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ASSESSMENT

Measuring Egocentrism as a Trait-Like Personality Attribute: The Development and Validation of the Egocentrism Scale

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Abstract Egocentrism, which has traditionally been studied within a developmental cognitive perspective, has been somewhat overlooked in the personality literature. Accordingly, the purpose of the present investigation was to develop a scale to assess individual levels of egocentrism as a personality trait that continues to influence behavior into the adult years. Across three independent samples (both student and community samples), we provide evidence for the structural, convergent, discriminant, and predictive validity of a newly developed measure of egocentrism that is suitable for measuring egocentrism across different age groups from adolescence to late adulthood. We report considerable evidence for the scale's convergent and discriminant validity and for its ability to predict one's likelihood of engaging in a wide range of egocentric behaviors. In general, the Egocentrism Scale was a better predictor of the behaviorally focused outcome variables than was the most widely used contemporary measure of egocentrism (i.e., the Adolescent Egocentrism Scale).

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Introduction

Egocentrism refers to excessive self-focused attention and the failure to adjust for the ways in which others' perspectives might differ from ours. Egocentrism can be a source of misperceptions, conflicts, and misunderstandings in social interactions (Chambers & De Dreu, 2014). The idea that one's level of egocentrism might be a trait-like personality attribute is suggested by data indicating that egocentrism is related to the personality trait of narcissism (Campbell et al., 2000). In fact, some previous studies have used narcissism scales to measure egocentrism (Robbins & Patton, 1985). Egocentrism is, however, only one of the psychological distortions of narcissism——a distortion that deals with the inability to take the perspective of others (Campbell et al., 2000).

Until recently, the two most commonly used scales to measure egocentrism have been the Adolescent Egocentrism Scale (Elkind, 1967) and the Imaginary Audience Scale (IAS) (Elkind, 1967). Because these two scales are used primarily with adolescent populations (usually between the ages of 10 and 15), there is not much evidence for their validity in adult samples. A more serious problem is that the two scales seem to measure different constructs and do not share a common face validity (Cohn et al., 1988). In addition, both of these scales focus on the problems associated with egocentrism in adolescents such as feeling misunderstood (e.g., "Trying to get other people to know what it is like being me") rather than on one's own tendency to perceive that others' views or opinions might differ from one's own.

Given this background, the purpose of the present study was to develop a brief, reliable, and valid self-report measure of egocentrism as a personality trait.

Scale Construction

Two general criteria were applied when developing the pool of items. First, the items had to measure egocentrism as a personality trait, rather than as a developmental phase. Second, the items also had to reflect the extent to which one sees things only from one's own perspective and is unlikely to consider or adjust for perspectives that differ from one's own.

More specifically, scale items were written to capture the following facets of egocentrism that have been emphasized in previous definitions and measurements: the extent to which the individual fails to consider the perspectives of others in everyday activities; the extent to which the individual believes that others share his or her own perspective; the extent to which others have remarked on the individual's self-focused attention; and the extent to which the individual prioritizes his or her own needs over those of others. An initial pool of fourteen items was generated.

Study 1

The aim of Study 1 was to reduce the initial pool of items and assess the structural and convergent validity of the resulting Egocentrism Scale.

Method

Participants

A sample of 425 students (M_{age} = 20.31, SD_{age} = 4.60, range: 16–56; 60.7% female and 39.3% male) was recruited.

Measures and Procedure

Narcissistic Personality Inventory

(NPI, α = .85; Raskin & Terry, 1988). This 40-item scale measures narcissistic personality traits. The NPI subscales include leadership/authority (α = .77), grandiose exhibitionism (α = .71), and entitlement/exploitativeness (α = .40).

Pathological Narcissistic Inventory

(PNI, α = .93; Pincus et al., 2009**).** This scale assesses seven aspects of pathological narcissism. Narcissistic grandiosity (α = .81) is composed of three subscales that reflect maladaptive self-enhancement strategies (i.e., grandiose fantasy, exploitativeness, and self-sacrificing self-enhancement). Narcissistic vulnerability (α = .93) is composed of four subscales that reflect deficient emotional and self-regulation (i.e., entitlement-rage, hiding the Self, contingent self-esteem, and devaluing).

Psychological Entitlement Scale

(PES, α = .57; Campbell, et al., 2004**).** This 9-item scale measures the extent to which respondents believe that they deserve more than others.

Results

Item Screening and Internal Consistency

To assess the performance of our newly developed Egocentrism Scale, we initially examined all of the item-total correlations, as well as the inter-item correlations, to identify items with low inter-item correlation or significant skew or redundancy (Table 1).[1] Because the correlations between items 10, 11, and 14 and the total score were very low, we removed these items from the pool. Removing these items slightly increased internal consistency from .802 to .817. Based on its generally low endorsement (positive skew), item 12 was also removed from the scale. The internal consistency did not show any substantial change.

Structural Validity

We then conducted an Exploratory Factor Analysis (EFA) with oblique rotation,[2] principal axis factoring, and eigenvalue < 1 using IBM SPSS 23 on the remaining 10 items of the scale (Table 1).[3] The results supported a two-

[1] We determined all items' measures of skewness and kurtosis. Skewness for the initial items was found to be acceptable in the range between 1.26 (item 12) and .008 (item 6) (George & Mallery, 2010). Kurtosis was also found to be acceptable in the range between 1.027 (item 4) and -.260 (item 10). Items 5, 10, and 12 had minor issues with normality. However, all of these items were removed in the final version of the Egocentrism scale, as noted below.

[2] Oblique rotation (Direct Oblimin) was chosen because the factors were highly correlated with each other.

[3] Bartlett's test of sphericity was significant (χ^2 (45) = 1434.992, $p < .001$), indicating that it was appropriate to use the factor analytic model on this set of data. In addition, the Kaiser–Meyer–Olkin Measure of Sampling Adequacy test indicated that the strength of the relationships among variables was high (KMO = .896); thus, it was acceptable to proceed with the analysis sampling (Cerny & Kaiser, 1977).

Table 1 Descriptive statistics for the initial items and factor loadings of the final items

Item	M	SD	I-T r	Factor 1	Factor 2
				39.22%	4.104%
1. I assume that everyone shares the same views I do, and I'm surprised when that's not the case	2.61	1.60	.63**	.606	.067
2. I live in a little world that is defined by my own thoughts, feelings, desires, and concerns	3.82	1.85	.72**	.673	− .263
3. I am often told by people who know me well that I think the whole world revolves around me	2.68	1.70	.70**	.673	− .108
4. I am rarely inclined to question the validity of my perceptions or judgments	3.26	1.85	.76**	.767	− .398
5. I'm always thinking about how my actions might affect other people. *R*	4.76	1.90	− .34**	− .176	− .012
6. In everyday conversations, I prefer to talk about myself rather than other people	3.29	1.80	.73**	.713	− .127
7. I rarely have occasion to seek out and consider other people's advice	3.38	1.80	.66**	.652	.226
8. I am quick to see how outside events will affect me and my welfare, but I'm slower to realize how they will affect other people	3.33	1.71	.73**	.697	.031
9. I just take care of myself, my problems, and my needs and let other people take care of themselves	2.52	1.54	.70**	.715	.245
10. In my thoughts and feelings as well as in my behavior, I tend to put other people first and think about myself either last or not at all. *R*	2.36	1.51	.24**		
11. I usually let my friends decide what we are doing. *R*	3.06	1.77	.15**		
12. I have plenty to worry about just trying to live my own life without having to worry about other people too	2.19	1.53	.46**		
13. I think it's odd that some people don't see things the way I see them	3.04	1.55	.39**	.330	.217
14. I generally assume that other people share my attitudes, values, and beliefs	5.24	1.41	.01		
Total factor variance					43.32%

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

factor solution. The first factor accounted for 39.22% of the item variance, whereas the second factor accounted for 4.10% of the item variance. Items 1-2-3-4-6-7-8-9 loaded on the first factor, which captured our intended meaning of the concept of egocentrism. In contrast, item 5 weakly loaded on factor 1 and did not load on the second factor; item 13 weakly loaded on the second factor. In exploratory factor analyses, Tabachnick and Fidell (2007) recommend retaining only items with conservatively higher loadings (at least .5) in the final scale. We adopted an even more stringent cutoff point in order to retain fewer yet more meaningful items and to avoid redundancy.

Factor 2 was deleted for several reasons. First, it explained only a modest amount of item variance (4.10%). Second, the items defining this factor all had relatively small factor loadings that ranged from − .39 to − .012. Third, most methodologists suggest that each factor should include a minimum of three variables; however, at least four or five variables per dimension are recommended (e.g., Kline, 2013). For these reasons, the average of the 8 items that loaded on Factor 1 was computed and used as our measure of Egocentrism ($\alpha = .873$).[4]

[4] Exploratory factor analysis (EFA) was run again with the final eight items. All items loaded on one factor which explained 46.62% of the item variance with factor loadings that ranged from .602 (item 1) to .746 (item 4). The results confirmed that egocentrism was a unidimensional construct.

Descriptive Statistics

The final Egocentrism Scale consisted of 8 items ($M = 3.11$, SD = 1.26) answered in a Likert-type format with response options of 1 ("Strongly disagree") through 7 ("Strongly agree").

Convergent Validity

The Egocentrism Scale was positively correlated with the NPI ($r = .37$, $P < .001$), the PNI ($r = .40$, $P < .001$), and the PES, ($r = .41$, $P < .001$), providing preliminary support for its convergent validity. Breaking down the scales into their subscales showed that the egocentrism scale was positively correlated with NPI leadership/authority ($r = .22$, $P < .001$), NPI grandiose/exhibitionist ($r = .29$, $P < .001$), NPI entitlement exploitativeness ($r = .29$, $P < .001$), PNI grandiose fantasy ($r = .26$, $P < .001$), PNI contingent self-esteem ($r = .24$, $P < .001$), PNI devaluing ($r = .29$, $P < .001$), PNI exploitativeness ($r = .23$, $P < .001$), PNI self-sacrificing self-enhancement ($r = .23$, $P < .001$), PNI hiding the Self ($r = .076$, $P = .116$), and PNI entitlement rage ($r = .50$, $P < .001$).

Discussion

Study 1 provided initial evidence for the structural and convergent validity of the Egocentrism Scale. The 8 retained items evidenced high internal reliability.

Furthermore, the predicted positive correlations with narcissism and entitlement provided preliminary evidence for the convergent validity of the Egocentrism Scale.

Study 2

To further establish the convergent validity of the Egocentrism Scale, we sought to extend our findings by examining the correlations between the Egocentrism Scale and two other scales that are purported to measure the same or closely related constructs: the egocentrism subscale of the Psychopathic Personality Traits Scale (Boduszek et al., 2016) and the Adolescent Egocentrism Scale (Enright et al., 1980).

Based on previous research (Raine & Uh, 2018), we also expected to find a positive correlation between the Egocentrism Scale and the Self-Consciousness Scale (Scheier & Carver, 1985) and negative correlations between the Egocentrism Scale and measures of empathy, perspective-taking, and pro-social personality.

Finally, to assess predictive and postdictive validity, we explored the relationship between egocentrism and (1) language use, (2) previous engagement in a wide range of entitled behaviors, and (3) the perceived likelihood of engaging in a wide range of egocentric behaviors. First, because egocentrism should be reflected in the use of more first-person singular pronouns, we expected that the Egocentrism Scale would be related to such usage on the Linguistic Implications Form (Wegner & Giuliano, 1980). Second, because egocentrism has been theoretically linked to entitled behaviors (Schwartz et al., 2008), we expected that it would be associated with having previously engaged in a wide range of entitled behaviors. Third, we expected egocentrism to be related to the Egocentric Scenarios Checklist, which measures the enactment of more egocentric behaviors.

Some previous writers have viewed egocentrism as one of those personality factors that is "beyond" (that is, not completely captured by) the Big Five traits (e.g., Paunonen, et al., 2003). For this reason, in Study 2 we examined the relationship of the Egocentrism Scale to the Big Five Personality Traits.

Method

Participants

Two online samples, Sample 2_a ($N = 215$, $M_{age} = 33.38$, $SD = 12.02$, age-range 19–84, 60.9% female) and Sample 2_b ($N = 211$, $M_{age} = 34.74$, $SD = 12.02$, age range = 19–80; 59.2% female), were recruited through MTurk.

Materials and Procedure

Big Five Personality Inventory

(BFI; John, Donahue, & Kentle, 1991). The BFI was used to assess the five broad dimensions of extraversion ($\alpha_{2a} = .75$, $\alpha_{2b} = .76$), agreeableness ($\alpha_{2a} = .74$, $\alpha_{2b} = .69$), conscientiousness ($\alpha_{2a} = .83$, $\alpha_{2b} = .80$), openness to experience ($\alpha_{2a} = .80$, $\alpha_{2b} = .80$), and neuroticism ($\alpha_{2a} = .80$, $\alpha_{2b} = .77$).

Self-Consciousness Scale

(Scheier & Carver, 1985). This 23-item self-report questionnaire contains three subscales: Public Self-Consciousness, Private Self-Consciousness, and Social Anxiety (SA). The two subscales of Public ($\alpha_{2a} = .87$, $\alpha_{2b} = .90$) and Private Self-Consciousness ($\alpha_{2a} = .88$, $\alpha_{2b} = .91$) were used.

Interpersonal Reactivity Scale

(Davis, 1980). The two subscales of Perspective Taking subscale (IRS-PT, $\alpha_{2a} = .75$, $\alpha_{2b} = .77$) and the Empathic Concern subscale (IRS-EC, $\alpha_{2a} = .77$, $\alpha_{2b} = .78$) were used.

Pro-Social Personality Battery

(PSP, Penner, Fritzsche, & Craiger, 1995). This 56-item scale measures various aspects of the pro-social personality and is composed of seven subscales, including Social Responsibility ($\alpha_{2a} = .76$, $\alpha_{2b} = .81$), Empathic Concern ($\alpha_{2a} = .80$, $\alpha_{2b} = .80$), Perspective Taking ($\alpha_{2a} = .81$, $\alpha_{2b} = .87$), Personal Distress ($\alpha_{2a} = .75$, $\alpha_{2b} = .80$), Other-Oriented Reasoning ($\alpha_{2a} = .79$, $\alpha_{2b} = .79$), Mutual Concerns Moral Reasoning ($\alpha_{2a} = .77$, $\alpha_{2b} = .78$), and Self-reported Altruism ($\alpha_{2a} = .81$, $\alpha_{2b} = .79$).

The Selfishness Questionnaire

(Raine & Uh, 2018, $\alpha_{2a} = .94$, $\alpha_{2b} = .95$). This scale was used to measure to measure individual differences in selfishness.

Psychopathic Personality Traits Scale

(PPTS, Boduszek et al., 2016). The PPTS is used to measure self-reported psychopathic traits in forensic and non-forensic populations. In the present study, only the egocentricity subscale of this scale was used ($\alpha_{2a} = .70$, $\alpha_{2b} = .78$).

Adolescent Egocentrism Scale

(AES, Enright et al., 1980). The AES was developed to measure egocentrism in adolescents (α_{2a} = .95, α_{2b} = .96).

Adult Entitlement Behaviors Scale

(AEBS, α_{2a} = .91, α_{2b} = .93). We developed the AEBS as a retrospective measure in which respondents rate how often they displayed a variety of specific entitlement behaviors during the past year (e.g., asked a friend to let you cut in near the front of a long line of people who are waiting), with their responses ranging from 1 (*Never*) to 4 (*Often*).

Linguistic Implications Form

(Wegner & Giuliano, 1980, α_{2a} = .75, α_{2b} = .70). This measure presents respondents with a series of sentences lacking pronouns (e.g., *It isn't easy to get lost in this town, but somehow (I, we, they) managed it*). Respondents choose a response from a set of three grammatically correct responses for each item. Responses with first-person singular pronouns are assigned a score of 1; all other responses are assigned a score of 0. The proportion of first-person singular pronouns, relative to the total number of items, represents the degree of egocentrism or self-focused attention.

Egocentric Scenarios Checklist

We developed a series of 15 scenarios that described a specific social situation and required the respondent to indicate the extent to which they would behave egocentrically in that particular situation (e.g., *Imagine that you take your first trip to a foreign country. In a large outdoor market, local vendors are selling their wares and speaking animatedly in their own language. How likely is it that you will assume they understand English?*). Responses are measured on a scale from 1 (extremely unlikely) to 5 (extremely likely). After removing the items with low inter-item correlation, the internal consistencies of the resulting scale were α_{2a} = .81 and α_2 = .79. Exploratory factor analyses with varimax rotation revealed that all items loaded on a single factor that explained 33.05% and 35.6% of the variance, respectively, in the two samples.[5]

[5] The items for Adult Entitlement Behaviors Scale and Egocentric Scenarios Checklist can be obtained upon request from the first author.

Table 2 Confirmatory factor loadings (standardized regression weights) in Study 2

	Sample 2_a	Sample 2_b
Item 1	.732	.777
Item 2	.750	.687
Item 3	.789	.819
Item 4	.698	.708
Item 6	.803	.778
Item 7	.705	.671
Item 8	.707	.701
Item 9	.778	.758

Results

Structural Validity

To confirm the structural validity of the 8-item Egocentrism Scale, we conducted a confirmatory factor analysis (CFA) using AMOS 20.0 to test a model in which all items loaded on a single latent variable (Table 2). In Sample 2_a, all items were found to load highly on the single underlying factor, χ^2 (15) = 17.267, P = .303, NFI = .982, TLI = .995, CFI = .998, SRMR = .0219, RMSEA = .027 [90% CI .00, .072][6]; α = 91 (M = 3.25, SD = 1.24). In Sample 2_b, the results again revealed a good fitting model, χ^2 (18) = 23.396, P = .176, NFI = .973, TLI = .990, CFI = .994, RMSEA = .038, SRMR = .0267, RMSEA = .031 [90% CI .00, .076][7]; α = .91 (M = 3.59, SD = 1.40).

Convergent and Discriminant Validity

To prevent inflated Type I error, only results significant at P = .01 are reported. As predicted, the Egocentrism Scale was positively correlated with the egocentrism subscale of Psychopathy Scale, and the AES, private self-consciousness, public self-consciousness, and the endorsement of selfishness scale. On the other hand, it was negatively correlated with the following subscales of the Pro-Social Personality Battery: social responsibility, empathic concern, and perspective-taking. Finally, and contrary to our

[6] The relative Chi square or normed chi-square in this model equals 1.15. There appears to be no consensus regarding an acceptable ratio for this statistic; however, most writers recommend values ranging from as high as 5.0 (Wheaton et al., 1977) to as low as 2.0 (Tabachnick and Fidell, 2007). The use of the normed chi-square is discouraged because X^2 is sensitive to sample size, and there are no "acceptable" clear-cut guidelines about maximum values of the normed chi-square. Therefore, the use of other fit indexes (e.g., CFI, TLI, RMSEA) is recommended when evaluating a model (Kline, 2015).

[7] The relative chi-square or normed chi-square in this model equals 1.29.

Table 3 Correlates of the Egocentrism Scale in Study 2

	Sample 2_a	Sample 2_b
PPTS Egocentrism	.56**	.57**
AES	.46**	.51**
Public self-consciousness	.22**	.39**
Private self-consciousness	.17*	.27**
Selfishness	.68**	.65**
IRS Perspective-taking	− .37**	− .44**
IRS Empathic concern	− .41**	− .39**
Social responsibility	− .72**	− .68**
Empathic concern	− .53**	− .49**
Perspective-taking	− .17*	− .26**
Altruism	.34***	.33**
Personal distress	.52**	.51**
Morality	− .13	− .08
Agreeableness	− .60**	− .47**
Conscientiousness	− .54**	− .38**
Neuroticism	.30**	.16*
Extraversion	.08	.19**
Openness	− .14*	− .02

*$P < .05$, **$P < .01$, ***$P < .001$

expectations, egocentrism was positively related to self-reported altruism (Table 3).

Predictive and Postdictive Validity

In both samples, there was a significant positive correlation between Egocentrism Scale and Egocentric Scenarios Checklist (accounting for 45% of the variance in Sample 2_a and 49% of the variance in Sample 2_b). Using the same outcome measure, we then compared the predictive validity of the Egocentrism Scale to the Adolescent Egocentrism Scale in a multiple regression analysis. The results showed that, in Sample 2_a, the AES was a significant predictor, $t(212) = 4.56$, $P < .001$ and that the Egocentrism Scale was also a significant predictor, $t(212) = 9.72$, $P < .001$. The Egocentrism Scale accounted for a greater amount of unique variance than did the AES when predicting the likelihood of displaying various kinds of egocentric behavior (beta weights of .544 and .255, respectively). In Sample 2_b, the AES was again a significant predictor, $t(208) = 3.77$, $P < .001$, as was the Egocentrism Scale, $t(208) = 10.58$, $P < .001$, with the Egocentrism Scale again accounting for more unique variance (beta weights of .592 and .210, respectively).

As expected, there were also significant positive correlations between the Egocentrism Scale and the Adult Entitlement Behaviors Scale in both Sample 2_a ($r = .68$, $P < .001$) and Sample 2_b ($r = .68$, $P < .001$), accounting for 46% and 46.5% of variance in this variable. A multiple regression analysis performed with the AES and the Egocentrism Scale as predictor variables showed that in Sample 2_a, AES was a significant predictor, $t(212) = 3.52$, $P = .001$, and so was the Egocentrism Scale, $t(212) = 10.66$, $P < .001$. Egocentrism Scale scores accounted for considerably more unique variance (beta weights of .589 and .194, respectively). In Sample 2_b, the same multiple regression analysis again showed the AES to be a significant predictor of AEBS scores, $t(208) = 2.38$, $P = .02$, and the Egocentrism Scale to be an even stronger predictor, $t(208) = 10.48$, $P < .001$, with the Egocentrism Scale scores again accounting for more considerably more unique variance (beta weights of .611 and .139, respectively)

Finally, in Sample 2_a, we observed a significant positive correlation between scores on the Egocentrism Scale and scores on the Linguistic Implications Form ($r = .17$, $P = .02$), with egocentrism scores accounting for 2.7% of the variance in this outcome variable. A multiple regression analysis performed with the AES and the Egocentrism Scale as predictor variables showed the Egocentrism Scale to be the only significant predictor at $t(212) = 2.45$, $P = .02$. In Sample 2_b, neither the AES and nor the Egocentrism Scale predicted the participants' scores on the Linguistic Implications Form.

Egocentrism and the Big Five Personality Traits

In Sample 2_a, a two-stage hierarchical regression analysis revealed that after controlling for the demographic variables of age, gender, ethnicity, and SES (which explained 24.8% of the variance), the Big Five personality traits accounted for 22.2% of the variance in the Egocentrism Scale scores, with gender, ethnicity, extraversion, agreeableness, and conscientiousness all being significant predictors of egocentrism. In Sample 2_b, after controlling for the same demographic variables (which explained 39.6% of the variance,) the Big Five personality traits accounted for 20.3% of the variance in scores on the Egocentrism Scale (Table 4).

Discussion

The Study 2 results provided considerable additional support for the structural, convergent, discriminant, and predictive/postdictive validity of the Egocentrism Scale.

General Discussion

We developed a brief self-report measure of egocentrism as a personality trait and then demonstrated the Egocentrism Scale's internal reliability, convergent validity, and

Table 4 Hierarchical regression analysis examining predictors of the Egocentrism Scale scores in Sample 2_a and 2_b

Variable	ß	*t*	sr^2	*R*	R^2	Δ*R*
Step 1				.498 (.396)	.248 (.157)	.248 (.157)
Age	− .25 (− .13)	− 3.98*** (− 1.99**)	.059 (.016)			
Gender	.29 (.25)	4.75*** (3.96**)	.081 (.064)			
Ethnicity	− .27 (− .18)	− 4.25** (− 2.67**)	.065 (.029)			
SES	.03 (.17)	.47 (2.66**)	.0007 (.029)			
Step 2				.685 (.600)	.470 (.360)	.222 (.203)
Age	− .06 (− .02)	− 1.15 (− .27)	.004 (.002)			
Gender	.15 (.18)	2.67* (3.10*)	.018 (.030)			
Ethnicity	− .19 (− .14)	− 3.36** (− 2.26**)	.031 (.016)			
SES	− .01 (.15)	− .26 (2.54**)	.0002 (.020)			
Extraversion	.13 (.21)	2.30** (3.35**)	.002 (.035)			
Conscientiousness	− .19 (− .17)	− 2.47** (− 2.11**)	.016 (.014)			
Agreeableness	− .38 (− .35)	− 4.86** (− 4.97**)	.061 (.078)			
Openness	− .06 (.02)	− 1.16 (.27)	.003 (.0001)			
Neuroticism	− .008 (− .02)	− .12 (− .22)	.00003 (.00002)			

The results for Sample 2_b are presented in parentheses

Gender: 1 = female, 0 = male; Race/ethnicity: 1 = white, 0 = nonwhite

SES social economic status

$^*P < .05$, $^{**}P < .0$, $^{***}P < .001$

predictive/postdictive validity in the data from three separate samples.

The most important contribution of this study is to place egocentrism within the domain of personality psychology by conceptualizing and measuring it as a personality trait and then examining its relationship with several other personality constructs, including narcissism and the Big Five personality traits. Compared to the preexisting measures of egocentrism, our Egocentrism Scale has a number of advantages. First, it is a brief, single-factor scale that measures egocentrism as a personality attribute rather than as a developmental phase or as a pathological condition. Second, it provides a demonstrably reliable and valid measure of egocentrism that can be used with both adolescent and adult populations. Third, the Egocentrism Scale proved to be a generally stronger predictor of the behaviorally focused outcome variables used in this investigation than the Adolescent Egocentrism Scale was.

Limitations and Future Directions

Some limitations of the present study should be noted. First, only self-report measures were used, though the Adult Entitlement Behavior Scale required reports of previous entitlement behaviors. Second, although the Egocentrism Scale is unidimensional, with the single, underlying factor accounting for nearly 40% of the total variance, additional research is needed to further explore the scale's internal reliability and test–retest reliability and to evaluate the utility of the individual items. Third, although we developed behaviorally focused checklist measures to assess both actual entitlement behaviors displayed in the past (the AEBS) and subjectively likely egocentric behaviors in response to hypothetical scenarios (the ESC), additional research is needed to generalize our results to actual, objectively recorded real-life behaviors. Another direction for future research is suggested by the unexpected positive correlation between egocentrism and altruism that we found in Study 2, which warrants further investigation.

Authors' Contributions MT was involved in development or design of methodology, data analysis, data collection and management, writing. VT formulation or evolution of overarching research goals and aims writing, supervision. WI helped in formulation or evolution of overarching research goals and aims, writing, supervision.

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Availability of Data and Material Data for this study and all other supplementray material are available upon request.

Compliance with Ethical Standards

Conflict of interest Authors do not have any conflicts of interest.

Consent to Participate After participants read the consent form, they were given the option to choose whether they consent to

participate or not. If they did not consent to participate in the study, they were directed to the end of the survey.

Consent for Publication Authors consent to publish this article in Psychological Studies.

Code Availability Not applicable.

Ethics Approval All aspects of this study have been approved by the University of Texas at Arlington's Institutional Review Board.

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