Article

How to Identify Narcissism With 13 Items? Validation of the German Narcissistic Personality Inventory–13 (G-NPI-13)

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Julia Brailovskaia[1], Hans-Werner Bierhoff[1], and Jürgen Margraf[1]

Abstract

Four studies investigated the construct validity of the brief version of the German Narcissistic Personality Inventory–13 (G-NPI-13). Study 1 (N = 603) confirmed the three-factor structure of the G-NPI-13 and its associations with the NPI-40 and the NPI-16. In Study 2 (N = 438), the convergent and discriminant validity of the G-NPI-13 was analyzed by investigating its relationships with the "Big Five," self-esteem, and mental health variables (depression, anxiety, stress symptoms; life satisfaction, happiness, social support). Study 3 (N = 118) provided further support for the convergence between the G-NPI-13 and the NPI-40 by investigating their associations with vulnerable narcissism, self-monitoring, and mental health. In Study 4 (N = 82), the 1-year test–retest reliability (three measurement time points) of the G-NPI-13 was investigated. Taken together, the G-NPI-13 is a valid, reliable, and economical instrument for measuring the personality trait narcissism. Possible practical applications and limitations of the G-NPI-13 are discussed.

Keywords

narcissism, measurement, validation, personality, mental health

The investigation of the personality trait narcissism has become a prominent topic in the past decades. Twenge, Konrath, Foster, Campbell, and Bushman (2008) described a considerable increase of this trait in the younger generations, indicating that this development could cause disadvantages for the individual itself and the whole society (Brunell, Staats, Barden, & Hupp, 2011; Twenge & Foster, 2008), especially considering the main characteristics of narcissism like selfishness, self-love, and sense of entitlement (Campbell, Rudich, & Sedikides, 2002). In contrast, the results of other studies call such a secular trend into question (e.g., Trzesniewski & Donnellan, 2010; Trzesniewski, Donnellan, & Robins, 2008). Additionally, narcissism was shown to be positively associated with positive constructs like life satisfaction and happiness (Brailovskaia & Margraf, 2016).

Many studies demonstrated a positive relationship between narcissism and self-esteem (Brown, Budzek, & Tamborski, 2009; Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004), as well as between narcissism and the personality trait self-monitoring (Gangestad & Snyder, 2000; Snyder, 1974). Furthermore, significant associations between narcissism and the personality traits included in the "Big Five" were reported (Ackerman et al., 2011; Brailovskaia & Bierhoff, 2012; Paulhus, 2001; Paulhus & Williams, 2002).

The large amount of studies on narcissism, which were conducted in different countries, underlines the high relevance of narcissism as a current research topic, as well as the need for a standardized and validated instrument to measure it.

Measuring Narcissism

Most studies measuring narcissism use the Narcissistic Personality Inventory (NPI-40; Raskin & Terry, 1988), which consists of 40 items rated in a forced-choice format. The NPI-40 was shown to be a valid and reliable instrument to assess narcissism in different countries and languages. The German version of the NPI-40 was validated by Schütz, Marcus, and Sellin (2004) showing good psychometric properties. The authors employed the widely used translation–backtranslation–modification procedure, which is a standard international practice recommended by Berry (1989), to translate the NPI-40 from the English to German (see also Schütz, 1989). Moreover, they examined the German NPI-40 in four samples by analyzing its factor structure, as well as its convergent and discriminant validity. Schütz et al. (2004) also described a short 15-item

[1]Ruhr-Universität Bochum, Bochum, Germany

Corresponding Author:
Julia Brailovskaia, Mental Health Research and Treatment Center, Ruhr-Universität Bochum, Massenbergstr. 9-13, 44787 Bochum, Germany.
Email: Julia.Brailovskaia@rub.de

version of the NPI-40. However, Spangenberg et al. (2013) revealed some shortcomings of this short form. Specifically, the NPI-15 was shown to have a two-factor structure. While the first factor (10 items) "leadership ability/personality" exhibited good psychometric properties, the properties of the second factor (5 items) "grandiosity" turned out to be unsatisfactory. Spangenberg et al. (2013) recommended to use only the subscores of the NPI-15 instead of the total score, which limits its application. Furthermore, nine items of the NPI-15 belong to the "leadership/authority" (LA) scale of the NPI-40, which amounts to an overemphasis of the LA subscale (see also Ackerman et al., 2011; Corry, Merritt, Mrug, & Pamp, 2008). A further small, but remarkable limitation of the NPI-15 is that it includes one of the seven controversial items from the NPI-40, which Corry et al. (2008) recommended to omit to increase the validity of the NPI-40.

To make the measurement of narcissism more efficient, Ames, Rose, and Anderson (2006) constructed and validated a brief version of the English NPI-40 which includes 16 items. Later, Gentile et al. (2013) created a shorter English language version of the NPI—the NPI-13—consisting of only 13 items.

Narcissistic Personality Inventory–13 (NPI-13)

Overall, the NPI-13 demonstrated similarly good psychometric properties as the NPI-16. However, in contrast to the NPI-16 whose items were selected by face validity as indicators of general narcissism (cf., Ames et al., 2006), the NPI-13 provides a total score of narcissism as well as three subscale scores. The derivation of subscales is essential for the investigation of specific research questions because the subscales facilitate the distinction of different facets of narcissism, which has proved to be very important in previous research (cf., Emmons, 1987). The subdimensions of leadership/authority (LA), grandiose exhibitionisms (GE), and entitlement/exploitativeness (EE) were proposed by Ackerman et al. (2011) on the basis of the NPI-40. The English NPI-13 which is the basis of the G-NPI-13 taps the same components of narcissism as the original NPI-40 preserving the conceptual breadth of the full-length version (Gentile et al., 2013). The NPI-16 does not preserve the conceptual breadth of the NPI-40. Furthermore, the NPI-16 includes two of the controversial NPI-40 items (Item 21 and Item 23; see Corry et al., 2008) which should be avoided; none of them is included in the 13-item version.

The first subscale LA of the NPI-13 includes the NPI-40 Items 12, 27, 32, and 36 (reliability: Cronbach's $\alpha = .66$, mean interitem $r = .32$). The second subscale GE comprises the Items 4, 15, 19, 20, and 29 (reliability: $\alpha = .65$, mean interitem $r = .26$). Finally, the third subscale EE consists of the Items 13, 14, 24, and 25 (reliability: $\alpha = .51$, mean interitem $r = .24$). The interrelations between the three subscales were small to moderate (Gentile et al., 2013).

The total score of the NPI-13 correlated significantly positively with the NPI-40 ($r = .87$, $p < .001$) and the NPI-16 ($r = .83$, $p < .001$). In addition, significant positive correlations were found between the NPI-13 and scales measuring self-esteem, extraversion, openness to experiences, and conscientiousness. In contrast, neuroticism and agreeableness correlated significantly negatively with the NPI-13. The NPI-13 was positively related to measures of negative affectivity—depressivity and anxiousness (Gentile et al., 2013). However, a recent study found no significant relationships between narcissism (NPI-13) and depression, anxiety, and stress symptoms (Brailovskaia & Margraf, 2016).

To sum up, the NPI-13 seems to be a valid alternative to the NPI-16 and probably can overcome the shortcomings of the German NPI-15. However, despite the high popularity of narcissism as a research topic, so far, little attention was paid to this short version of the NPI which just was validated in one study in the English language. An extensive search in international online databases like PsycINFO and German online databases like PsynDEX showed that most of the narcissism studies conducted with German samples use the long 40-item version of the NPI or a translation of the NPI-16 whose limitations were discussed earlier. Therefore, the aim of the present research was to validate a German version of the NPI-13 by Gentile et al. (2013). Four studies were conducted within the ongoing BOOM (Bochum Optimism and Mental Health) research program. The BOOM program investigates risk and protective factors of mental health in longitudinal and cross-sectional studies (Bieda et al., 2016; Brailovskaia & Margraf, 2016; Brailovskaia, Schönfeld, Kochetkov, & Margraf, 2017; Brailovskaia et al., 2017; Margraf, Lavallee, Zhang, & Schneider, 2016; Schönfeld, Brailovskaia, Bieda, Zhang, & Margraf, 2016). We received research and ethics committee approval of the ethics committee for the implementation of the investigation. All participants gave informed consent to participate.

In contrast to the other short NPI versions, the English language version of the NPI-13 was demonstrated to preserve the conceptual breadth of the NPI-40. This is an important achievement. Thus, the aim of Study 1 was to investigate whether the three-factor structure of the full-length NPI-40 remains in the G-NPI-13. In addition, we assumed that the 13-item and the 16-item versions assess overall the same construct as the NPI-40. Therefore, the associations with variables from the conceptual framework of narcissism were expected to be consistent for the three measures of narcissism. If the G-NPI-13 preserves the three-factor structure of the NPI-40 (in contrast to the NPI-16) and represents the general conceptual framework of narcissism (in correspondence with the NPI-40 and the

NPI-16), its use would have clear advantages in many applications because it is considerably more economical than the much longer NPI-40 and because it preserves the conceptual breadth of the NPI-40 in contrast to the NPI-16. Specifically, both self-esteem and negative mental health variables (i.e., depression, anxiety, and stress symptoms) represent the conceptual framework of narcissism in Study 1. In addition, in this and the following studies, the age variable was included. In Study 2 and in Study 3, the conceptual framework was considerably extended. In Study 2, the convergent and discriminant validity of the G-NPI-13 was investigated more thoroughly. While in Study 1 only negative mental health variables were included, in accordance with the dual-factor model of mental health, Study 2 included also positive mental health variables (i.e., life satisfaction, subjective happiness, and perceived social support). The dual-factor model of mental health assumes positive and negative mental health variables to be located on interrelated but separate dimensions of general mental health (Antaramian, Huebner, Hills, & Valois, 2010; Suldo & Shaffer, 2008). The emphasis on both negative and positive mental health dimensions broadens the perspective on mental health considerably. Furthermore, personality traits of the "Big Five" were included to investigate the association of the G-NPI-13 with a well-established personality system. Finally, a measure of self-esteem was included. In Study 3, the convergence between the G-NPI-13 and the NPI-40 was examined in more detail including measures of self-esteem, vulnerable narcissism, and self-monitoring besides the "Big Five" and mental health variables. The more correspondence of the correlation pattern between the long and the brief measure of narcissism would occur, the more the suitability of the G-NPI-13 as a replacement of the long NPI-40 version in a large range of applications (e.g., clinical settings, extensive online surveys, longitudinal studies, cross-cultural studies) would be proved. Study 4 was conducted to investigate the 1-year test–retest reliability of the G-NPI-13. High test–retest reliability is desirable especially for short measures of a construct and constitutes a special benefit in longitudinal studies for assessment of change over time (see Twenge et al., 2008).

In each of the four studies, the investigation of the relationships between narcissism and the other constructs was based on hypotheses formulated in accordance with previous research (e.g., Brailovskaia & Margraf, 2016; Brown et al., 2009; Gangestad & Snyder, 2000; Paulhus, 2001). Therefore, we expected narcissism measured with the G-NPI-13 to be positively associated with the other narcissism measures (NPI-40 and NPI-16; Hypothesis 1), self-esteem (Hypothesis 2), extraversion (Hypothesis 3), openness to experiences (Hypothesis 4), conscientiousness (Hypothesis 5), life satisfaction (Hypothesis 6), happiness (Hypothesis 7), and self-monitoring (Hypothesis 8). Narcissistic people are often popular and are perceived as charming and extraverted interaction partners (Schütz et al., 2004). Thus, we assumed also a positive relationship between narcissism and social support (Hypothesis 9). In contrast, the relationship to agreeableness (Hypothesis 10) and neuroticism (Hypothesis 11) was assumed to be negative. Considering the inconsistent results, the associations between narcissism and the negative mental health variables depression, anxiety, and stress symptoms were investigated in an exploratory way.

For all studies, priori power analyses ($\alpha < .05$, effect size $w = 0.30$ for Study 1, and effect size $f^2 = 0.30$ for Study 2 to Study 4) were calculated with the G*Power program (cf., Mayr, Erdfelder, Buchner, & Faul, 2007). They revealed in each case that the sample was large enough to be quite certain to detect correctly that the hypothesis is true when it is indeed true (power > .80).

The Statistical Package for the Social Sciences (SPSS) 24 and the statistical software Analysis of Moment Structures (AMOS) 24 (Weiber & Mühlhaus, 2014) were used for statistical analyses. Because the samples were unequally distributed in terms of gender balance, partial correlations controlling for gender were calculated to assess the associations between the investigated variables. For all multiple partial correlation calculations, the p values were corrected by applying the Bonferroni correction (level of significance: $p < .05$, two-tailed; see Field, 2009). The construct validity of the German version of the NPI-13 (G-NPI-13) was investigated with validated German questionnaires. Considering the good translation of the items and the convincing convergent and discriminant validity of the German NPI-40 (Schütz et al., 2004), the G-NPI-13 was generated by a selection of the appropriate items from the German language long version.

Study 1

Study 1 investigated the structure and validity of the NPI-13 and its subscales LA, GE, and EE, developed by Gentile et al. (2013) based on English-speaking samples, in a German-speaking sample. The associations of the G-NPI-13 with the NPI-40 and the NPI-16 were analyzed and relationships with measures of self-esteem, depression, anxiety, and stress symptoms were examined. In addition, the influence of age was investigated.

Method

Participants and Procedure. The sample of Study 1 included 603 participants (398 women, 205 men; age in years: M = 26.01, SD = 9.08, range: 18-67). They were students at different German universities (72.6%), trainees for different professions like baker or motor mechanic (6.6%), employees (19.3%), and 1.5% were unemployed. While 42.3% of the participants were singles, 48.8% lived in a steady

Table 1. Means, Standard Deviations, Minima, Maxima, Skewness, Kurtosis, and Present Intern Consistency of NPI (Study 1-Study 3).

	M	*SD*	Min	Max	Skewness	Kurtosis	α/r_{mi}
Study 1 (*N* = 603)							
NPI-13	4.12	3.01	0	13	0.93	0.66	.76/.20
NPI-13_LA	1.13	1.23	0	4	0.93	−0.15	.64/.32
NPI-13_GE	1.58	1.46	0	5	0.63	−0.55	.65/.27
NPI-13_EE	1.41	1.15	0	4	0.51	−0.60	.45/.17
NPI-40	15.03	8.16	0	40	0.89	0.93	.90
NPI-16	5.40	3.67	0	16	0.92	0.67	.80
Study 2 (*N* = 438)							
NPI-13	4.18	2.62	0	13	0.80	0.75	.67/.14
NPI-13_LA	1.34	1.22	0	4	0.55	−0.73	.58/.26
NPI-13_GE	1.64	1.35	0	5	0.54	−0.42	.59/.22
NPI-13_EE	1.20	1.16	0	4	0.77	−0.23	.53/.22
Study 3 (*N* = 118)							
NPI-13	3.58	2.30	0	12	0.62	0.70	.59/.11
NPI-13_LA	1.01	1.15	0	4	1.01	0.15	.61/.31
NPI-13_GE	1.46	1.24	0	4	0.42	−0.86	.52/.16
NPI-13_EE	1.12	1.06	0	4	0.74	−0.11	.40/.14
NPI-40	13.42	5.91	1	34	0.71	1.20	.80

Note. M = Mean; SD = Standard Deviation; Min = Minimum; Max = Maximum; α = Cronbach's α; r_{mi} = mean interitem correlation; NPI = Narcissistic Personality Inventory; LA = leadership/authority; GE = grandiose exhibitionisms; EE = entitlement/exploitativeness.

relationship, and 8.9% were married. An online self-report questionnaire on the research platform available at www.unipark.de was used to collect data. Invitations to participate were posted on various social platforms. In addition, posters were displayed in public places, like bakeries, and at different universities.

Measures

Narcissism. To measure the personality trait narcissism the German version of the NPI-40 (Schütz et al., 2004) was employed. The 40 items of this well validated and reliable instrument were rated in a forced-choice format (present scale reliability: α = .90). A low-narcissism response was coded as 0, whereas a high-narcissism response was coded as 1.

Self-esteem. Self-esteem was assessed with the Revised Version of the German Adaptation of Rosenberg Self-Esteem Scale (RSES; von Collani & Herzberg, 2003) which consists of 10 items. Each item was rated on a 4-point Likert-type scale (1 = *does not apply at all to me*, 4 = *completely applies to me*; present scale reliability: α = .66).

Depression, anxiety, stress. The Depression Anxiety Stress Scales–21 (DASS-21) measured participants' depression, anxiety, and stress symptoms over the previous week (Henry & Crawford, 2005). This instrument is well established in nonclinical and clinical samples. It includes three reliable seven-item subscales (present scale reliability: depression: α = .92, anxiety: α = .87, stress: α = .88). Items were rated on 4-point Likert-type scales (0 = *did not apply to me at all*, 3 = *applied to me very much or most of the time*; Lovibond & Lovibond, 1995).

Results and Discussion

The distribution of scores of all quantitative variables were close to a normal distribution (indicated by Kolmogorov–Smirnov tests, analyses of skew, kurtosis, and histogram). Table 1 summarizes the descriptive statistics and internal consistencies of the G-NPI-13 and its subscales, the NPI-40, and the NPI-16. In addition, we report the mean interitem correlations for the G-NPI-13 and its subscales. In general, the internal consistencies are satisfactory or good. Due to the small number of items (4 or 5) of the subscales, their internal consistencies are reduced. The low reliability of the subscale EE corresponds with the results reported by Ackerman et al. (2011) and Gentile et al. (2013). The magnitude of the mean interitem correlations turned out to be satisfying (see Clark & Watson, 1995; Gentile et al., 2013).

Factor Structure of the German NPI-13

First, we tested whether the three-factor structure described by Gentile et al. (2013) for the English language NPI-13 could also be applied on the G-NPI-13. Because we had derived the three-dimensional structure of the factor model from previous research, a preliminary exploratory factor analysis was not conducted. Instead, a confirmatory factor analysis was calculated based on the already established

Table 2. Standardized Factor Loads for the Three-Factor Model of the German NPI-13 (Study 1).

Items NPI-13	Items NPI-40	LA	GE	EE
1	12	.61[a]		
2	27	.61		
3	32	.47		
4	36	.55		
5	4		.45	
6	15		.62	
7	19		.69	
8	20		.31	
9	29		.60	
10	13			.49
11	14			.29
12	24			.52
13	25			.39

Note. N = 603. NPI = Narcissistic Personality Inventory, LA = leadership/authority, GE = grandiose exhibitionisms, EE = entitlement/exploitativeness.
[a]All standardized factor loads are significant: $p < .001$.

three-factor model by Gentile et al. (2013). The confirmatory factor analysis resulted in a significant chi-square value, $\chi^2 = 240.982$, degrees of freedom (df) = 62, $p < .001$. Because of sample size sensitivity of this chi-square test (Oishi, 2007), further fit indices were taken into consideration to assess the goodness of the model (Schermelleh-Engel, Moosbrugger, & Müller, 2003): The comparative fit index reached a value of .856 indicating a satisfying fit, the root mean square error of approximation was .069 (90% confidence interval (CI) [.060, 079]), and the standardized root mean residual was .0665, both indicating a good fit (Bentler, 1990; Homburg & Baumgartner, 1995; Hooper, Coughlan, & Mullen, 2008; Hu & Bentler, 1998; Steiger, 1990). Thus, the three-factor model fits our data well. Table 2 presents the standardized factor loadings for the G-NPI-13 model. To compare them with the original loadings found by Gentile et al. (2013), we calculated coefficients of congruence for all 13 items and for the appropriate items of each subscale separately. All coefficients were higher than 0.950 (all loadings: 0.991; loadings of LA: 0.991; loadings of GE: 0.995; loadings of EE: 0.982) which indicates that the loadings can be considered as congruent (Lorenzo-Seva & ten Berge, 2006). The three subscales correlated moderately ($r_{LA/GE} = .45$, $r_{LA/EE} = .49$, $r_{GE/EE} = .32$, all: $p < .01$). In summary, the three-factor structure of the English version of the NPI-13 could also be replicated with the G-NPI-13.

Relations of G-NPI-13 With NPI-40 and NPI-16

Next, partial correlations were calculated between the G-NPI-13 (and its subscales LA, GE, EE), the NPI-40, and the NPI-16 to assess their comparability. In accordance with previous results (Gentile et al., 2013), the G-NPI-13 correlated significantly positively with the NPI-40 ($r = .90$, $p < .01$) and the NPI-16 ($r = .85$, $p < .01$; confirming Hypothesis 1). Because all items of the G-NPI-13 are included in the NPI-40 this positive relationship was not surprising. In addition, the G-NPI-13 includes seven items, which are also included in the NPI-16. As expected, the NPI-40 and the NPI-16 correlated significantly positively ($r = .92$, $p < .01$).

The three subscales of the G-NPI-13 correlated significantly positively with the NPI-40 ($r_{LA} = .79$, $r_{GE} = .69$, $r_{EE} = .60$, all: $p < .01$) and the NPI-16 ($r_{LA} = .75$, $r_{GE} = .60$, $r_{EE} = .64$, all: $p < .01$), respectively. Note that two items of the subscales LA and GE, respectively, as well as three items of the EE subscale of the G-NPI-13 are included in the NPI-16.

Construct Validity

Finally, partial correlations were employed to investigate the associations between the narcissism measures and the variables age, self-esteem, depression, anxiety, and stress symptoms. Table 3 displays the correlations of the NPI scales with all other variables across our Study 1, Study 2, and Study 3.

In the present study, a comparison of the correlational profile of the G-NPI-13 with the correlational profile of the NPI-40 and NPI-16 revealed high-profile similarity. The only significant difference between the G-NPI-13 and the NPI-40 was found with respect to self-esteem. The effect size of the difference was quite small, Cohen's $q = .13$ (Cohen, 1988). In addition, the correlations of the G-NPI-13 and the NPI-16 did not differ significantly (all comparisons: $q < .10$).

In correspondence with prior research which indicated that younger generations on average exhibit higher narcissism than older generations (Twenge et al., 2008), all NPI scales correlated significantly negatively with age (Brailovskaia, 2013; Brunell et al., 2011). Self-esteem, which often is described as a significant part of the personality trait narcissism (Baumeister, Campbell, Krueger, & Vohs, 2003; Rose, 2002), correlated significantly positively with narcissism confirming previous results for the English language NPI-40 and the NPI-16 (Ames et al., 2006), as well as for the German language NPI-40 (Schütz et al., 2004; confirming Hypothesis 2).

Finally, our explorative analysis of the relationship between narcissism and negative mental health showed all narcissism measures to correlate significantly positively with depression, anxiety, and stress symptoms.

To sum up, results of Study 1 confirmed the three-factor structure of the G-NPI-13 in correspondence with English language studies (Gentile et al., 2013) and its construct validity.

Table 3. Correlations of NPI and All the Other Variables (Study 1-Study 3).

	NPI-13	NPI-13_LA	NPI-13_GE	NPI-13_EE	NPI-16	NPI-40	*q*
Study 1 (*N* = 603)							
Age	−.19**	−.15**	−.13**	−.16**	−.17**	−.21**	
RSES	.29**	.25**	.30**	.10*	.32**	.40**	
DASS: Depression	.28**	.21**	.16**	.30**	.25**	.22**	
DASS: Anxiety	.32**	.27**	.19**	.28**	.30**	.29**	
DASS: Stress	.33**	.25**	.22**	.30**	.29**	.29**	
Study 2 (*N* = 438)							
Age	.03	.01	.04	.01			
SISE	.36**	.34**	.41**	−.04			
BFI: Extraversion	.40**	.39**	.37**	.05			
BFI: Agreeableness	−.33**	−.26**	−.04	−.41**			
BFI: Conscientiousness	.09	.15*	.08	−.07			
BFI: Neuroticism	−.21**	−.23**	−.22**	−.03			
BFI: Openness	.08	.04	.04	.09			
DASS: Depression	−.13	−.17**	−.22**	.14*			
DASS: Anxiety	−.14*	−.11	−.16**	−.01			
DASS: Stress	−.07	−.11	−.13	.10			
SWLS	.23**	.26**	.26**	−.07			
SHS	.17**	.19**	.29**	−.15*			
F-SozU	.15*	.17**	.24**	−.12			
Study 3 (*N* = 118)							
Age	−.16					−.29**	.14
SISE	.35**					.44**	.11
BFI: Extraversion	.25*					.39**	.16
BFI: Agreeableness	−.17					−.07	.10
BFI: Conscientiousness	−.08					.04	.12
BFI: Neuroticism	−.10					−.28**	.19
BFI: Openness	.11					.14	.03
RSES	.25					.39**	.16
NEO: Extraversion	.26*					.50**	.28
NEO: Agreeableness	−.38**					−.20	.20
NEO: Conscientiousness	.07					.23	.16
NEO: Neuroticism	−.19					−.36**	.19
NEO: Openness	.14					.15	.01
NI-R	.22					.21	.01
SMS	.42**					.42**	0
DASS: Depression	−.10					−.26*	.17
DASS: Anxiety	−.12					−.19	.07
DASS: Stress	.01					−.08	.09

Note. NPI = Narcissistic Personality Inventory; RSES = Rosenberg Self-Esteem Scale; DASS = Depression Anxiety Stress Scales; SISE = Single-Item Self-Esteem Scale; BFI = Big Five Inventory; SWLS = Satisfaction with Life Scale; SHS = Subjective Happiness Scale; F-SozU = Questionnaire Social Support; NEO = NEO Five-Factor Inventory; NI-R = Narcissistic Inventory–Revised; SMS = Self-Monitoring Scale; all correlations: partial correlations controlling for gender; *q* = Cohen's *q* (effect size: .10 ≤ *q* < .30: small; .30 ≤ *q* < .50: middle; .50 ≤ *q*: large).
*$p < .05$. **$p < .01$.

Study 2

To further investigate the convergent and discriminant validity of the G-NPI-13, its associations with personality traits of the "Big Five," self-esteem, and various mental health variables (negative: depression, anxiety, and stress symptoms; positive: life satisfaction, subjective happiness, social support) were analyzed in a student sample.

Method

Participants and Procedure. All 438 participants of Study 2 were freshmen of the Ruhr-Universität Bochum (RUB; 290 women, 148 men; age in years: $M = 21.58$, $SD = 5.03$, range: 17-59). At the beginning of the winter semester 2016/2017, a collective e-mail including a participation invitation and the link of the online self-report survey was sent to all freshmen of the RUB.

Measures

Narcissism. G-NPI-13 was used to measure the narcissism level (see Table 1).

"Big Five." To assess the "Big Five" personality traits, we used the Big Five Inventory–10 (BFI-10; Rammstedt & John, 2007). This well-established questionnaire includes 10 items, which were rated on a 5-point Likert-type scale (1 = *disagree strongly*, 5 = *agree strongly*).

Considering that each of the five scales was represented only by two items, we followed the recommendation of Clark and Watson (1995) and calculated Cronbach's alpha, as well as the mean interitem correlation (r_{mi}) to examine the scale reliability: extraversion (present scale reliability: α = .77; r_{mi} = .63), agreeableness (α = .31; r_{mi} = .19), conscientiousness (α = .41; r_{mi} = .27), neuroticism (α = .58; r_{mi} = .40), and openness (α = .58; r_{mi} = .41).

Self-esteem. Participants' self-esteem was measured with the Single-Item Self-Esteem Scale (SISE; Robins, Hendin, & Trzesniewski, 2001) consisting of the statement "I have high self-esteem," which was rated on a 5-point Likert-type scale (1 = *not very true of me*, 5 = *very true of me*).

Depression, anxiety, stress. The DASS-21 (Henry & Crawford, 2005) assessed participants' depression (present scale reliability: α = .90), anxiety (α = .78), and stress symptoms (α = .86).

Subjective happiness. Happiness was measured with the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999) which includes four items rated on a 7-point Likert-type scale (range: 1-7; present scale reliability: α = .86).

Satisfaction with life. To measure life satisfaction the Satisfaction with Life Scale (SWLS) was used (Diener, Emmons, Larsen, & Griffin, 1985; Glaesmer, Grande, Braehler, & Roth, 2011). This questionnaire (present scale reliability: α = .86) consists of five items, which were rated on a 7-point Likert-type scale (1 = *strongly disagree*, 7 = *strongly agree*).

Social support. Social support was measured with the short version of the Questionnaire Social Support (F-SozU K-14; Fydrich, Sommer, Tydecks, & Brähler, 2009). This questionnaire consists of 14 items measuring subjective perceived or anticipated support by the social network. Responses were given on a 5-point Likert-type scale (1 = *not true at all*, 5 = *very true*; present scale reliability: α = .92).

Results and Discussion

All scales were approximately normally distributed (tested with Kolmogorov–Smirnov tests, skew, kurtosis, and histogram analyses). Table 1 presents the descriptive statistics and internal consistencies of G-NPI-13 and its subscales.

Association of Narcissism With Personality Traits and Mental Health Variables

To examine the construct validity of the G-NPI-13 and its subscales, their associations with age, the "Big Five," self-esteem, life satisfaction, happiness, social support, depression, anxiety, and stress symptoms were assessed by partial correlations. In contrast to Study 1, we found no significant correlation between age and narcissism (see Table 3). This result might partly be explained by the reduced age range of the present freshmen sample (17-25 years: 85.4%) compared with the sample of Study 1.

Corresponding with our results of Study 1, narcissism correlated significantly positively with self-esteem confirming again Hypothesis 2 and the concept overlap between self-esteem and narcissism emphasized by Rose (2002). The positive relationship between narcissism and extraversion (confirming Hypothesis 3), as well as the negative association of narcissism and agreeableness (confirming Hypothesis 10) were already reported in earlier studies using the NPI-13 (Gentile et al., 2013) and other narcissism measures (Brailovskaia & Bierhoff, 2012; Paulhus, 2001).

While conscientiousness was not significantly related to the total narcissism score, a significant positive correlation between conscientiousness and the subscale LA occurred at least partly confirming Hypothesis 5 (Larson & Christensen, 1993).

In correspondence with other studies, we found a significant negative correlation between narcissism and neuroticism (Ackerman et al., 2011; confirming Hypothesis 11). In contrast to some earlier studies (e.g., Brailovskaia, 2013), openness to experiences was not significantly related to narcissism (contradicting Hypothesis 4).

In correspondence with the results of Study 1, the subscale EE correlated significantly positively with depression symptoms. However, unlike the results in Study 1, anxiety was significantly negatively related to the total narcissism score. In addition, the subscales LA and GE displayed some significant negative associations with the negative mental health variables.

In correspondence with Brailovskaia and Margraf (2016), narcissism correlated significantly positively with life satisfaction, happiness, and social support (confirming Hypothesis 6, Hypothesis 7, and Hypothesis 9). However, the scale EE was significantly negatively correlated with happiness and did not correlate with life satisfaction and social support (see also Gentile et al., 2013).

Previous research was in correspondence with the theory-driven assumption that self-esteem and extraversion constitute defining parts of the narcissistic personality trait (Baumeister et al., 2003; Paulhus, 2001). In the present

study, positive correlations between narcissism, extraversion, and self-esteem occurred ($r_{Extraversion/SISE}$ = .46, p < .01). To investigate this assumption further, we examined by multiple regression analysis whether both variables—extraversion and self-esteem—account for additional variance in narcissism. The full model with gender (β = .202, p ≤ .001; 95% CI [.655, 1.580]), age (β = .041, p > .05; 95% CI [−.022, .064]), extraversion (β = .290, p ≤ .001; 95% CI [.477, .931]), and self-esteem (β = .223, p ≤ .001; 95% CI [.320, .783]) as independent variables and narcissism as the dependent variable explained 23.1% of the variance in the criterion, $F(4, 433) = 32.506$, p ≤ .001.

Taken together, the results of Study 2 underline that the G-NPI-13 is a valid instrument for measuring narcissism.

Study 3

Study 3 investigated the validity of the G-NPI-13 further. Its association with the NPI-40 was analyzed more thoroughly. Furthermore, the relationships of both NPI measures with a set of other variables which earlier studies had found to be associated with narcissism were analyzed and compared: age, vulnerable narcissism, "Big Five," self-esteem, self-monitoring, depression, anxiety, and stress symptoms.

Method

Participants and Procedure. Study 3 included 118 participants (93 women, 25 men; age in years: M = 23.18, SD = 5.86, range: 18-59). We sent a collective e-mail with a participation invitation and the link for the online questionnaire to a randomly collected sample of 500 persons who had earlier participated in the BOOM program and gave their permission to be contacted again for further investigations. In the invitation letter, we explained that those participants, who complete this questionnaire, will be asked to complete a second questionnaire the next day. In both sessions, 118 persons took part (students: 89.8%, employees: 9.3%, trainees: 0.9%). While 45.8% were singles, 48.3% lived in a steady relationship, and 5.9% were married.

Measures. In the first session, narcissism (G-NPI-13; see Table 1), the "Big Five" (BFI-10; extraversion: α = .79, r_{mi} = .66; agreeableness: α = .18, r_{mi} = .10; conscientiousness: α = .60, r_{mi} = .45; neuroticism: α = .43, r_{mi} = .27; openness: α = .58, r_{mi} = .42), and self-esteem (SISE) were included.

In the second session which followed on the next day, measures of narcissism (NPI-40; see Table 1), self-esteem (RSES; α = .58), depression, anxiety, and stress symptoms (DASS-21; depression: α = .91; anxiety: α = .82; stress: α = .88) were included. Furthermore, vulnerable narcissism was measured with the German Narcissistic Inventory–Revised (NI-R; Neumann & Bierhoff, 2004), a standard measure of vulnerable narcissism (see Wink, 1991) which correlates highly with the widely used Hypersensitive Narcissism Scale (Hendin & Cheek, 1997; cf., Rohmann, Neumann, Herner, & Bierhoff, 2012). This reliable instrument (present scale reliability: α = .90) contains 43 items rated on a 5-point Likert-type scale (0 = *does not apply at all to me*, 4 = *completely applies to me*). The "Big Five" traits were assessed with the NEO Five-Factor Inventory (NEO-FFI; Borkenau & Ostendorf, 2008) which includes 60 items (12 items per domain; present scale reliability: extraversion: α = .85, agreeableness: α = .76, conscientiousness: α = .85, neuroticism: α = .88, openness: α = .73). Items were rated on a 5-point Likert-type scale (0 = *disagree strongly*, 4 = *agree strongly*). Self-monitoring was assessed with the German Self-Monitoring Scale (SMS; Graf, 2004). This validated instrument includes 25 items rated in a forced-choice format (*not true* or *true*; range: 0-1). Its present scale reliability was α = .68.

Results and Discussion

First, descriptive statistics of the G-NPI-13 and the NPI-40 were calculated. The score distributions of the narcissism measures turned out to be nearly normally distributed, analyses of skewness (<3) and kurtosis (<8). Table 1 displays the descriptive results of both NPI versions and of the subscales of the G-NPI-13 for completeness. In the following, the emphasis is on the full NPI questionnaires, not the subscales.

Construct Validity

As expected, the G-NPI-13 (from Session 1) and the NPI-40 (from Session 2) were highly positively interrelated (r = .75, p < .01; confirming Hypothesis 1). This correlation was slightly lower than the equivalent correlation reported by Gentile et al. (2013) and lower than the correlation found in our Study 1. However, in Study 1, only the NPI-40 was assessed and the items of the G-NPI-13 were statistically compiled from the 40 items of the NPI-40. In the present study, the correlation between the G-NPI-13 (from Session 1) and the compilation of the appropriate 13 items from the NPI-40 (from Session 2) was r = .77, p < .01. This correlation did not significantly differ from the correlation between the G-NPI-13 (from Session 1) and the full NPI-40 (from Session 2; q < .10), as well as the correlation between the corresponding 13 items from the NPI-40 (from Session 2) and the full NPI-40 (from Session 2; r = .80, p < .01; q < .10).

Next, the partial correlations of the G-NPI-13 and the NPI-40 with the variables age, vulnerable narcissism, the "Big Five" (two measurement points), self-esteem (two measurement points), self-monitoring, depression, anxiety, and stress symptoms were investigated and compared.

Mostly, both measures showed a similar correlation pattern. If the results differed, the correlations of the NPI-40 predominantly were higher than those of the G-NPI-13. However, all differences were small (all: $q < .30$; see Table 3).

The negative correlation of narcissism and age was already reported in Study 1. Most of our hypotheses could be confirmed. However, the G-NPI-13 correlated only with the NEO-FFI agreeableness scale significantly negatively (confirming Hypothesis 10). One reason for this inconsistent result could be the low reliability of the BFI agreeableness scale which consists only of two items in comparison with the NEO-FFI agreeableness scale which consists of 12 items (see Miller, Gaughan, Maples, & Price, 2011). In correspondence with the Study 2 results, openness to experiences was again not significantly related to narcissism (contradicting Hypothesis 4). The relationships between narcissism measured with the NPI and vulnerable narcissism measured with the NI-R were positive, however (after the Bonferroni correction) they did not reach statistical significance.

While in Study 1 the associations between negative mental health variables and narcissism turned out to be positive, these variables correlated partly negatively in Study 2 and in the present study with narcissism.

To sum up, the differences in terms of construct validity between G-NPI-13 and NPI-40 were small. Mostly, the NPI-40 exhibited higher correlations than the NPI-13, which probably can be explained in part by the lower reliability of the G-NPI-13 in comparison with the NPI-40. Therefore, the results of Study 3 predominantly provide support for the validity of the German NPI-13 as a narcissism measure.

Study 4

In Study 4, we investigated the 1-year test–retest reliability of the German NPI-13 including three measurement time points. A second issue was to determine the associations between the G-NPI-13 and the "Big Five," self-esteem, life satisfaction, social support, depression, anxiety, and stress symptoms at different measurement points.

Method

Participants and Procedure. Across 1 year, three measurement sessions (T1, T2, and T3) were conducted. In October 2015, the first collective participation invitation with a link for the online survey was sent to 300 students of the RUB by e-mail. The survey was completed by 98 persons who also got the e-mail with the link for the second survey in May 2016. The 86 participants who completed the second questionnaire were sent the e-mail with the link for the third survey in October 2016. The third survey was completed by 82 students (66 women, 16 men; age in years at the first measurement point: $M = 22.70$, $SD = 5.27$; age range: 18-58).

Measures. At T1 and T2, the survey consisted of the G-NPI-13, the BFI-10, and the SISE. At T3, the following measures were included: G-NPI-13, SISE, SWLS, F-SozU K-14, DASS-21 (see Study 1 and Study 2).

Results and Discussion

Comparison Of G-NPI-13 at T1, T2, and T3. The associations between the G-NPI-13 scores measured at T1, T2, and T3 were analyzed by partial correlation analyses. Furthermore, their correlations with all other variables were calculated and compared. All analyses were conducted based on $N = 82$.

The G-NPI-13 scores were distributed nearly like a normal distribution. At T1, the mean of the G-NPI-13 was $M = 3.39$ ($SD = 2.19$, range: 0-10; $\alpha = .56$; $r_{mi} = .10$). At T2, the mean of the G-NPI-13 was $M = 3.55$ ($SD = 2.16$, range: 0-11; $\alpha = .53$; $r_{mi} = .10$). And at T3, the mean of the G-NPI-13 was $M = 3.45$ ($SD = 2.36$, range: 0-11; $\alpha = .62$; $r_{mi} = .12$).

As expected, the repeated measures of the G-NPI-13 correlated significantly positively, $r_{T1/T2} = .86$, $r_{T1/T3} = .77$, $r_{T2/T3} = .85$, all: $p < .01$, mean intercorrelation: $r_{mean} = .83$. In comparison, Ames et al. (2006) reported a correlation of $r = .85$ ($p < .01$) between NPI-16 measured at two sessions with a five-week interval.

Table 4 summarizes the associations between narcissism and all other variables. The results confirm most of our hypotheses. We compared the correlations of the G-NPI-13 at T1, T2, and T3 by calculating effect sizes. The correlation of the variable age measured at T1 with the G-NPI-13 values measured at T1, T2, and T3 did not differ significantly ($q_{mean} < .10$). Self-esteem was assessed at all three measurement points. Therefore, we first calculated the mean correlation of SISE T1, SISE T2, and SISE T3 with the G-NPI-13 T1 ($r_{mean} = .34$), of SISE T1, SISE T2, and SISE T3 with the G-NPI-13 T2 ($r_{mean} = .42$), and of SISE T1, SISE T2, and SISE T3 with the G-NPI-13 T3 ($r_{mean} = .44$). Then, we compared the size of these mean correlations. They did not differ significantly ($q_{mean} < .10$).

The "Big Five" variables were measured at T1 and at T2. Thus, the mean correlations of extraversion T1 and extraversion T2 with G-NPI-13 T1 ($r_{mean} = .34$), of extraversion T1 and extraversion T2 with G-NPI-13 T2 ($r_{mean} = .39$), and of extraversion T1 and extraversion T2 with G-NPI-13 T3 ($r_{mean} = .42$) were calculated and compared. They did not differ significantly ($q_{mean} < .10$). The same calculations were conducted with agreeableness, conscientiousness, neuroticisms, and openness to experiences indicating no significant differences between the correlations (all: $q_{mean} < .10$).

Table 4. Correlations of the G-NPI-13 T1, T2, and T3 With the Other Investigated Variables Measured at Different Time Points (Study 4).

	NPI-13 T1			NPI-13 T2			NPI-13 T3		
	T1	T2	T3	T1	T2	T3	T1	T2	T3
Age	−.12			−.13			−.11		
SISE	.46**	.33**	.24	.54**	.37**	.34**	.52**	.43**	.36**
BFI: Extraversion	.33**	.35**		.37**	.41**		.39**	.45**	
BFI: Agreeableness	−.11	−.13		−.06	−.14		−.09	−.11	
BFI: Conscientiousness	.13	.08		.13	.10		.07	.01	
BFI: Neuroticism	−.21	−.17		−.25	−.18		−.30*	−.28	
BFI: Openness	.14	.09		.20	.14		.23	.22	
SWLS			.18			.21			.28
F-SozU			.29*			.27			.26
DASS: Depression			−.02			−.07			−.19
DASS: Anxiety			.04			.06			−.06
DASS: Stress			.20			.28			.13

Note. N = 82. T1 = first measurement time point of other variables than the NPI-13; T2 = second measurement time point of other variables than the NPI-13; T3 = third measurement time point of other variables than the NPI-13; NPI = Narcissistic Personality Inventory; SISE = Single-Item Self-Esteem Scale; BFI = Big Five Inventory; SWLS = Satisfaction with Life Scale; F-SozU = Questionnaire Social Support; DASS = Depression Anxiety Stress Scales; all correlations: partial correlations controlling for gender.
*p < .05. **p < .01.

In addition, the correlations of life satisfaction and social support measured at T3 with the G-NPI-13 values at T1, T2, and T3 did not differ significantly (both: $q_{mean} < .10$).

The associations between the negative mental health symptoms and narcissism were not significant. But the correlations of the depression symptoms measured at T3 with the G-NPI-13 values at T1, T2, and T3 differed significantly ($q_{mean} = .11$, small effect). This result was replicated for the stress symptoms ($q_{mean} = .10$, small effect). The anxiety correlations, however, did not differ significantly ($q_{mean} < .10$).

These results establish the high stability of the German NPI-13 over the time course of 1 year. In addition, the high construct validity of the G-NPI-13 was only slightly modified by measurement point.

General Discussion

For decades, narcissism has been a popular topic in many research areas. Thereby, most of the narcissism studies use the NPI-40 which has been validated in different languages and countries. In 2013, Gentile et al. developed a brief English language NPI version including 13 items which overcomes the limitations of earlier short versions considering especially the factor structure. The aim of the present study was to investigate and to validate a German version of this short narcissism measure.

The results of our four studies have important implications for the use of the G-NPI-13. First, the confirmation of the three-dimensional structure of the NPI-40 and the correspondence of the conceptual framework between G-NPI-13 and NPI-40 mean that the G-NPI-13 can be used as a replacement for the long version if the overall number of items is restricted (e.g., because of time limitations, to counteract participants' fatigue and irritation). This is often the case in extensive online questionnaire surveys. In addition, it can be argued that the subscale scores referring to EE, LA, and GE are valid indicators of these important subdimensions of narcissism. Currently, most researchers and practitioners in Germany employ the NPI-40 as the measure of narcissism (see Brailovskaia & Bierhoff, 2016). The present work showed that the G-NPI-13 constitutes a promising alternative, which displays good 1-year test–retest reliability. Its use is time saving while the full conceptual breadth of the NPI-40 is preserved in contrast to the NPI-15 and the NPI-16.

Second, since the G-NPI-13 and the English language NPI-13 correspond to a large extent in terms of validity the realization of cross-cultural studies including English-speaking and German-speaking samples which are based on these 13-items questionnaires seems viable. The results of our studies suggest that both—the overall score and the subscale scores—may be interpreted meaningfully in such cross-cultural research. The corroboration of the validity of the G-NPI-13 in the current study indirectly confirms the validity of the English NPI-13. We suggest that future cross-cultural studies should examine measurement invariance of the NPI-13 across different cultures (see Bieda et al., 2016).

Third, the NPI-40 is often used in clinical settings where it has been shown to provide more valid results than other measures of narcissism (e.g., Miller et al., 2014) such as the Pathological Narcissism Inventory (Pincus et al., 2009). Because the NPI-13 items compiled by Gentile et al. (2013)

on the basis of the NPI-40 were highly relevant as markers of the Narcissistic Personality Disorder (see Rosenthal & Hooley, 2010), it can be argued that the G-NPI-13 could be employed as a pre-screening instrument for the presence of Narcissistic Personality Disorder tendencies. Therefore, its use in clinical settings as a brief pre-screening instrument including participants who display a low attention span—a widespread problem in clinical settings—is tenable.

In all studies, we found evidence for the positive association between narcissism and the personality traits extraversion (NEO-FFI, BFI-10) and self-esteem (RSES, SISE). Note that both extraversion and self-esteem were measured with two instruments emphasizing the generality of the relationships across variation of procedural details (Campbell et al., 2002; Marcus, Machilek, & Schütz, 2006; Morf & Rhodewalt, 2001). The positive association between narcissism and social support found in Study 2 and Study 4 indicates that narcissistic people perceive positive feedback they get for their self-presentation as a kind of social support. The positive relationships between narcissism measured with the NPI and self-monitoring was replicated in Study 3. The negative association between narcissism and agreeableness was replicated (Paulhus & Williams, 2002) in Study 2 and Study 3. Contrary to our expectations, openness seems to be not related to narcissism (measured either with 13 or 40 items). Probably, this result indicates that narcissists only pretend to be open to new experiences if demanded by the situation. Study 4 demonstrated the reliability and construct validity of the G-NPI-13 over a time span of 1 year. The correspondence of results between G-NPI-13 and the full-length version underlines the validity of the G-NPI-13 as an appropriate narcissism measure.

The association between narcissism and negative mental health variables (depression, anxiety, and stress symptoms) remains still unclear. We found positive, negative, as well as non-significant correlations with the G-NPI-13. This variability of results was surprising because in all studies we employed equally the DASS-21 to assess negative mental health. The DASS-21 demonstrated good psychometric properties and showed a correlation pattern with other variables, for example, self-esteem, that was in accordance with earlier theoretical and empirical contributions (see Henry & Crawford, 2005). Therefore, the differences of the results are not likely to be due to differences in specific measurement instruments employed.

Next, we compared the samples regarding their demographical variables. While our samples in Study 2, Study 3, and Study 4 and the sample of Brailovskaia and Margraf (2016; age: $M = 23.72$, $SD = 5.30$) were student samples, the sample of Gentile et al. (2013; age: $M = 29.66$, $SD = 10.66$) included adults. Our sample in Study 1 consisted of students (age: $M = 23.12$, $SD = 4.29$) and older non-students (age: $M = 33.69$, $SD = 13.11$). A separately conducted correlation analysis showed significant differences between those groups. While in the non-student group, the associations were highly significant, in the student group, the variables were not significantly related. Therefore, the inconsistent results could at least partly be explained by the different demographic characteristics of the samples. Narcissistic people are convinced of their grandiosity and uniqueness. To satisfy their demand of attention and admiration, they tend to initiate many superficial social contacts. In younger age, this strategy seems to work successfully. However, the older narcissistic people become, the more negative experiences might occur, because they are presumably not good in maintaining intimate relationships over time. This failure might contribute to an increase of symptoms of negative mental health.

Moreover, if narcissism increases in younger generations as predicted by Twenge et al. (2008), it seems urgent to investigate more comprehensively in future studies whether narcissism is a risk or a protective factor for mental health. Note that narcissism measured with the English NPI-13 was positively associated with some mental disorders, for example, the antisocial personality disorder (Gentile et al., 2013). In our Study 2 and Study 4, narcissism measured with the G-NPI-13 was positively correlated with positive variables, which protect mental health, namely, life satisfaction and happiness. This result suggests that if narcissists get the attention they are searching for, they feel happy and satisfied (Campbell, Brunell, & Finkel, 2006).

Limitations and Further Research

Surely, our research has some limitations, which must be mentioned. All variables were assessed with online self-report questionnaires. Even though our participants were instructed to respond spontaneously and honestly to the questions, social desirability effects cannot be ruled out. To reduce this problem, we suggest to include a questionnaire of social desirability in future studies, for example, the Balanced Inventory of Desirable Responding (Musch, Brockhaus, & Bröder, 2002; Paulhus, 1984).

Furthermore, it is noteworthy that we used the same approach in all four studies which implies that shared method variance may have inflated the magnitude of the correlations. We tackled this problem in part by employing the Bonferroni correction.

The BFI-10 and the SISE which were employed in Study 2, Study 3, and Study 4 to examine the "Big Five" variables and self-esteem, respectively, are only rough measures. Because of their shortness, they cannot cover all facets of the corresponding constructs.

In addition, the composition of our samples limits the generalization of present results. Because more women than men participated in our studies, the results tend to be more representative of women than of men. To tackle this limitation, to

assess the relationships between the investigated variables, we calculated partial correlations controlling for gender. In addition, the samples included mostly younger participants. Therefore, for future studies replicating our work, age- and gender-representative samples are desirable.

Moreover, our Study 4, which investigated the 1-year test–retest reliability of the G-NPI-13, included only 82 participants. Even though the sample was large enough to get valid results as indicated by the power analysis, a replication of the study with a larger sample size and over a longer period than 1 year would contribute to the generalization of the results.

At the end of the survey, participants had the opportunity to give feedback in an open comment box. They frequently mentioned that the response format of the NPI was inconvenient. The forced-choice format of the NPI has already been criticized earlier, especially because of psychometric problems (e.g., Ackerman, Donnellan, Roberts, & Fraley, 2015). Studies which compared the forced-choice format with a Likert-type scale response format found that the use of the Likert-type scale increased the reliability and validity of the results (Miller et al., 2017; Wetzel, Roberts, Fraley, & Brown, 2016). However, other authors reported a different factor structure of the NPI-40 depending on the response format (e.g., Grosz et al., 2017). Therefore, future studies on G-NPI-13 should compare different response formats to examine whether its psychometric properties are improved by using a Likert-type scale compared with the forced-choice format, and how the change of response format affects its factor structure.

Furthermore, with respect to the ongoing debate about the basic components of narcissism as a scientific construct and the instruments to measure it (see, e.g., Krizan & Herlache, 2017), we recommend that further research compares the G-NPI-13 with alternative measures of narcissism, for example, the Narcissistic Admiration and Rivalry Questionnaire (Back et al., 2013). Empirical results already indicate that the Narcissistic Admiration and Rivalry Questionnaire is positively related to the full-length NPI-40 (see Grosz et al., 2017).

In conclusion, current results indicate that the G-NPI-13 is a valid, reliable, and economical instrument for measuring narcissism in German language samples. Its large range of applications includes clinical settings and its conceptual bandwidth corresponds with the long NPI version.

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