of the three measurements indicate convergence. Self-reported indicators at Wave 1 and 2 showed significant inter-correlations in the moderate to strong range (Wave 1: .39 –.59; Wave 2: .40–.68). Informant-reports of manifest indicators showed strong (.51–.78) and significant inter-correlations. Test-retest correlations for self-reported indicators of narcissistic perfectionism were strong (.64–.84) and significant. Correlations between self-reported indicators and their corresponding informant-reported indicators show convergence across source. Informant-reports show moderate to strong convergence with self-reports at Wave 1 (.32–.50) and moderate convergence with self-reports at Wave 2 (.33–.46). Remaining correlations reflect links between manifest indicators measured at different times or from different sources. Inter-correlations are in the moderate to strong range (.35–.63) between self-reports at Wave 1 and self-reports at Wave 2, as would be expected given the stability of measures over time. Weaker inter-correlations in the small to moderate range are present between informant-reports and self-reports at Wave 1 (.18–.42), and self-reports at Wave 2 (.19–.36). Overall, correlations suggest manifest indicators of narcissistic perfectionism cohere together across time and source.

Model fit We tested the reliability and factorial validity of narcissistic perfectionism and anger using confirmatory factor analysis (CFA). Small's omnibus test (DeCarlo 1997) indicated multivariate non-normality in our data. CFA was conducted using robust maximum likelihood, which is robust against violations of multivariate normality (Muthen and Muthen 2007). Error terms for indicators of narcissistic perfectionism were allowed to correlate with like indicators across time and source to account for shared variance due to scale characteristics. Correlated error terms were specified a priori.

We also tested invariance in factor structure of narcissistic perfectionism across waves and between sources by comparing two measurement models. In the first model, all factor loadings were freely estimated. In the second model, factor loadings for each manifest indicator were constrained to equality across each measurement type. For example, factor loadings for the DD-N were held constant across self-reports at Wave 1, self-reports at Wave 2, and informant-reports at Wave 1. Structural invariance is supported if the fit of the second model (the constrained model) does not differ significantly from the fit of the first model (the unconstrained model). Models differ significantly from each other when the χ^2 difference test ($\Delta\chi^2$) is significant and the ΔCFI is greater than .01 (Cheung and Rensvold 2002).

Model fit was adequate for the first model, $\chi^2(39, N = 155) = 71.21$, $p = .001$, CFI = .97, TLI = .95, RMSEA = .07, and the second model, $\chi^2(45, N = 155) = 72.30$, $p = .006$, CFI = .98, TLI = .97, RMSEA = .06. Structural invariance was supported, with model comparison showing a non-significant $\Delta\chi^2$ test, $\chi^2(6, N = 155) = 1.09$, $p = .98$, and a ΔCFI less than .01 (i.e., .004). Standardized factor loadings for the unconstrained model (see

Fig. 1) were high for self-reports at Wave 1 (> .56), self-reports at Wave 2 (> .63), and informant-reports at Wave 1 (> .65). All factor loadings were $p < .001$. As hypothesized, the latent test-retest correlation between self-reports was substantial (.93) and significant ($p < .001$) indicating high rank-order stability over time. As hypothesized, informant reports also showed strong and significant latent correlations with self-reports at Wave 1 ($r = .53$, $p < .001$) and Wave 2 ($r = .47$, $p < .001$).

Measurement Model for Anger

We conducted a CFA to test the factorial validity of our latent anger variable and the stability of that latent variable between waves. Latent anger variables were specified for Wave 1 and Wave 2, which were allowed to covary. Three manifest indicators of anger were allowed to load on each latent variable (i.e., POMS, MAACL, and AQ at Wave 1 loaded on the latent anger variable at Wave 1). Correlated errors were specified a priori between like measures of anger (i.e., between measures at Wave 1 and Wave 2). Modification indices indicated additional correlated errors between the POMS and MAACL at Wave 1 (MI = 14.31) and at Wave 2 (MI = 12.36). Both scales share the same response format; thus, these correlated errors were thought to reflect similarity in structure between scales and were retained in the model. The measurement model for anger showed excellent fit: $\chi^2(3, N = 155) = 2.42$, $p = .49$; CFI = 1.00; TLI = 1.00; RMSEA < .01. At Wave 1, standardized factor loadings for measures of anger were substantial for the MAACL (.82), POMS (.75), and AQ (.74). Similarly, high factor loadings (.78, .78, and .77, respectively) were observed at Wave 2. All factor loadings were significant at $p < .001$. The latent test-retest correlation was also strong (.80) and significant ($p < .001$). Factor loadings suggest manifest indicators of anger can be aggregated into a single variable, and strong test-retest reliability suggests merit in aggregating anger across waves.

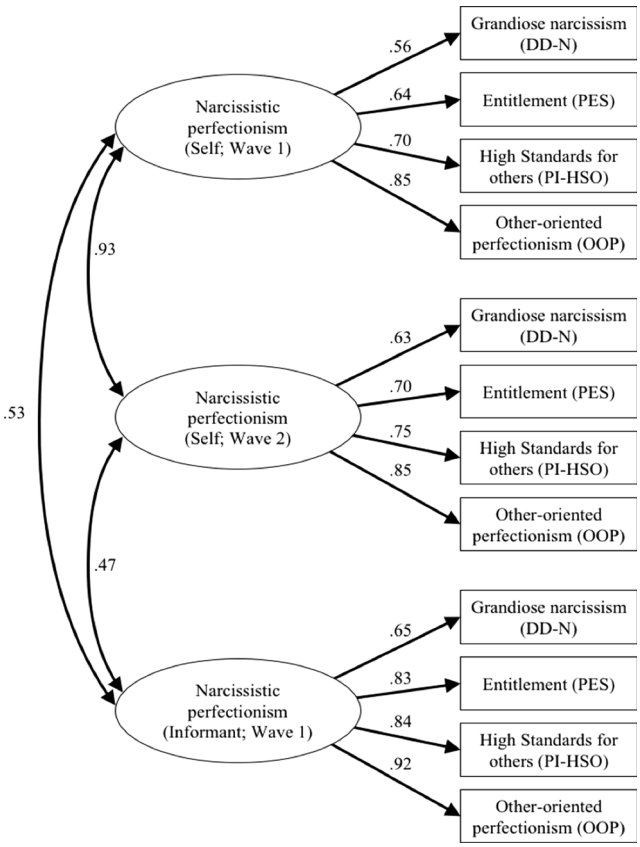

Fig. 1 Unconstrained measurement model for self- and informant-reported narcissistic perfectionism. Rectangles represent manifest indicators; ovals represent latent constructs; single-headed arrows represent standardized factor loadings; double-headed arrows represent covariances. All factor loadings and covariances were significant ($p < .001$). Manifest indicators of informant-reported narcissistic perfectionism were aggregated across informants. For clarity, error terms and correlated errors are not shown

Incremental Predictive Validity of Narcissistic Perfectionism

Given adequate fit for our measurement models, composite scores were created to represent latent constructs of narcissistic perfectionism and anger by standardizing manifest indicators, summing indicators, and re-standardizing the sum. This was performed for narcissistic perfectionism (self-reports at Wave 1 and 2, informant-reports at Wave 1) and for anger (Wave 1 and 2). High latent test-retest correlations across waves for self-reports of narcissistic perfectionism (.93), anger (.80), and single-measure covariates at (≤ .72), supported the aggregation of variables across waves.

We tested incremental predictive validity of narcissistic perfectionism (self- and informant-report) against three single-measure covariates using hierarchical multiple regression. Step 1 included the three single-measure covariates. Self-reported narcissistic perfectionism was added in Step 2, and informant-reported narcissistic perfectionism was added in Step 3. Step 1 was significant, $F(3147) = 18.01$, $p < .001$, $R^2 = .27$, CI 95 % [.15, .39]. The PNI significantly predicted anger within the model ($\beta = .50$, $p < .001$), but other-oriented perfectionism ($\beta = .02$, $p = .85$) and the SD3 ($\beta = .04$, $p = .62$) did not. As hypothesized, Step 2 significantly improved fit, $\Delta F(1, 146) = 7.57$, $p < .01$, $\Delta R^2 = .04$, with self-reported narcissistic perfectionism significantly predicting anger beyond covariates[1] ($\beta = .37$, $p < .01$). As hypothesized, Step 3 also significantly improved fit, $\Delta F(1, 145) = 11.59$, $p < .001$, $\Delta R^2 = .05$, with informant-reported narcissistic perfectionism significantly predicting anger beyond self-reported narcissistic

[1] It is possible that the effect of narcissistic perfectionism on anger may result from interactions among individual indicators. However, moderated multiple regression analyses showed individual indicators of perfectionism (OOP, PI-HSO) and indicators of narcissism (DD-N, PES) did not interact to predict anger beyond main effects of the four indicators.

perfectionism and covariates ($\beta = .26$, $p < .001$). Step 2 and 3 both showed relatively small effect sizes.

Coefficients from hierarchical multiple regression analyses, zero-order correlations, and semi-partial correlations for Step 3 appear in Table 3. Semi-partial correlations indicate each predictor's unique association with anger after accounting for the overlap between predictors. Zero-order correlations show small to moderate effects for other-oriented perfectionism and the SD3, strong effects for the PNI, and moderate to strong effects for self- and informant-reported narcissistic perfectionism. Semi-partial correlations show negligible unique contributions of other-oriented perfectionism and the SD3, whereas the PNI shows a moderate unique effect. Self- and informant-reported narcissistic perfectionism show small unique effects.

Discussion

Narcissistic perfectionism is often discussed in theory (e.g., Ellis 1997; Ronningstam 2011), but empirical tests remain scarce. Recent research by Nealis et al. (2015) provided preliminary support for a model of narcissistic perfectionism, but left important questions unanswered. The present study extends and complements Nealis et al.'s (2015) findings by providing new evidence of the reliability and validity of this emerging construct. We tested factorial validity for a model of narcissistic perfectionism, tested the rank-order stability and replicability of this construct over two measurement occasions and between two sources (self- and informant-reports), and tested if this new construct predicts anger incrementally beyond established measures of narcissism and perfectionism.

Our results support narcissistic perfectionism as a multi-trait constellation involving grandiosity, entitlement, high standards for others, and other-oriented perfectionism. This multi-trait conceptualization advances single-trait models (e.g., Hewitt and Flett 1991; Hill et al. 2004) that have contributed in very important ways to theory and research, but tend to underperform in predictive contexts (Haring et al. 2003; Mackinnon et al. 2012). As hypothesized, our model showed stability and replicability over time. The factor structure was reproduced across two occasions, suggesting this construct can be reliably reproduced over time. In addition to structural stability over a 1-month timeframe, levels of narcissistic perfectionism were highly stable over this period. This suggests narcissistic perfectionism is a stable personality construct that fluctuates little in its rank-order stability over short periods of time.

Results showed the measurement model generalized to informant reports and that informants tended to agree with each other about levels of narcissistic perfectionism. Consistent with hypotheses, the structure of narcissistic perfectionism was replicated with informant-reports, which adds further support for replicability of the measurement model. We collected multiple informants for each participant, including family, friends, and romantic partners. Informants were heterogeneous but still showed moderate to strong agreement with each other about target participants' level of narcissistic perfectionism. This supports aggregation across informants to improve estimates of personality.

As hypothesized, informant ratings of narcissistic perfectionism were moderately correlated with ratings provided by participants. Latent correlations between self- and informant-reported narcissistic perfectionism are larger in magnitude than in past research on perfectionism or narcissism (e.g., Flett et al. 2005). Studies using single informants (e.g., friends only) and manifest variables may underestimate this convergence. Instead of moderate convergence between self and informant reports being a flaw, this lack of absolute agreement implies sampling perceptions of others adds unique information beyond people's self-perceptions. This uniqueness is

Table 3 Hierarchical multiple regression analyses predicting anger

	Model fit			Correlations	
Predictor	F	R^2	β [95 % CI]	Zero-order	Semi-partial
Step 3	16.05***	.36			
Other-oriented perfectionism (HFMPS-OOP; self-report)[a]			−.19 [−.39, .01]	.27	-.13
Narcissism (SD3-N; self-report)[a]			−.05 [−.20, .11]	.20	-.04
Entitlement rage (PNI-ER; self-report)[a]			.34 [.16, .52]***	.52	.24
Narcissistic perfectionism (Self-report)[a]			.27 [.01, .53]*	.48	.14
Narcissistic perfectionism: (Informant-report)[a]			.26 [.11, .41]***	.42	.23

[a] Scale totals averaged across Wave 1 and Wave 2 to create a mean score across the two measurement occasions. *HFMPS-OOP* Hewitt and Flett's (1991) Multidimensional Perfectionism Scale, *SD3-N* Jones and Paulhus' (2014) narcissism subscale of the Short Dark Triad, *PNI-ER* Entitlement rage subscale of Pincus et al.'s (2009) Pathological Narcissism Inventory. $N = 151$

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

important in predicting outcomes beyond self-reports and helps us to more fully understand traits like narcissistic perfectionism.

We also sought to provide evidence of the uniqueness and predictive utility of narcissistic perfectionism. For narcissistic perfectionism to be viable, it should predict anger according to theory (Millon et al. 2000) while being non-redundant with established measures of grandiose narcissism, other-oriented perfectionism, and entitlement rage. Of our three single-measure covariates, only entitlement rage predicted anger as hypothesized. Whereas narcissism and other-oriented perfectionism showed small correlations with anger, these effects were overshadowed by the strong effect of entitlement rage when predicting anger. These results are consistent with research showing limited predictive utility of other-oriented perfectionism by itself (e.g., Mackinnon et al. 2012). It is also unsurprising that entitlement rage, a specific and robust predictor of anger, overshadowed a short, general measure of narcissism.

As hypothesized, self-reported narcissistic perfectionism uniquely predicted anger beyond all three covariates. Our results support the view that narcissistic perfectionism and entitlement rage similarly predict anger, but perhaps for different reasons. Whereas entitlement rage measures anger resulting from the failure of other people to satisfy one's narcissistic needs (e.g., recognizing one as special, offering admiration), narcissistic perfectionists become angry when others not do not meet the lofty expectations narcissistic perfectionists impose on them, which threatens the positive sense of self garnered through association with idealized others (Beck et al. 2004; Kohut 1972; Millon et al. 2000).

As hypothesized, informant-reports of narcissistic perfectionism uniquely predicted anger beyond self-reports. Narcissistic perfectionism is thought to manifest in the social world, with others finding themselves a target for harsh criticism when they fail to live up to the unrealistic standards placed on them by narcissistic perfectionists (Ellis 1997). Previously identified biases and impression management strategies used by perfectionists and narcissists (Stoeber and Hotham 2013) may make informants uniquely situated to provide more objective estimates of these traits. Interestingly, the unique effect of narcissistic perfectionism was stronger for informant-reports than for self-reports. Self-reported measures (e.g., high standards for others or entitlement rage) in our study share common method variance because they derive from one person. In contrast, the predictive power of informant reports may be, at least in part, due to unique method variance.

Overall, our results intersect with, and extend, Nealis et al.'s (2015) research to further support the reliability and the validity of narcissistic perfectionism. By showing narcissistic perfectionists tend to express their anger toward others as predicted by theory (Kohut 1972; Millon et al. 2000), our research complements Nealis et al.'s (2015) work that showed narcissistic perfectionism has predictive utility in regards to derogation of others and conflict with others. Our findings provide additional evidence that narcissistic perfectionism represents a trait constellation that is non-redundant with other similar constructs (e.g., entitlement rage), and that narcissistic perfectionism can be reliably measured over short time periods and across different sources (i.e., self- and informant-reports).

Besides research implications, narcissistic perfectionism may be important in clinical settings. Further work in this area could identify assessment and treatment targets for people prone to experiencing anger as a result of their lofty expectations for others. If traits cohere together as a constellation, the identification of one trait within that structure may alert clinicians to a broader pattern that has implications for their client's social and emotional functioning. The application of these ideas to clinical work, however, remains speculative.

Limitations and Future Directions

Research is needed to test the convergent and discriminant validity of narcissistic perfectionism across other perfectionism and narcissism constructs. Future work might test narcissistic perfectionism in relation to perfectionistic strivings (Stoeber and Otto 2006) and pathological narcissism (e.g., grandiose and vulnerable narcissism; Pincus et al. 2009). Other-oriented perfectionism is related to other dark triad traits, such as psychopathy (Stoeber 2014), and future research should include this trait as a covariate to rule out its potential effect on the negative social outcomes we attribute to narcissistic perfectionism.

Using single-measure covariates may have weakened their predictive power relative to the multi-measure constellation of narcissistic perfectionism. We also used the 5-item short-form of Hewitt and Flett's (1991) other-oriented perfectionism scale, a measurement choice which may have attenuated its predictive power. The measures of perfectionistic standards for others used in this study mostly reference close others, although this is not always explicit in the items. Future research is warranted to better understand who is subject to the lofty demands of narcissistic perfectionists. In addition, some of our measures and covariates may operate at different conceptual levels (i.e., global vs. specific traits) and act differentially as distal or proximal predictors of outcomes. This should be considered carefully in future research.

Our study used an a priori theoretical model of narcissistic perfectionism involving a constellation of existing perfectionism and narcissism measures. Although our chosen scales produced good model fit in this research, other validated measures of entitlement and grandiosity exist and research is needed to determine if other measures would produces similar results. Data supported narcissistic perfectionism using a constellation of traits, but a dedicated scale for narcissistic perfectionism is needed.

Target participants may have selected possible informants that thought highly of them, and may have missed people in their social networks who interact regularly with them, but experience them in a less favorable way. This may have attenuated results when predicting anger. Random sampling of informants from a social network (e.g., via online social networking) may overcome this potential bias. Whereas our study collected self- and informant-reports of narcissistic perfectionism, it relied exclusively on self-reports of anger. Self-reported anger may be subject to bias if the individual is unaware of, or unwilling to admit, its occurrence. Future studies could add informant-reports of outcomes to overcome this limitation. Likewise, we show convergence between self-reports and informant-reports, but future research might investigate convergence with other measures, such as observational or behavioral data.

Our study used undergraduates. Validating narcissistic perfectionism in community or clinical samples would provide needed support for this new construct. A sample with a better representation of men would strengthen generalizability and allow tests of gender differences.

Concluding Remarks

Although narcissistic perfectionism is frequently discussed (e.g., Beck et al. 2004; Ellis 1976), this idea is just beginning to show promise as an empirical personality construct. Whereas other-oriented perfectionism under-performs when predicting anger and conflict (Mackinnon et al. 2012; Saboonchi and Lundh 2003), and narcissism fails to incorporate perfectionism for others in its empirical formulations, narcissistic perfectionism fills a theoretical void between these two domains. Preliminary evidence for this trait constellation opens an area of inquiry within perfectionism research that has long been dormant. This area may also be of interest for narcissism researchers who wish to explore the ways narcissists direct their need for perfection outward towards others as described in classical theory (e.g., Kohut 1972). Previous work (Beck et al. 2004; Ellis 1997; Kohut 1972; Millon et al. 2000) has speculated about narcissistic rage, an angry emotion shown by people who project their own perfectionistic standards outwards onto others in a grandiose and entitled way. Such speculation is now supported by our data showing narcissistic perfectionists are prone to anger. Our data also suggest that researchers may benefit from using people's social network to provide a richer view of narcissistic perfectionism. Informant-reports are underutilized in personality research, and much is lost by their exclusion.

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Compliance with Ethical Standards

Conflict of Interest Logan J. Nealis, Simon B. Sherry, Dayna L. Sherry, Sherry H. Stewart, and Matthew A. Macneil declare that they have no conflict of interest.

Experiment Participants All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee, and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

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