Narcissistic Personality Disorder Studied the Long Way: Predicting Change in Narcissistic Pathology During College

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Objective: Otto F. Kernberg pioneered the description, understanding, and treatment of pathological narcissism. Narcissism has emerged as a clinical construct of considerable interest in clinical psychology, psychiatry, and psychoanalysis and has often been featured in the literature on personality and social psychology. Considerable discussion in recent years has focused on whether levels of narcissism seen among young adults have been increasing. Nearly all of that discussion has been focused on changes in successive cohorts in normative (normal-range) expressions of narcissism. No direct prospective longitudinal study of the same individuals has assessed for pathological narcissism during college, the period that has been the specific focus of such lively debate. This study aimed to fill that gap in the literature.

Methods: This multiwave, longitudinal study explored pathological narcissism during college by enrolling first-year undergraduate students (N=250) from the Longitudinal Study of Personality Disorders and by using individual growth curve (IGC) analysis. Participants were assigned to either a possible personality disorder or no personality disorder group, according to results from the International Personality Disorder Examination.

Results: By the third wave of assessments, 16% of the sample received a probable or definite diagnosis of at least one axis II personality disorder. IGC analysis revealed that pathological narcissism declined across the first 4 years of college. Personality predictors of this pattern of change are also discussed.

Conclusions: This study highlights the need for a fine-grained prospective study of the same participants over time to illuminate patterns of change in narcissism.

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I first met Dr. Otto F. Kernberg in 1985, when I was a clinical psychology intern at what was then known as the New York Hospital–Cornell Medical Center, Westchester Division, in White Plains. Cornell Westchester, our shorthand for the hospital, was an exciting place to train: the intellectual ether crackled with rich discussion of phenomenology and classification, psychological assessment, advances in psychopharmacology, the emerging neurosciences, and, of course, modern psychodynamic thinking. Dr. Kernberg, as the medical director, engendered an environment where rigorous clinical discourse was expected and respect for phenomenology was assumed. In short, a proper and carefully conducted mental status examination was the starting point for all discussions when it came to patient care. At the time, my clinical rotation was on an intermediate-stay inpatient psychiatric service, where patients stayed for 6 months to 1 year and where many were treatment resistant. Thus, when I was about to present an exceptionally complicated case to Dr. Kernberg at our weekly case conference and he asked me, "Do you have a mental status exam for this patient?" I was happy to reply, "Yes, I have three of them: one from 6 months ago, one from a month ago, and one from this morning." Dr. Kernberg replied, "Excellent, now we can really get started." This respect for phenomenology and for the passage of time has stayed with me for my entire career and, in part, inspired

HIGHLIGHTS

- The topic of narcissism and whether it is becoming more prevalent among young adults in the United States is the focus of intense discussion.
- This study examined within-person change in narcissistic personality disorder among 250 university students and reinforced the value of assessing the same participants with the same measures over time.
- The evidence collected from this longitudinal analysis clearly indicated that the number of pathological narcissism features declined from the first to the fourth year of college.

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me to undertake the very first National Institute of Mental Health (NIMH)–funded, prospective, multiwave study of personality pathology, known as the Longitudinal Study of Personality Disorders (LSPD). This article explores the issue of change versus stability regarding features of clinically significant narcissistic personality disorder (NARPD) among college-age young adults over time.

Narcissism and narcissistic personality pathology have long been of interest in psychiatry, psychoanalysis, clinical psychological science, and other behavioral science vectors (e.g., personnel selection). Clearly, the reference point for inquiry into narcissistic pathology begins with Freud (1) and his early clinical observations. However, advances in the understanding of clinically significant narcissistic disturbances stand on the shoulders of the seminal work done by both Dr. Kernberg (2) and Heinz Kohut (3), who approached this domain of psychopathology from distinctly different vantage points. Separate from the world of clinical psychopathology, an interest emerged in narcissism as a personality trait within the realms of academic psychology personality science and social psychology (4). It is important to note that clinically significant narcissistic psychopathology (5), seen as a disorder and associated with considerable impairment, is not fungible with the trait of narcissism in a normal range, which is typically assessed with self-report questionnaires in nonclinical populations (4, 6).

Discussion of the narcissism construct, normative trait narcissism, and pathological narcissism has accelerated in recent years, and this domain has emerged as one of the most active areas of clinical science, psychiatry, psychoanalysis, and normal personality science. Indeed, numerous reviews, think pieces, and at times strident exchanges have focused on this important area (5, 7–12). Many of these competing views concern the meaning of commonly used normal-range assessment measures of narcissism (13), the correspondence of normative trait narcissism with pathological narcissism constructs (6, 10, 14), and the capability of general personality taxonomies (e.g., the five-factor taxonomy) to encompass the full range of phenotypic expressions of narcissism (14–16). With increased empirical research and substantive model evaluation, critical theoretical and descriptive insights for understanding narcissism have been gleaned in recent years. Such insights have included the parsing of self-esteem from normal-range narcissism (13); the seminal delineation of grandiose and vulnerable dimensions of pathological narcissism by Pincus and others (4, 6, 14); the importance of well-known personality constructs in describing narcissism, such as agentic extraversion, agreeableness, and neuroticism (11); the relevance of complex dynamic systems for understanding narcissism (9); and the severe psychological impact of "malignant narcissism" (17, 18), a concept pioneered by Kernberg (2, 19, 20). Despite these advances, the literature can become murky when one group of researchers seems to be discussing normal-range narcissism (with minimal clinical impairment) from the normal personality or social psychology perspective but other researchers seem to address pathological narcissism, which focuses squarely on noteworthy impairment in social and occupational functioning, strained family life, and considerable distress (21). These discussions will be clarified and resolved over time with the emergence and accumulation of more empirical data.

One aspect of the study of narcissism that has generated considerable interest among both researchers and the lay public concerns claims that narcissism is on the rise with successive cohorts, particularly among college-age young adults. Reports have suggested that mean scores on self-report measures of normal-range trait narcissism have increased across several successive college cohorts (i.e., possible secular changes) (22, 23), leading some commentators to pronounce that contemporary society is in the midst of a "narcissism epidemic" (24, 25). The notion that U.S. society is in an epidemic of narcissism has been trenchantly critiqued on grounds of both methodology and assessment. For example, the cross-cohort increases in narcissism that are at the center of this discussion were measured with the Narcissistic Personality Inventory (NPI), an instrument that is known to have numerous shortcomings in terms of psychometrics and validity (10, 13, 26–29) and that is viewed as having diminished relevance for measuring clinically significant narcissistic pathology. In addition, the robustness and scientific meaning of differences in mean NPI scores at different colleges and among different cohort samples have been questioned as adequate bases for declaring an epidemic of increasing narcissism among young people (30–32). Finally, a recent report, although reliant on the NPI instrument, cast considerable doubt on the notion of a narcissism epidemic by using more recent data and advanced statistical analyses (33).

What is lacking in this discussion of the evolving nature of narcissism? What changes occur over time in a person with pathological narcissism when he or she is clinically assessed with expertise and precision on multiple occasions? Is it possible to chart the course of pathological narcissism in college-age young adults? Do all or most young people show an increase in pathological narcissism as they move through their college years? These are all developmental questions that can be addressed only with a prospective, multiwave longitudinal study of college-age young people and with a measure to assess clinically significant NARPD. Single cross-sectional assessments have no probative value for issues related to within-person stability of or change in NARPD over time. This study, therefore, sought to examine pathological narcissism in a prospective longitudinal study. Specifically, the current study sought to answer two questions by using the database from the LSPD (34–36). The first question concerns

the direction and extent to which NARPD features change over time within young people, assessed during the first 4 years of college. Assuming that evidence of change in NARPD emerges from the prospective multiwave study, the challenge of predicting such change would be of considerable interest to clinical science. The second question, therefore, concerns empirical exploration of the personality factors—which have been defined by well-established constructs with a neurobehavioral basis (37–40)—that predict the initial level and rate of change in NARPD over time.

The current study built on an earlier individual growth curve (IGC) analysis of all personality disorder (PD) symptom dimensions from the LSPD database, an analysis that revealed considerable evident change in all PD features (except paranoid PD) over time (41). Moreover, some of this change in PD features could be explained by the group status of the participants in the LSPD (i.e., those deemed to be at increased risk for a PD changed more) but not by axis I disorders or treatment effects. Most important, however, the IGC analyses revealed that considerable variance remained unexplained in the observed IGCs for nearly all PDs (including NARPD) (41), and it was hypothesized that personality predictors selected in a theory-guided manner might be useful in explaining change in PD (including NARPD) phenomenology over time.

METHODS

Data Set

Data for this study were drawn from the LSPD (34–36). The LSPD began in 1990 and is the first NIMH-sponsored, prospective, multiwave longitudinal study of personality pathology, normal personality, and temperament. Major goals of the LSPD are the life span study of the stability of PD symptomatology and the systematic study of individual difference variables that affect stability and change (e.g., personality, temperament, sex role conformity, anxiety, depression, axis I psychopathology). LSPD participants were drawn initially from a nonclinical population, thus avoiding the usual confounding variables attending the study of hospital or clinic PD cases (e.g., treatment and time confounding variables, Berkson's bias, selection of extreme cases). Detailed descriptions of the LSPD can be found in the articles previously noted and will be reported only briefly here (34–36, 41).

Participants

The 258 participants in the LSPD (34–36) were drawn from a population of 2,000 first-year undergraduate students. Individuals were assigned to either a possible personality disorder (PPD) or no personality disorder (NPD) group, in accordance with results from the International Personality Disorder Examination DSM-III-R Screen (IPDE-S) (response rate=84.2%). Individuals assigned to the PPD group met the diagnostic threshold for at least one specific *DSM-III-R* PD, whereas those in the NPD group did not meet the *DSM-III-R* defined threshold for diagnosis and had fewer than 10 PD features across all disorders. Extensive details of the initial participant selection procedure and of the final sample are given elsewhere (36). The 258 participants consisted of 121 males (47%) and 137 females (53%); 134 participants (66 females) were assigned to the PPD group and 124 (71 females) to the NPD group. The mean±SD age of the participants at entry into the study was 18.89±0.51 years. All participants gave voluntary written informed consent and received an honorarium of $50 for completing each set of assessments. Of the initial 258 participants, 250 completed all three assessment waves and were included in this analysis. Five participants in the PPD group and three in the NPD group did not complete all three waves.

PD Assessment

The LSPD has a prospective, multiwave longitudinal design, with participants evaluated at three time points (i.e., first, second, and fourth years in college). Although it is not required for application of individual growth modeling, the LSPD data were balanced (in that all participants had three waves of data) and were time structured (in that everyone was assessed repeatedly on the same three-wave schedule), although the time between assessments varied from person to person. Interview assessments were conducted by experienced clinicians with a doctoral degree or advanced clinicians with a master's degree in social work. Finally, because the LSPD is a naturalistic prospective study, participants were free to seek psychological treatment.

The IPDE-S is a 250-item, self-administered, true-false PD screening inventory developed by Dr. Armand W. Loranger. The diagnostic efficiency and psychometric properties of the IPDE-S in a two-stage screen application were described previously (34).

The original version of the International Personality Disorder Examination (IPDE) (42–44) was used in this study. The *DSM-III-R* criteria for PDs were in use when the LSPD was undertaken, and the *DSM-III-R* criteria for NARPD are very similar to those found in the *DSM-IV* and *DSM-5*. Clinically experienced interviewers received training in IPDE administration and scoring by Dr. Loranger, and I supervised them throughout the project while remaining blind to participants' identity, PD group status, and all prior assessment information. The interrater reliability for IPDE assessments was excellent in all three waves, ranging from 0.84 to 0.92 for all PD dimensions. The interviewers were blind to participants' PD group status and to all prior PD assessment data from the LSPD, and the same interviewer never assessed the same participant more than once. The NARPD dimensional score from the IPDE was used in this analysis.

Neurobehavioral Indicator Assessments

The major personality dimensions hypothesized to be reflective of the neurobehavioral systems posited by Depue and Lenzenweger (37–40) correspond approximately to the dimensions discussed by Tellegen (45) and assessed by his Multidimensional Personality Questionnaire (MPQ) (46).

The MPQ measure was not included in the LSPD at initial data collection, but the LSPD did include another personality measure, the NEO Personality Inventory (NEO-PI). Fortunately, Church (47) conducted an extensive factor analysis study that compared the Tellegen approach with the NEO-PI factors and provided a quantitative basis for deriving the Tellegen factors from the NEO-PI item pool. Thus, by using the Church (47) data, one can derive four of the five Depue-Lenzenweger model (DLM) dimensions from the NEO-PI, namely, agentic positive emotion (agency, incentive motivation), communal positive emotion (affiliation), constraint (nonaffective constraint, neural constraint), and anxiety (negative emotion). The NEO-PI (48) is the original version of the well-known EAS Adult Temperament Scale, a Likert-type, self-report measure of personality traits. NEO-PI scores for each of the major personality dimensions have been shown to be internally consistent and reliable over time; the instrument has generally excellent psychometric properties (48). Thus, by using the approach of Church (47), approximations of those dimensions hypothesized in the DLM can be extracted from the NEO-PI; it is noted that these dimensions are not isomorphic with the dimensions in the five-factor approach.

The fear component of the DLM was extracted from the EAS Adult Temperament Scale (49), a 20-item self-report measure for adults that assesses the three major temperament constructs—emotionality (which breaks down further to the subdimensions of fear and distress), activity, and sociability—thought to underlie personality processes in children and adults. For the purposes of this study, I used the fear dimension from the EAS Adult Temperament Scale to represent the fear component of the DLM.

Assessment for Axis I Disorders

The Structured Clinical Interview for DSM-III-R–Nonpatient Version (SCID-NP) (50) is the well-known semistructured *DSM-III-R* axis I clinical interview for use with nonpatients. The SCID-NP interview was conducted first, followed by the IPDE.

Statistical Analysis

IGC analysis was used to investigate change in NARPD features over time. This method of analyzing within-participant change was popularized by Rogosa and colleagues (51, 52) and represents what is considered by many to be the most powerful way to assess change in a continuous dimension over time within study participants (52–55). IGC analysis is implemented through a statistical approach known as hierarchical linear modeling, which is sometimes known by other names (e.g., multilevel modeling, covariance components modeling, or random-coefficient regression modeling). The IGC approach (54–56) is ideally suited to this study because it accommodates the existing unequal temporal spacing of PD assessments across study participants (a common feature of nearly all developmental and longitudinal studies); disentangles important aspects of individual change, such as initial levels of symptomatology from rate of change; and is highly sensitive to each participant's unique developmental trajectory. Other approaches, such as multivariate analysis of variance, implausibly assume comparable growth across all participants, whereas heterogeneity of growth is more likely (57).

The dependent variable used in these analyses was the number of NARPD features rated as present on the IPDE. A dimensional measure of NARPD ensured the greatest sensitivity to the investigation of stability and change. (Qualitative diagnoses would not be appropriate for a study of change in this framework.) In the present analysis, the hypothesized level 1 and level 2 statistical models were fitted simultaneously to the LSPD data by using full maximum-likelihood estimation and the computer program HLM, version 6. Analyses were conducted sequentially. First, an unconditional growth analysis was done (54) in which a linear individual change trajectory at level 1 was posited, but the analysis did not attempt to predict interindividual variation in the growth parameters with between-participant factors. Second, a conditional analysis was conducted that examined systematic interindividual differences in intercept and slope as a function of a set of between-participant predictors, namely, group (PPD vs. NPD), participant's sex and age at entry into the study, and the neurobehavioral system indicator dimensions noted above. These predictors yielded fixed effects in the prediction of the slope and intercept values retained from the level 1 analysis. The fitting of the level 2 model also yielded estimates of residual variance that describe remaining interindividual variability in the individual slopes and intercepts (as well as their covariance) after accounting for the hypothesized fixed effects, giving rise to the variance components (i.e., σ_0^2, σ_1^2, σ_{01}).

Fixed effects and variance components were tested for statistical significance by using the provided z statistics (two-tailed). Effect-size estimates for the fixed effects were represented by the effect size r (58).

RESULTS

Clinical Characteristics of the Sample

Demographic characteristics of the sample are summarized in Table 1. As reported previously (35, 36), the lifetime *DSM-III-R* axis I diagnoses (Table 2) of the study participants are for definite and probable disorders. Eighty-one (63%) of the 129 participants in the PPD group received an axis I diagnosis, compared with 32 (26%) of the 121 participants in the NPD group ($\chi^2=33.30$, df=1, $p<0.001$). Forty-one (32%) participants in the PPD group and 21 (17%) in the NPD group reported a prior history of treatment by the third wave of assessments (wave 3) ($\chi^2=6.97$, df=1, $p<0.008$). Finally, by wave 3, 16% (N=39) of the sample had been given a probable or definite diagnosis of at least one axis II PD (or PD not otherwise specified). Note that this percentage was higher than that initially reported by Lenzenweger et al. (34) (i.e., 11%), which was based on only wave 1 assessments. This

percentage was higher because additional participants beyond those who were diagnosable at wave 1 developed a PD during the study period.

Assessment Schedule Characteristics

The PD features of each of the 250 study participants were assessed three times over the 4-year period. The mean±SD ages of participants were 18.89±0.51 at wave 1, 19.83±0.54 at wave 2, and 21.70±0.56 at wave 3. The time between assessments for each participant was calculated in years by using each individual's date of birth and exact assessment dates and was then centered on age at entry into the study for each participant (with age at entry included as a predictor at level 2). Centering the assessment intervals on age at entry and including age at entry as a predictor at level 2 accounted for each participant's unique chronological age when he or she began the study and caused the individual level 1 intercepts to represent the true value of the wave 1 assessments as the participant's "initial status." Consideration of age at entry into the study is theoretically important because it helps to account for subtle differences in the developmental level of the participants.

IGCs for NARPD: Visualizing Heterogeneity in Individual Growth

The heterogeneity in the individual growth trajectories for IPDE-assessed NARPD was considerable and was plotted by using an exploratory ordinary least-squares approach for NARPD features (Figure 1). The IGC for each study participant is shown in the plot. Clearly, no single IGC characterizes all participants.

Unconditional Analyses

An unconditional growth model (i.e., containing no level 2 predictors) was fitted for the NARPD feature dimension and provided estimates of the average level and rate-of-change parameters and their natural variation across all participants upon entry into the study. The fixed effects and variance components of the unconditional growth trajectories for the NARPD feature dimension were of central interest. The estimated average elevation of the NARPD individual growth trajectories upon entry into the study (intercept) differed significantly from zero (intercept fixed effect [γ_{00}]=1.21, $p<0.001$; r=0.47, representing a large effect). In addition, the intercept for the IPDE contained significant variability (σ^2_0=4.22, $p<0.001$), which was then available for prediction at level 2 in subsequent conditional models.

The estimated average rate of change (slope) also differed significantly from zero for the NARPD feature dimension, indicating that considerable change over time was evident in pathological narcissism features (slope fixed effect [γ_{10}]= −0.30, $p<0.001$; r=0.39, representing a large effect for slope). The important feature of this result was that it clearly indicated that NARPD features declined across the first 4 years of college. In addition, the variance component associated with rate of change (σ^2_1=0.29, $p<0.001$) was statistically significant and suggestive of substantial amounts of variation in change that could be predicted in a subsequent level 2 model. Finally, the estimated slope from the unconditional growth analysis provided a pragmatic insight into the rate at which NARPD features change over time. Specifically, it was estimated that total NARPD features decreased by 0.30 NARPD units on the IPDE dimensional score with each passing year, which represents, as noted, a large effect size for slope.

TABLE 1. Demographic characteristics of participants from the Longitudinal Study of Personality Disorders who completed all three assessment waves (N=250)

Characteristic	N	%
Father's education (years)		
1–8	4	2
9–11	6	2
12	21	8
13–15	40	16
≥16	172	69
Not available	7	3
Mother's education (years)		
1–8	2	1
9–11	7	3
12	38	15
13–15	51	20
≥16	147	59
Not available	5	2
Father's occupation		
Laborer/service	5	2
Operative (machine)	7	3
Craftsman/foreman	8	3
Clerical/sales	10	4
Management/official	67	27
Professional/technical	131	52
Homemaker or not available	22	9
Mother's occupation		
Laborer/service	6	2
Operative (machine)	3	1
Craftsman/foreman	4	2
Clerical/sales	42	17
Management/official	32	13
Professional/technical	105	42
Homemaker or not available	58	23
Race-ethnicity		
African American	9	4
Latinx/Hispanic	12	5
Caucasian/Anglo	180	72
Asian/Pacific Islander	43	17
Native American	2	1
Other	4	2
Age at study entry (M±SD years)	18.89±0.51	

Conditional Analyses

In conditional analyses, level 2 predictors were introduced to explain any between-participant variation in the individual level and rate-of-change parameters. The primary between-participant level 2 factors of interest were group membership (PPD vs. NPD), participant's sex, and baseline values for each

TABLE 2. Lifetime definite and probable *DSM-III-R* axis I SCID-NP diagnoses among LSPD participants (N=250)[a]

	NPD (N=121)		PPD (N=129)			
Disorder	N	%	N	%	χ^{2b}	p
Major depression	16	13	47	36	17.84	<.001
Bipolar disorder/bipolar disorder, not otherwise specified	1	1	6	5	3.36	.07
Dysthymia (current only)	3	23	13	10	6.02	.014
Other affective disorder	10	8	32	25	12.22	<.001
Alcohol abuse	2	2	7	5	2.56	.11
Alcohol dependence	2	2	13	10	7.86	.005
Drug abuse	3	3	3	2	.01	.94
Drug dependence	0	—	4	3	3.81	.05
Social phobia	6	5	22	17	9.18	.002
Simple phobia	8	7	15	12	1.88	.17
Panic	3	3	1	1	1.15	.28
Obsessive-compulsive disorder	4	3	8	6	1.14	.28
Anorexia	4	3	4	3	.01	.93
Bulimia	2	2	11	9	5.99	.014
Eating disorder, not otherwise specified	0	—	1	1	.94	.33
Any axis I diagnosis	32	26	81	63	33.30	<.001

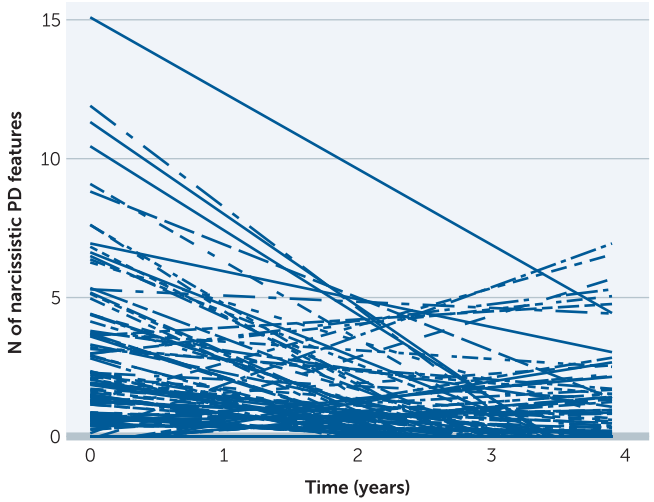
[a] LSPD, Longitudinal Study of Personality Disorders; NPD, no personality disorder; PPD, possible personality disorder; SCID-NP, Structured Clinical Interview for DSM-III-R–Nonpatient Version. Cases consist of both definite and probable lifetime axis I diagnoses combined for the entire study period. Some participants had more than one axis I diagnosis.
[b] Significance based on Pearson chi-square test (two-tailed), df=1.

of the personality dimensions reflective of the primary DLM components. In addition, each participant's age at entry into the study was included as a predictor at level 2 in order to account for interindividual variation in change associated with age (i.e., developmental level). The results of the conditional analyses are presented for the NARPD variable in Table 3. Table 3 includes estimates of the fixed effects and variance components associated with each level 2 predictor (study group, sex, age at entry, agentic positive emotion [agency, incentive motivation], communal positive emotion [affiliation], constraint [nonaffective constraint, neural constraint], negative emotion [anxiety], and fear), the approximate p value for testing that these effects were zero in the population, an estimate of the effect size (r), and a deviance statistic (−2 log-likelihood) for the model. Table 3 also contains estimates of the variance components from the level 2 model, which were also tested for statistical significance.

For the IPDE NARPD feature dimension, with respect to elevation of the individual growth trajectories, statistically significant predictors of individual-level parameters in NARPD features included group membership, negative emotion (anxiety), constraint (nonaffective), communal positive emotion (affiliation), and agentic positive emotion (agency, incentive motivation) (all $p \leq 0.05$). Group membership (i.e., PPD status) was associated with higher NARPD levels. In terms of personality predictors, higher levels of negative emotion and agentic positive emotion were associated with higher NARPD levels, whereas higher levels of constraint and communal positive emotion were associated with lower NARPD levels. Of the level 2 predictors of elevation, negative emotion (anxiety), constraint, and agentic positive emotion were associated with the largest effect sizes. The variance component estimate for elevation (σ^2_0) indicated that there remained significant variation in elevation that could be modeled beyond the selected predictors.

Slope is the critical growth parameter for the investigation of stability and change in NARPD features over time during undergraduate college because it directly indexes the rate and direction of individual change over time. As noted in the unconditional model results, the overall pattern for NARPD was a decreasing trend across the 4-year study period. In the level 2 prediction of slope for NARPD features, constraint and agentic positive emotion were significantly predictive of the rate of change in NARPD features (both $p \leq 0.05$; small effect of constraint and agentic positive emotion, but the latter showed a trend toward medium effect). The effects were such that higher baseline levels of constraint were predictive of less steep declines (or slight increases) in NARPD features over time, whereas higher levels of agentic positive emotion were predictive of greater rates of decline in NARPD features over time. The variance component estimates for rate of change (σ^2_1) indicated additional significant variation in slope that could be modeled beyond the selected predictors.

FIGURE 1. Ordinary least-squares individual growth trajectories for narcissistic personality disorder (PD) features of participants (N=250)[a]



[a] Narcissistic PD features were assessed by using the International Personality Disorder Examination, on which scores range from 0 to 14, with higher scores indicating greater numbers of narcissistic PD features. PD features were assessed three times. For each participant, time between assessments was calculated in years by using each individual's date of birth and exact assessment dates and was then centered on age at entry into the study.

Finally, in sensitivity analyses guided by the arithmetic and distributional properties of the dependent variable (the count of NARPD features), the unconditional and conditional models were refitted by replacing the existing outcome with its square root. This approach yielded a pattern of results completely consistent with those reported for the untransformed PD variables.

TABLE 3. Analysis of interindividual differences in change in number of narcissistic personality disorder features among participants (N=250)[a]

	Elevation of individual trajectory (intercept, π_{0i})			Rate of change of individual trajectory (slope, π_{1i})		
Factor	Fixed-effect coefficient	p	r	Fixed-effect coefficient	p	r
Male sex	.52	.06	.12	−.19	.052	.12
PPD group	.63	.02	.16	−.28	.002	.20
Age at entry	.54	.08	.11	−.13	.11	.10
Fear	.18	.40	.05	−.08	.30	.07
Negative emotion	.04	.002	.21	−.008	.13	.10
Constraint	−.13	.003	.20	.03	.05	.13
Positive emotion, communal	−.03	.05	.13	.005	.32	.06
Positive emotion, agentic	.13	.001	.26	−.03	.003	.20

[a] The level 2 analysis detected variability in change across individuals and determined the relationship between predictors and the shape of each person's growth trajectory. All components of the level 1 and level 2 models were estimated simultaneously. Sex was coded as male=1, female=0; group status was coded as possible personality disorder (PPD)=1, no personality disorder=0. Values in the table represent the final estimates of the fixed effects with robust standard errors. The fixed effects and variance component parameters were tested to determine whether they differed from zero. Effect size r: 0.10=small effect, 0.24=medium effect, 0.37=large effect (58). Deviance statistics were based on 12 estimated parameters. Model estimation was performed with full maximum likelihood. Variance components and deviance statistics reported in the rightmost columns are for the entire model. Variance components are as follows: σ^2_{ε}=1.243 (p<0.001); σ^2_0=2.866 (p<0.001); σ^2_1=0.198 (p<0.001); σ_{01}=−0.753 (p<0.001). Deviance(−2 log-likelihood)=2,682.09.

DISCUSSION

For over 100 years, the assumption in psychiatry and clinical psychology was that PDs were relatively stable, enduring, pervasive, inflexible, and trait-like. Indeed, that characterization figured prominently in the *DSM-III* and has remained even in the *DSM-5*. However, with the advent of prospective longitudinal studies that addressed these theoretical assumptions in the *DSM*, the ever-expanding body of literature has revealed that personality pathology is flexible, is malleable, and shows evidence of change over time. This pattern of evidence suggesting change was first observed in the LSPD (35) and was confirmed by subsequent PD studies. Despite marked methodological differences in terms of measurement, sampling methodology, clinical status of participants, and other features, the overwhelming pattern observed for PDs across the other longitudinal studies of personality pathology is one of change, specifically declining pathology over time (59–62). Remarkably, all four of these longitudinal studies were carried out by psychopathologists with a focus on clinically significant personality pathology.

Regarding narcissistic psychopathology, only the current study (LSPD) and Cohen et al.'s Children in the Community Study (CIC) (59) focus on narcissistic personality pathology found among individuals who were not preselected for some other disorder (which necessarily conditions results on the preselection factor in those other studies). Although the CIC did not use standardized clinical assessments for narcissistic pathology, it provided some evidence for declining levels over time of what the investigators termed pathological narcissistic traits (63). The LSPD, therefore, is the only study that has examined the longitudinal course of clinically significant *DSM*-defined NARPD features by using standard clinical assessments (i.e., IPDE), clinically experienced raters, a meaningful assessment schedule covering the first 4 years of college, and methodological safeguards to ensure the same participant was never evaluated more than once by any assessor. What, then, is the developmental course of clinically significant NARPD across the undergraduate college years? The course of NARPD over that time span is characterized by a great deal of heterogeneity in growth (Figure 1) and by a general pattern of declining levels of NARPD. In short, similar to what we know about normal personality (64, 65) and other PDs (35, 41), NARPD is clearly not set like plaster (and certainly not engraved in granite, as some view the *DSM* assumptions) during the first 4 years of college; moreover, it certainly does not increase for a majority of young people during that period. The data from the current study do not support, for this 4-year time frame and these participants, a pattern of increasing NARPD psychopathology.

The current study made use of the IGC methodology. The power of the growth curve approach has long been known to investigators leading longitudinal studies (52, 54). The unconditional growth model for NARPD features provided compelling evidence of the declining pattern of NARPD features over time. A well-known and elegant aspect of the IGC methodology used in this study is that it allows researchers to tease apart the two major components of a growth curve, namely, overall elevation and slope (or rate of change). Therefore, this study was able to investigate between-participant difference variables that help to explain these two aspects of growth and development. The subsequent conditional (level 2) analyses that focused on personality dimensions known to be reflective of neurobehavioral personality systems, as theorized by Depue and Lenzenweger (37–40), provided insights into the personality factors related to the initial level of NARPD features as well as the rate of change for NARPD features. Given the finding of considerable change in NARPD over time, the findings of greatest substantive interest to this study were the roles played by constraint and agentic positive emotion. In short, higher baseline levels of constraint seemed

to slow rates of change over the 4-year study period, whereas higher baseline levels of agentic positive emotion predicted faster rates of change (i.e., declines) in NARPD features. In the LSPD sample, NARPD features were highest, in general, at the beginning of the study period (the first year of college). It is entirely conceivable that many young adults arrive at college, fresh off the successes and triumphs of high school that helped them to gain admission, with something of an inflated or distorted sense of grandiosity (consciously aware of it or not) and that with time and experience, this narcissistic enhancement (even when pathological) may begin to abate. This developmental trend may be reflective of the important maturity principle so clearly articulated by Roberts and Mroczek (65).

The results from this study cannot be juxtaposed with any other data in terms of clinically significant narcissistic pathology features assessed prospectively in a multiwave study across the first 4 years of college. The current results are highly consistent with those for narcissistic traits (informed by the *DSM* system) from Cohen et al.'s CIC, as reported by Johnson et al. (63) for a sample of young adults living in the community (note the considerable attrition in the CIC over time). Both the current results and those from the CIC provide evidence that pathological narcissism declines over time.

What implications do the current findings have for the so-called narcissism epidemic proposed by Twenge and colleagues (22–25)? The current findings highlight the need for a fine-grained, prospective longitudinal study of the same participants to illuminate patterns of change in NARPD. The comparison of trait levels among students who have been assessed in different cohorts offers some basis for discussion of potential change in a trait of interest over time, such as the discussion regarding the apparent increase in scores on normative trait narcissism measures across successive college cohorts. However, such comparisons are necessarily limited because they concern different people, in different samples, who are assessed at different time points (and different cohorts with associated secular trends).

Moreover, the current study revealed a finding of considerable methodological importance regarding the assessment of NARPD during the undergraduate college years: namely, the precise point at which one assesses college students for NARPD will matter. The LSPD data revealed that NARPD levels were highest in the early years of college and then trended downward over time, perhaps reflective of the effects of the well-known maturity principle, as noted above (65). Evidence consistent with this principle comes from the LSPD from another analytic vantage point, namely, that a decrease in NARPD features over time is associated with decreasing levels of neuroticism and increasing levels of conscientiousness, occurring in parallel over time (66). The results of this study demonstrate the clear fact that NARPD does not necessarily stand on its own as a singular construct. To the contrary, NARPD (and other PDs) is likely an emergent product of underlying personality systems (37–40); thus, any consideration of whether NARPD features are increasing or decreasing cannot be made without accounting for personality constructs. To this end, the current results, at minimum, point to the importance of nonaffective constraint and agentic positive emotion to the prediction of change in NARPD over the undergraduate college years. Results from an LSPD study by Dowgwillo et al. (66) further underscore this point, in that as NARPD features decline, other personality systems show important changes as well. Thus, one cannot meaningfully discuss NARPD alone (whether increasing or decreasing over time) without reference to other personality systems.

Finally, the current findings are consistent with Wetzel et al.'s (33) recent rigorous statistical analysis of NPI (measuring nonclinical or normal personality narcissism traits) scores over time in successive cohorts, suggesting a decline in NPI scores across the 1990s and into the 2010s. That said, the psychopathologist must bear in mind that Wetzel et al. focused on NPI scores, which, as noted above, are derived from a measure known to have numerous psychometric shortcomings and to not measure clinically significant narcissistic pathology. Rather, the NPI measures a construct that is wed closely to normative (nonpathological) trait narcissism (6), and NPI items are infused with a good deal of normative self-esteem content (13). Given that the current study used a unit of analysis that bears a far closer resemblance to pathological narcissism (i.e., NARPD, as defined by the psychiatric nomenclature and assessed with a field-standard interview administered by clinically sophisticated interviewers), the findings reported here have greater implications for a discussion of narcissistic pathology relevant to clinical science than for one involving normative trait narcissism. In short, the findings of the current study may have greater probative value for scientific discussions by psychopathologists and those with an interest in clinically significant narcissistic pathology rather than by normal personality psychologists or social psychologists. For example, psychopathologists and personality scientists with a clinical focus may find more substance to delve into than others in terms of the study's clinically interesting questions. Such questions include, What accounts for the pathogenesis of NARPD (67)? How is the disorder underpinned by neurobehavioral systems (37–40)? and How can NARPD go badly off the rails, so to speak, and veer into malignant narcissism (17, 20, 68)?

One should bear in mind four caveats in understanding the IGC results for NARPD that were drawn from the LSPD database. First, the LSPD covered a 4-year period. Although 4 years is a developmentally meaningful time span, it is reasonable to suspect that PD development continues beyond a person's early twenties. Clearly, the participants in this study should be followed across the life span, and that is the intention of the LSPD. The participants who were originally enrolled in the LSPD are now in their forties, and they are passing through one of the more complicated developmental periods in the life course. The plan is to reassess them several times during the latter decades of their lives. In doing so, growth functions for the participants will become greatly

enriched, influenced not only by the passage of time and developmental hurdles but also by the inclusion of more observations that will allow for even more complex modeling of the various effects of interest.

Second, it should be noted that the indicators of the neurobehavioral systems studied are clearly fallible because they were drawn from psychometric assessment, and it is best to regard them as approximations of the underlying neurobehavioral systems hypothesized by Depue and Lenzenweger (37–40).

Third, it must be noted that this study has not exhausted the list of possible factors that could be included as between-participant variables for the level 2 model estimations. One could include other variables, such as contextual and experiential factors (e.g., parental rearing approaches, peer relations, social networks, rural vs. urban residence), as well as significant negative life events (e.g., trauma, neglect, maltreatment, unemployment, poverty, divorce, health declines, or death of a spouse, parent, or child), in the prediction of overall level of and rate of change in NARPD features over time. My laboratory is currently examining the potency of a measure of proximal process in the prediction of NARPD in this sample (67). Proximal process represents a construct influenced in large part by the thinking of Vygotsky (69) and proposes that healthy or positive development occurs when children are consistently presented with learning and complex experiential opportunities that are slightly above their current level of competence. Such a measure may help capture an early input into the development of NARPD and may be useful for the long-term prediction of overall level of and rate of change in NARPD.

Finally, because it was drawn from a university population, this study's sample is more homogeneous in age, educational achievement, and social class than the U.S. population at large and consists only of young adults—features that may have differentially affected the study results. However, the current sample was ideally suited to address conjectures regarding NARPD during the undergraduate college years. As noted, adjustment to university life across the undergraduate college years (particularly the freshman-year transition) may have played a role in the changes I observed. In this context, however, it is essential to note that the IPDE assessments were based on an evaluation of functioning during the current year and during the past 5 years (i.e., a 5-year window) and were not merely reflective of current mental state or the most recent level of functioning. Also, LSPD participants were selected from a population (first-year university students) that might have been censored for some individuals most severely affected by PDs. However, 16% of the LSPD sample was diagnosed as having an axis II PD (full clinical thresholds) by the end of the study period, as assessed by using the highly conservative IPDE—a percentage that accords well with community studies (70). Moreover, 45% (N=113) of the LSPD participants had received a lifetime (or current) axis I disorder diagnosis by the end of college. Kessler et al. (71) found that 46.4% of the U.S. population received at least one axis I diagnosis in the original National Comorbidity Survey Replication. One must consider the consistency of the LSPD data with population-based epidemiologic data before ascribing undue levels of mental health pathology to the participants in this study merely on the basis of their university student status at initiation of the LSPD. Such a reminder would not come as a surprise to experienced clinicians who work in college mental health centers, where the nontrivial elevated prevalence of clinically significant psychopathology is unmistakable and represents a health care priority for many colleges and universities.

CONCLUSIONS

In closing this article in honor of Dr. Kernberg, I am reminded again of the value of multiple assessments of psychopathology done over time in addressing important matters of stability and change in the realm of psychopathology, especially PDs. Dr. Kernberg has been a pioneer in describing and treating severe narcissistic pathology, typically over the long haul in intensive treatments. His work implicitly embraces the importance of the passage of time. Moreover, the current study utilized a definition of narcissistic pathology that bears the immeasurable influence of Dr. Kernberg's seminal theoretical, descriptive, and therapeutic work. Anyone conducting research on clinically significant narcissistic pathology is most certainly standing on Dr. Kernberg's shoulders.

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