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DEVELOPMENT AND VALIDATION OF INDIGENOUS SCALE FOR PATHOLOGICAL NARCISSISM

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ABSTRACT

Contrary to the stereotypical understanding of a grandiose narcissist, a vulnerable subtype of narcissism exists which is characterized by insecurity, hypersensitivity, and a tendency towards shame, anxiety, and depression. The purpose of the research was to develop an indigenous scale that helped assess both phenotypical presentations of narcissism, improving research on narcissism and reducing misdiagnosis. Using deductive method, the study was conducted in three phases. Item generation was followed by content validation assessment by three expert clinical psychologists. The Principal Component Analysis was conducted on a sample of university students (N=431) to explore the underlying structure of the scale, while the Confirmatory Factor Analysis was conducted on a separate sample (N=224) to confirm the factor structure and refine the scale items. PCA was conducted with Promax rotation which led to five component factor solution: Beliefs of Superiority, Social Manipulation, Protection of Vulnerable Self, Need for External Validation and Preoccupation with Success. The final solution explained total variance of 55% which was appropriate (Perez & Medrano, 2010). The reliability analysis of the scale and its subscales resulted in Cronbach's alpha values greater than .70. The resulting structure was confirmed through CFA. The final model resulted in a 20-item scale which had adequate indices to show model fit (CMIN/df = 1.470, CFI = 0.92, GF1 = 0.90, RMSEA = 0.046 and PCLOSE = .681). The scale has two subscales for both presentations. The total score on the scale will help highlight individuals with traits of pathological narcissism.

Keywords: *pathological narcissism, vulnerable narcissism, grandiose narcissism, scale development, factor analysis*

INTRODUCTION

Despite the presence of narcissism as a construct in literature for more than a century, there are still debates about its exact meaning. Trait narcissism is thought to exist on a continuum from normal to pathological narcissism (Foster & Campbell, 2007). Pincus et al. (2009) further contend that pathological narcissism may also differ in its phenotypical presentation including grandiose and vulnerable subtypes. The authors also

argue that vulnerable narcissism is not recognized as predominantly as grandiose narcissism which may limit the understanding of the construct (Pincus et al., 2014). They build on the criticism that the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5; APA, 2013) criteria of NPD emphasize the grandiose subtype which restricts the heterogeneous nature of the construct.

Pathological narcissism is conceptualized as a 'personality style which involves significant deficits related to self-regulation and use of maladaptive strategies to deal with threats to self-image' (Pincus et al., 2009). These strategies help maintain structural coherence of self and persist due to this role. These strategies cause great intra-personal and inter-personal stress and impede an individual's functionality in different spheres of life.

Narcissistic grandiosity includes dealing with problems of self-esteem dysregulation by believing in unrealistic and inflated self-views. Individuals with this type of narcissism are exploitative, manipulative, contemptuous, and use self-aggrandizing behaviours. While narcissistic vulnerability includes dealing with self-esteem dysregulation by seeking out external validation. Individuals with this phenotype have low self-esteem, struggle with criticism, experience more shame than their counterparts, and avoid social contracts.

Characterization of Narcissistic Personality Style

Many clinicians and theorists who have worked on narcissism have conceptualized it as a personality type. This type is recognized by the cluster of traits that exist and work together to fulfill the functions of the personality. These characterizations highlight many aspects that further add to the presence of distinct types of narcissism. Some of these characterizations are mentioned in this study.

The concept of narcissistic personality or character was articulated by Wälder (1925) for the first time. He reported that people with narcissistic personality were often condescending and obsessed with themselves, deemed themselves superior to others, and lacked empathy (which was most evident in their sexual interactions due to lack of emotional intimacy) while having adequate reality contact. In 1931, after the work of Wälder, Freud also described individuals with narcissistic libidinal or character type. These individuals were pre-occupied with self-preservation. They were self-sufficient and not easily intimidated. They had large amount of aggressiveness which became apparent in their readiness for action. He explained that these individuals preferred to be loved than loving others, aimed at impressing others, and often took role of leaders. Raskin and Terry (1988) further added that Freud clinically used the term 'narcissism' to describe certain behavioural patterns like set of attitudes person has towards themselves (like self-love, self-aggrandization), fears or vulnerabilities related to self-esteem, defensive orientation (including megalomania, idealization, denial, projection and splitting), motivation to be loved and achieve perfection, and the set of interpersonal attitudes (including exhibitionism, entitlement, feelings and thoughts of omnipotency, and intolerance of criticism).

The psychoanalyst Wilhelm Reich (1933, 1949) expanded on Freud's by suggesting phallic-narcissistic character by observing the arrogant and sadistic traits of certain leaders in WW2. This characterization included arrogance, coldness, conceit and aggression. Karen Horney (1939) added that narcissism had multiple phenotypical manifestations including aggressive-expansive type, perfectionist type, and arrogant-vindictive type. She stated that it would be an embarrassing task to get a clinical definition of narcissism although all types did have 'attitudes pertaining to self' as a common factor. They were prone to unrealistic self-inflation which was described by Horney as overvaluation of self or presenting to self and other qualities and achieves which one does not possess. She believed they tended to withdraw from others while at the same time needing others a source of admiration and support. Anna Reich (1960) built on the idea that narcissism was a defence against underlying vulnerable self. She did not differentiate the types instead both existed together. She proposed that narcissists suffer from inability to regulate their self-esteem. They used grandiose ideations or fantasy world where they are not weak and powerless instead strong and superior to others. In 1961, Nemiah further proposed that individuals with narcissistic personality have great ambitions, unrealistic goals, and intolerance of failures and imperfections. They were extremely critical and reacted to even ordinary setbacks as it triggered their profound sense of inadequacy.

Kernberg (1970) was the first to provide explicit descriptions of clinical 20 characteristics of individuals with narcissistic personality structure. He outlined three areas in which narcissistic personality can be expressed: pathological self-love, pathological object-love (including envy, devaluation of others, and exploitation), and superego pathology (including severe mood swings, shame-regulated self-esteem and superficial self-serving values). He also gave a range of narcissistic functioning characterized as high-, middle-, and low-functioning pathological narcissists. Kohut and Wolf (1978) described five different types of narcissistic personality depending on the mechanism individual employs to manage self-esteem and self cohesiveness. The mirror-hungry sought admiration from others. The ideal-hungry sought others to idealize. The alter-ego sought relationships with others to confirm themselves. The merger-hungry sought to control others to maintain their self-structure. The contact-shunning avoided others to maintain control of themselves and their need for others.

Akhtar and Thomson (1982) further characterised two types of narcissism overt and covert based on the theoretical and clinical literature on narcissistic personality disorder. They differentiated them on the basis of self-concept, interpersonal relations, social adaptations, ethics and ideals, love and sexuality, and cognitive style. The overt narcissists were haughty and entitled. They fantasized about wealth and power, were ambitious and exhibitionists, and had apparent interest in socio-political matters. They were seductive, egocentric, and could easily become devil's advocate. The covert narcissists were hypersensitive and pre-occupied with feelings of inferiority and worthlessness. They were prone to idealization and envy of others and were hungry for acclaim. They were uncertain, bored and dissatisfied with their professional and social identity. They lacked genuine commitment, have corruptible conscience and treat others as extensions of self.

Similarly, Gabbard (1989) stated that narcissistic patients were of diverse nature. He proposed two poles (oblivious and hypervigilant) of interpersonal relatedness to show that most types of narcissism fell somewhere on the continuum between these poles. Wink (1991) elaborated on two faces of narcissism: overt and covert. He linked overt narcissism with direct expression of grandiosity, constant attention and admiration, and blatant self-confidence. While covert narcissism was dominated by displays of lack of self-confidence and initiatives, feelings of depression, hypersensitivity, absence of zest for work, and underlying grandiose fantasies. He reported that despite the differences sense of entitlement and exploitative nature is common to both types. The literature mentions different subtypes of narcissism or characteristics that seem contradictory to each other. For example, vulnerable and grandiose self-concept, indifference and shame in response to criticism, or disinterest and dependency on other. These contradictions could be conceptualized to present to two different manifestations of same personality disorder or could highlight inherent complexity of the narcissism as a personality disorder.

Narcissistic Personality Disorder in DSM

NPD was first introduced as a diagnostic category in DSM-III (APA, 1980). The diagnostic criteria were not determined empirically instead the description was based on the pre-existing literature (influenced heavily by the writings of Kernberg and Kohut). The format of the criteria was mixed: polythetic and monothetic format (Gunderson et al., 1995). The interpersonal disturbances characteristic of narcissistic personality disorder made up the polythetic format (in a way that two out of four criteria were required to meet the diagnostic threshold). These disturbances included feelings of entitlement, interpersonal exploitation, marked oscillations between extreme over-idealization and devaluation, and lack of empathy (as cited in Reynolds & Lejuez, 2011). The revisions of personality criteria in DSM-R-III were based on literature and expert input, but no field trials were conducted for diagnosis of NPD. The diagnostic format of DSM-R-III was solely polythetic. The criteria about oscillation between idealization and devaluation was removed because of its similarity with borderline personality disorder and new criteria related to preoccupation with feelings of envy was added (Gunderson et al., 1995).

In DSM-IV, a work group was formed for diagnostic criteria of personality disorders. This was done to address some key issues in the diagnosis brought about due to changes from DSM-III to DSM-III-R. One of the issues concerned the increase in prevalence rate, another addressed the problem of comorbidity and the last issue concerned poor correlation between the entire diagnostic criteria and individual symptoms. This

resulted in 1) removal of criterion pertaining to reactions to criticism, 2) re-wordings of items concerning lack of empathy and preoccupation with envy, and 3) addition of another criterion concerning haughty and arrogant behaviour. To further increase the specificity and sensitivity of the diagnosis, the phrases in the criteria were changed, for example, expectations to be recognized as 'superior' replaced expectations about being recognized as 'special' and needing 'excessive admiration' replaced 'constant attention and admiration'. The major category also changed replaced 'hypersensitivity to evaluation of others' with 'need for admiration' (see Reynolds & Lejuez, 2011). Despite this, the changes in DSM-IV were heavily criticised by the experts in the field of pathological narcissism. One of the major issues concerned substantial drop in the prevalence rate of disorder reaching almost 0% in large scale epidemiological studies (Mattia & Zimmerman, 2001). The experts have argued that criteria of DSM for NPD did not capture the full manifestation of pathological narcissism found by clinicians and as suggested by theory and research. This emphasis on grandiosity in DSM may have affected the prevalence rate and under-estimated central aspects of NPD including emotional distress, anger and hostility, emotional dysregulation, competitiveness, and tendency to externalize blame (Cain et al., 2008; Russ et al., 2008). Further, studies examining the subtypes of the disorder revealed three possible subtypes including grandiose/malignant, fragile, and high-functioning/exhibitionistic. This suggest a more complex construct than portrayed by DSM (Russ et al., 2008). Due to this, the adequacy of latent structure of DSM-IV (i.e. one-factor model of pathological narcissism) is strongly criticised.

To deal with these issues, personality disorder work group developed an alternative model for assessment of personality disorders (mentioned in Section III of DSM-5) and impairment. This includes both dimensional and categorical approaches. It includes assessment of individual's impairment of personality functioning and its degree (in relation to four domains of self-identity, self-direction, empathy, and intimacy). Additionally, pathological personality traits are also attributed chosen from five domains and facets in those domains based on a 4-point dimensional scale. There is also an alternative model for NPD in DSM-5 which covers the deficits present in the categorical diagnostic criteria. It mentions fluctuation of self-esteem as the central description of the disorder and mentions features from both subtypes in its criteria. Although, this alternative model is not widely known or utilized in Pakistan. This study uses features associated with NPD in an alternative model of personality disorder to develop an understanding of the construct and form the content of the scale.

Literature Review

Diagnostic interviews like the Structured Interview for DSM-IV Personality (SIDP-IV; Pfohl et al., 1997), the SCID-II (First et al., 1995), the Personality Disorder Interview-IV (PDI-IV; Widiger et al., 1995), and the Diagnostic Interview for Personality Disorders (DIPD; Zanarini et al., 1987) and self-report inventories like Millon Clinical Multiaxial Inventory (MCMI-III; Millon et al., 1997), the Minnesota Multiphasic Personality Inventory (MMPI-2), the Schedule for Nonadaptive and Adaptive Personality (SNAP), and the Personality Diagnostic Questionnaire-4 (PDQ-4; Hyler, 1994) have limited scope as they are based on the criteria of DSM and subsequently only measure a subtype of narcissism i.e. grandiose narcissism. Moreover, most of these interview guidelines and scales are unavailable in Pakistan which limits their use.

Furthermore, the scales of narcissism also have their restrictions. For example, the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979) is the most frequently used measure of nonclinical narcissism in social and personality psychology (over 75% of studies use it) (Cain et al., 2008). As the scale was based on the criteria of DSM-III, it lacks modifications undertaken in the following editions of the manual. Further, it neglects the vulnerable aspects of narcissism. This unidimensional nature of the scale is evident in the fact that it fails to correlate with the Narcissistic Personality Disorder Scale (Ashby et al.,1979) and the Narcissism-Hypersensitivity Scale (Serkownek, 1975) which are considered measures of vulnerable narcissism (Tambroski & Brown, 2011). Additionally, the studies concerning the scale's factor structure have been inconclusive. This structural ambiguity becomes a significant concern when different factors show varying relationships with similar constructs. Although, the scale was derived from clinical descriptions of narcissism, it strongly correlates with nonpathological variables. There is also lack of studies in the clinical

population of its use (Pincus et al., 2009), and might not be the best choice to assess pathological or maladaptive features of narcissism. Hypersensitive Narcissism Scale (HSNS; Hendin & Cheek, 1997) showed poor correlation with the measures of grandiose narcissism which established the scale as a unidimensional scale i.e. it only assesses vulnerable presentation of narcissism. Additionally, there is a strong correlation between HSNS and internalizing problems like neuroticism, anxiety, and shyness. Due to this, it has been proposed that the scale might conflate narcissism with insecurity (Tambroski & Brown, 2011) which can lead to inadequate conclusions when used as a scale to assess narcissism. The Superiority and Goal Instability Scale (SGIS; Robbins, 1989; Robbins & Patton, 1985) has been criticised for being used primarily for vocational and career counselling. It has not been used in clinical research on pathological narcissism (Pincus & Lukowitsky, 2010). Further, the underlying framework is limited to the theory of self-psychology which despite its comprehensive nature might not be able to represent the construct of pathological narcissism entirely. Pathological Narcissistic Inventory (PNI; Pincus et al., 2009) led to seven target domains on both (vulnerable and grandiose) aspects of pathological narcissism. The inventory is appreciated due to its multi-dimensional nature and attempts to provide researchers and clinicians with a tool based on the clinical expression of narcissism. Nevertheless, PNI is criticized for having limited success in evaluating grandiose narcissism appropriately. PNI-G shows weaker correlations with other measures of grandiose narcissism (Pincus et al., 2009; Miller et al., 2015). PNI-G's relation with other external variables, such that, it shows weak correlations with key traits associated with grandiose narcissism (for example, grandiosity, self-esteem, assertiveness, self-centeredness, callousness) and high correlation with traits considered atypical to construct of narcissism (for example, submissiveness, separation anxiety, social seclusion, cognitive and perceptual aberrations) (Miller et al., 2015).

In Pakistan, the literature review did not provide satisfactory evidence of Indigenous scales on Pathological Narcissism. Zafar and Kausar (2016) conducted a study on brand consumption mediating the relationship between narcissistic tendencies and self-image in women. During this study, they translated the Narcissistic Personality Inventory-16 (Ames et al., 2006) into Urdu. Hence, the scale's psychometric properties remained questionable.

The gap in the assessment of narcissism in nonclinical and clinical settings can lead to many issues. The lack of representation of vulnerable phenotype in diagnostic criteria may escape detection or may be concealed by symptoms of depression, anxiety, work, and interpersonal problems. This would result in the discrepancy between diagnostic nomenclature and the actual presentation of the construct; this may also influence the prevalence rate of the disorder indicated in most epidemiological studies (1.6% median as mentioned in DSM-5-TR; APA, 2022) and frequency of phenomenon found in clinical practice (Doidge et al., 2002). This disparity can be amended by the use of appropriate scales for the assessment of a comprehensive and nuanced presentation of pathological narcissism.

Further, narcissistic patients are more likely to seek treatment when they are in a vulnerable state than grandiose (Ellison et al., 2013). There is a need to assess the underlying personality traits so that these individuals can receive proper treatment. Patients who exhibit significant pathological (vulnerable) narcissism typically require a therapy that contextualizes their symptoms within their personality pathology i.e. the therapy only works when their depressive or anxious symptoms are understood within the perspective of narcissistic personality (Pincus et al., 2014).

Researches have shown that vulnerable narcissism might exhibit itself prominently in collectivistic countries as it is characterized by marked social insecurity (Pincus et al., 2009; Wink, 1991), and self-construal in terms of external feedback is prevalent in collectivistic cultures. On the other hand, narcissistic grandiosity may result in intrapersonal maladjustment because of cultural incongruency (Curhan et al., 2014). These differences require a measure to assess the multidimensional nature of pathological narcissism to further research on the construct in the fields of clinical, organizational, and social-applied psychology in Pakistan.

Objectives

- To establish a multidimensional scale on pathological narcissism in Urdu
- To establish internal structure of the scale through Factor Analyses (EFA and CFA)

Method

The process of scale development involves complex and systematic procedures. For this research, this process was broken into three basic steps (as mentioned in Morgado et al., 2017). These steps were divided into different phases of the research. These phases included item generation, content validity assessment, and factor analysis.

Phase 1: Item Generation

Using the deductive approach, the underlying content specifications for the construct of pathological narcissism were defined (Wynd et al., 2003). Two essential features of ensuring content validity undertaken in this step were: domain definition and domain representation (Almanasreh et al., 2019). Domain (construct) definition focuses on the operational definition of the central construct of the scale. For this purpose, the proposed diagnostic criteria for narcissistic personality disorder presented in the Alternative Model for Personality Disorders in DSM-5-TR were considered (APA, 2022). The construct of pathological narcissism was described as 'variable and vulnerable self-esteem' which employed attention and approval seeking along with either over or covert grandiosity for its regulation. For domain representation, the content domains were selected from and operationally defined and based on: diagnostic criteria of categorical and dimensional Narcissistic Personality Disorder in DSM-5-TR (APA, 2022); thematic analysis by Day et al. (2020); dynamic self-regulatory model by Morf and Rhodewalt (2001) and operational definitions of related domains from other scales on narcissism include NPI (Raskin & Hall, 1979), PNI (Pincus et al., 2009), FFNI (Glover et al., 2012), HSNS (Hendin & Cheek, 1997), and SGIS (Robbins, 1989).

The initial item pool was focused more on creative expression rather than the quality of items. The pool was analyzed in terms of content clarity, ambiguity, and social desirability. The final pool consisted of 138 items in Urdu language.

Phase 2: Content Validation Assessment

For content validation assessment, a group of experts was asked to evaluate the content relevance of the items on Likert type 4-point scale: 1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, and 4 = very relevant (Polit et al., 2007). The experts were asked to evaluate items based on their relevance to the content domain, sentence comprehensibility, language use, wording of items sentence structure, and overall appropriateness on a scale. Further, they were asked to add their comments and suggestions for improvement of current items or alternative items.

Although there is no consensus available on the number of content experts, Lynn (1986) suggested a minimum of three experts. Due to the low prevalence of narcissism in clinical settings, it was essential to include experts who had relevant experience with the phenomenon for the review. The experts were selected based on purposive sampling. The criteria for inclusion of experts focused on clinical psychologists who had a doctorate, more than 10 years of clinical experience, and relative exposure to the construct of narcissism (Almanasreh et al., 2019). The three selected experts either experience with personality disorders, worked with individuals with narcissistic personality disorder, or worked with the families or spouses of narcissistic individuals.

The I-CVI was calculated using the number of agreements per number of experts in the study. The criteria for excellent I-CVI for three experts as suggested by Polit, Beck, and Owen (2007) is 1.00. The items with I-CVI equal to 1.00 were retained as it showed the consensus of experts in terms of the content of the items. Further, the authors also suggest to compute modified-kappa values to adjust I-CVI values for chance agreements. The items with excellent k* values were retained (=k > .74). After adjustment, the items that did not meet the criteria were deleted. Lastly, the S-CVI/Ave was calculated by taking the average of I-CVI of all the items. The resultant value was 0.91. The values around 0.9 or higher are considered excellent (Almanasreh et al., 2019).

Pilot study was carried out by engaging 12 participants from Lahore city by following convenient sampling strategy, depending on the practical factors e.g. cost and time constraints (Isaac & Michael, 1995; Hill, 1998; Hertzog, 2008). This ensured the comprehensibility and psychometric cleansing of the items. This resulted in total of 69 items.

Phase 3: Factor Analyses

Step 1: Exploratory Factor Analysis

Participants. A sample of 482 students was recruited by using a convenient sampling technique from the universities of Lahore. The age of the sample ranged between 19-25 years (M = 21.20, SD = 2.13). The demographic information revealed that most of the participants were female, single, undergraduates, middle-born, and Muslims. Participants who were diagnosed with medical and psychological illness, receiving psychological treatments individuals, and had suffered from trauma in the past month were excluded from the study.

Measure. The response format for the Indigenous Scale on Pathological Narcissism was decided to be a five-point Likert scale where never = 1; sometimes = 2; half of the times = 3; often = 4 and always = 5. The high score showed high pathological narcissism while low scores showed low pathological narcissism.

Procedure. The research was approved by DDPC. The data was collected by getting permission from different public universities. Then, the teachers were approached so the scale could be administered in groups after receiving permission from both teachers and students. The students were explained the purpose of the study, their ethical rights, and instructions. After receiving their consent, the 69-item scale was administered. The administration time was almost 15-20 minutes. Out of 482 participants, 431 completed the questionnaire and were found appropriate to be used in factor analysis. This sample size fulfilled the criteria of (5:1 participant-to-item ratio).

Results

The data was analyzed using SPSS (Statistical Package for Social Sciences) 23rd version. Foremost, they screened for missing values as they can bias and affect the generalizability of the results. Additionally, the data was screened for univariate and multivariate outliers. The data was tested according to certain assumptions (i.e. sample size, normality, factorability of the correlation matrix, and multicollinearity) and data was found to fulfill the criteria (Perez & Medrano, 2010; Pallant, 2020). Additionally, Bartlett's Test of Sphericity and Kaiser-Meyer-Olkin (KMO) measure of sample adequacy were used. The result of Bartlett's Test of Sphericity was significant (p = .000) and the Kaiser-Meyer-Olkin value was 0.91 which was 'excellent' according to Kaiser and Rice (1974) (as cited in Pett et al., 2003). Hence, the sample was suitable to carry out factor analysis.

Principle Component Analysis (PCA) was conducted as it explains the maximum amount of total variance (all shared, unique, and error variances) using inter-item correlations by transforming variables into smaller sets of linear combinations, each combination to a component (factor). Researchers claim that common values in social sciences are low to moderate communalities, ranging from 0.4 to 0.7. Hence, items with communalities lower than 0.4 were removed gradually from the lowest communality (Costello & Osborn, 2005). It was made sure that the factors had at least three items with factor loading equal or above 0.40 (Samuels, 2017). The number of factors to be retained was determined using Kaiser's criteria (eigenvalue < 1). The components that met the criteria were 12 which together explained a total variance of 59%. The number of factors was overestimated and compromised the parsimony of the analysis. Further, as Kaiser's criteria had been criticised for overestimating the number of factors to retain (Pallant, 2020), other methods were consulted. The scree plot also did not show a satisfactory result as it showed two points above the break which did not represent the multiple domains present in the scale The last technique of parallel analysis has been suggested by Field (2013) as the best strategy to estimate the number of components, hence the program Monte-Carlo PCA (Watkins, 2000) was used. The program was given the following information: 54

number of variables, 346 number participants, and 100 number of replications (Pallant, 2020). For the 95th percentile, the random data-parallel analysis suggested a five-component solution. The sequence of components that emerged from five components was understandable and led to increasingly cleaner and more interpretable solutions. Hence, the number of factors was restricted to five. Theoretically, the factors were conceptualized to be correlated to each other as they represented the same construct of pathological narcissism. Hence, oblique rotation was used as it would produce a more accurate and reproducible solution (Costello & Osborne, 2005). Promax was used as a method for oblique rotation as it produced a cleaner solution. The factors in the study showed a correlation of more than 0.30 which proved that there was a relationship between them.

PCA was conducted with Promax rotation while restricting the factor number to five and factor loadings to all above 0.4. This led to five components explaining a total variance of 42%. Items below 0.4 factor loadings were removed and the program was re-run. Fifteen items were removed (based on low factor loading) and three items were removed due to cross-loading on more than one factor. The program was re-run.

Table 1

Factors and Factors loadings after EFA

Factor loading					Item	
5	4	3	2	1		
					Factor 1	
-.01	.10	-.06	-.12	**.76**	مجھے ایسے نظریات کے بارے میں بات کرنا پسند ہے جو لوگوں کو ناپسند ہو تاکہ میں اپنا آپ منوا سکوں	arg2
-.11	.12	-.04	.04	**.75**	میں اکثر لوگوں کی رائے سے اختلاف کرتا/کرتی ہوں تاکہ میں انہیں غلط ثابت کر سکوں	agr3
-.03	-.05	-.00	.08	**.71**	مجھے لگتا اکثر لوگوں میں اتنی صلاحیتیں نہیں ہیں جتنی میرے میں ہیں	con2
.05	-.00	-.09	.08	**.71**	میرے خیال میں دوسرے لوگ میرے معیار کے مطابق کام نہیں کر سکتے	per3
.09	-.07	.23	-.07	**.63**	جھے لگتا اکثر لوگوں میں اتنی صلاحیتیں نہیں ہیں جتنی میرے میں ہیں	con3
-.09	-.01	.09	.13	**.62**	میں اکثر خود کو دوسرے لوگوں کے مقابلے میں زیادہ عقل مند خوبصورت یا طاقتور سمجھتا/ سمجھتی ہوں	arr4
.16	.10	.00	-.01	**.58**	میں ہر کام دوسروں سے بہتر کرنے کی کوشش اس لئے کرتا/کرتی ہوں تاکہ میری برتری قائم رہے	comp4
					Factor 2	
.05	-.01	-.00	**.81**	-.02	میں لوگوں کو متاثر کرنے کی مہارت رکھتا ہوں	sen3
-.01	.05	-.06	**.77**	-.06	میں آسانی سے لوگوں کو اپنی خوبیوں سے متاثر کر سکتا/سکتی ہوں	sen1
.11	-.01	-.08	**.71**	.06	میں لوگوں سے اپنی بات منوا سکتا/سکتی ہوں	man3
-.11	-.00	.02	**.66**	.09	میں لوگوں کی رائے اپنی مرضی کے مطابق بدل سکتا/سکتی ہوں	man1
.06	-.11	.10	**.63**	.05	میں آسانی سے لوگوں کی رائے متاثر کر سکتا/سکتی ہوں	man2
					Factor 3	
.02	-.06	**.80**	-.20	.08	میں اکثر لوگوں سے ناامید ہو کر اکیلا ہو جاتا/جاتی ہوں	sha1
-.10	.22	**.62**	-.12	.01	میں اکثر اپنے آپ کو کوستا/کوستی ہوں کہ میں لوگوں سے کیوں امیدیں لگاتا/لگاتی ہوں	sha2
.11	-.21	**.62**	.04	.18	جب لوگ میری امیدوں پر پورا نہیں اترتے تو میں ان سے کنارہ کشی اختیار کر لیتا/لیتی ہوں	sha3
-.11	-.02	**.60**	.28	-.06	میں لوگوں کے اپنے بارے میں بدلتے تاثرات کے بارے میں آگاہ ہوتا/ہوتی ہے	hyp2
.07	.26	**.58**	.11	-.25	میں اپنے متعلق لوگوں کے رویوں کے بارے میں بہت حساس ہوں	hyp1

					Factor 4	
-.01	**.81**	.04	.00	.04	میں اپنے بارے میں بہت برا محسوس کرتا/کرتی ہوں جب کوئی مجھے توجہ نہیں دیتا	cse1
-.05	**.79**	.01	.03	.06	جب لوگ مجھے توجہ نہ دیں میں افسردہ ہو جاتا/جاتی ہوں	cse2
.16	**.63**	-.04	-.20	.04	جب مجھ سے کوئی غلطی ہو جائے تو مجھے بہت شرم آتی ہے	ins1
-.00	**.46**	.01	.33	.04	مجھے لگتا جب میں افسردہ ہوتا/ہوتی میرے قریبی لوگوں کو اپنی مصروفیات چھوڑ کر میری پرواہ کرنی چاہیے	dep1
					Factor 5	
.84	.05	.03	-.05	-.02	میرے لیے بےحد ضروری ہے کہ لوگ مجھے کامیاب شخص کے طور پر جانے	gf2
.78	.03	.09	.05	-.08	میری خواہش ہے کہ دنیا مجھے کامیاب شخص کے طور پر جانے	gf3
.70	-.02	-.15	.08	.09	مجھے صرف بہترین کام پسند آتا ہے	per2

Note. N= 346. Factor loadings above 0.4 are in bold.

This led to a simple structure. Then the items were analyzed on the basis of their theoretical relation to the factor. In the first factor, 4 items were removed as they measured slightly different construct than other items in the factor. Then, 4 items were removed from second factor due to ambiguous wording and poor match with other items. An item was also removed from factor 3 as it correlated with items Factor 1. Then, 2 items were removed due low communality (< 0.4). This led to the final solution with five components which explain total variance of 55% which was appropriate (Perez & Medrano, 2010). The KMO value was 0.84 and Bartlett's test was also significant ($p < 0.001$). This resulted in seven items in Factor 1 (including arg2, arg3, con3, arr4, per3, con2, and comp4), five items in Factor 2 (including sen3, sen1, man3, man1, and man2), five items in Factor 3 (including sha1, sha2, sha3, hyp2, and hyp1), four items in Factor 4 (including cse1, cse2, ins1, and dep1), and lastly three items in Factor 5 (including gf2, gf3, and per2). The last factor was retained as it met the minimum criteria of consisting on items all above factor loading of 0.50 (Costello & Osborne, 2005). The factors were named on the basis of their theoretical understanding.

Table 2

Factor label, Items, and No. of Items in the Factor

Label	Items	No. of items
Beliefs of Superiority	arg2, arg3, con3, arr4, per3, con2, comp4	7
Social Manipulation	sen3, sen1, man3, man1, man2	5
Protection of Vulnerable Self	sha1, sha2, sha3, hyp2, hyp1	5
Need for External Validation	cse2, cse1, ins1, dep1	4
Preoccupation with Success	gf2, gf3, per2	3

The table includes the labels of the factors and the items correlated with them. It also shows the number of items in each factor. All the factors were named according to the content of items loaded to them. After the main analysis which was exploratory factory analysis, the reliability of all the factors were explored which had been given in the next table.

Table 3

Descriptive Statistics and Reliability Coefficients for Scale and Subscales (N=346)

Scales	*A*	*k*	*M*	*SD*	Range	
					Potential	Actual
Pathological Narcissism	.87	24	59.97	14.39	24-120	26-101
Beliefs of Superiority	.70	7	14.29	5.78	7-35	7-33
Social Manipulation	.80	5	12.65	4.29	5-25	5-23
Protection of Vulnerable Self	.70	5	16.12	4.81	5-25	5-25
Need for External Validation	.70	4	9.69	3.80	4-20	4-20

Preoccupation with Success	.71	3	10.93	3.00	3-15	3-15

Note. α= reliability coefficient, *k*= no. of items in scales and subscales

Ideally, the internal reliability (shown through Cronbach alpha coefficient) of a scale should be above .70 (Pallant, 2005). The reliability analysis had showed that the scale as well as its subscales had Cronbach's alpha values greater than .70. Hence, all of these could be considered as fairly high and reliable.

Step 2: Confirmatory Factor Analysis

This study aimed to confirm the structure derived from EFA.

Participants. Sample of 482 students was recruited by using convenient sampling technique from universities of Lahore. Age of the sample ranged between 19-25 years (M = 19.69, SD = 1.12). The demographic information revealed that most of the participants were female, single, undergraduates, middle born, and Muslims. Participants who were diagnosed with medical and psychological illness, receiving psychological treatments individuals, and had suffered from trauma in the past month were excluded from the study.

Procedure. The research was approved from DDPC. The data was collected by getting permission from different government universities. Then, the teachers were approached so the scale could be administered in groups after receiving permission from both teachers and students. The students were explained the purpose of the study, their ethical rights, and instructions. After receiving their consent, the 24-item scale was administered. The administration time was almost 15-20 minutes. Out of 260 participants, 224 completed the questionnaire and were found appropriate to be used in factor analysis. This sample size fulfilled the criteria of (10:1 participant to item ratio).

Indigenous Scale for Pathological Narcissism. The questionnaire was finalized after EFA in previous step. The 24-item scale had five factors, including Beliefs of Superiority, Social Manipulation, Need for External Validation, Protection of Vulnerable Self, and Preoccupation with Success. These items were rated on five-point Likert scale was used in this study which showed continuum of frequency, for example, never = 1; sometimes = 2; half of the times = 3; often = 4 and always = 5. The ratings of 5 showed high pathological narcissism while ratings of 1 showed low pathological narcissism. The reliability analysis had showed that the scale as well as its subscales had Cronbach's alpha values greater than .70.

Results

Prior to conducting CFA, the data was screened to determine its suitability for CFA on basis of normality, multicollinearity and outliers. Model was specified on the basis of results of EFA. Then, it was ensured whether this hypothesized model was valid for testing. Model identification showed that the model was over-identified (df= 242) and hence, valid for testing (Shek & Yu, 2014). Although, Chi-square is the most widely used summary statistic to examine the model fit, it is quite sensitive to sample size. Likewise, the result of chi-square statistic was significant, $\chi 2$ (242) = 407.121, p = .000. Hence, few alternative model indices were used to evaluate the model fit (Shek & Yu, 2014). When the model was analysed, the results produced following model fit indices CMIN/df = 1.681, CFI = 0.86, GF1 = 0.86, AGFI = 0.83, RMSEA = 0.056 and PCLOSE = .157. The results were adequate although values of CFI and GFI could be enhanced through modifications. Consequently, the modification indices were analyzed for error variances (>10). The two parameters showed covariances between items including arg2 and arg3 (e17 and e18: MI=11.47) and sen3 and man1 (e9 and e11:MI=11.80). The model was re-specified and items were allowed to covary. Hair et al. (2010) items with high standardized residuals covariances (range of 2 to 4) show high cross-loadings and should be treated with caution, hence, item arg3 was deleted. Then, items with low regression weights (< 0.3) were also removed (Bishnoi & Kumar, 2016). This resulted in items man1, arg2, and hyp2 being deleted. This resulted in small amount of standardize residuals, low error variances, improved model fit, and moderate to high factor loadings. The final model had adequate indices to show model fit (CMIN/df = 1.470,

CFI = 0.92, GF1 = 0.90, AGFI = 0.87, RMSEA = 0.046 and PCLOSE = .681). According to Hu and Bentler (1999) and Hair et al. (2010), thresholds for CMIN/df < 3 is good, CFI > 0.92 is traditional, GF1 > 0.90 and AGFI > 0.80 are adequate, RMSEA 0.05 is expected.

Table 4

Model Fit Indices of Original and Final Model

Model Fit Indices	Original Model	Final Model
CMIN/df	1.681	1.470
CFI	0.86	0.92
GFI	0.86	0.90
AGFI	0.83	0.87
RMSEA	0.05	0.04
PCLOSE	.157	.681

Table 5

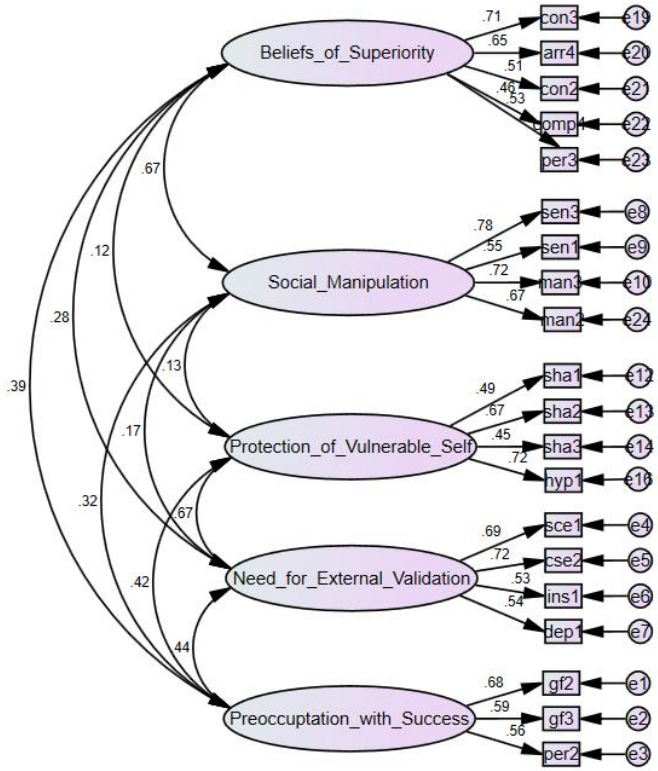
Final Factors and No. of Items Retained after CFA

Factor No.	Final Factors	No. of Items Dropped	Final No. of Items
1	Beliefs of Superiority	2	5
2	Social Manipulation	1	4
3	Protection of Vulnerable Self	1	4
4	Need for External Validation	0	4
5	Preoccupation with Success	0	3

The final scale had 20 items and five subscales. Two factors (Beliefs of Superiority and Social Manipulation) are subscales for Grandiose Narcissism while three factors (Need for External Validation, Protection of Vulnerable Self and Preoccupation with Success) were subscales for Vulnerable Narcissism although Preoccupation with Success correlated with both constructs.

Figure 1

Re-specified Model finalized after CFA



Discussion

The objectives of the study including building a scale for pathological narcissism considering its multidimensionality, i.e. two major phenotypes vulnerable and grandiose narcissism. The 20-item scale on pathological narcissism considers both the grandiose and vulnerable phenotype. The components Beliefs of Superiority and Social Manipulation reflected grandiose phenotype while components of Need for External Validation and Protection of Vulnerable Self represented vulnerable subtype. While, the component of Preoccupation with Success was moderately related to components of both sub-types which made theoretical sense. Although, it correlated slightly higher with components of vulnerable narcissism, hence it was considered to be representing vulnerable subtype, however further research may provide better clarification.

The first explored factor, Beliefs of Superiority, included five items after CFA. These items represented domains of arrogance, contemptuousness, and domineering interpersonal style. This is relevant to the literature on grandiose narcissism and conceptualization of the subtype in this study. It was hypothesized that grandiose narcissists use grandiose self-presentation and devaluation of others to cope with issues concerning instability of their self (Green & Charles, 2019; Ronningstam, 2011).

The second explored factor, Social Manipulation, included four items during CFA. These items represented skilful self-presentation strategies and interpersonal style to increase personal gain. This domain represents strategies used by grandiose narcissists to regulate their grandiose self-concept interpersonally i.e. by using self-promotion and manipulation (Morf & Rhodewalt, 2011). The grandiose narcissists may be more comfortable viewing their social manipulations as a skill instead of as means to advance self. Especially within the context of Pakistani culture where communal goals are valued more than agentic goals. So grandiose narcissists may be more comfortable admitting using persuasive skills but may not attribute use of these skills to agentic goals. This is highlighted by literature which explains that in collectivistic culture tactical self-enhancement strategies are used more often than candid ones due to potential of social rejection. Hence, this may lead to hesitance in attributing interpersonal persuasions to personal goals (Jaksic et al., 2014; You et al., 2013).

The third explored factor, Protection of Vulnerable Self, loaded four items during CFA. This component includes items related to domain of social withdrawal and hypersensitivity with respect to reactions of others.

The vulnerable narcissists are sensitive to rejection or interpersonal slights as they use others to regulate their self-concept (Dickinson & Pincus, 2013; Pincus et al., 2009). Hence, this domain highlights strategies used by vulnerable narcissist to suspect threats to their fragile self.

The fourth explored factor, Need for External Validation, loaded four items during CFA. This component including items related to emotional dysregulation in absence of external validation and dependency on others to regulate self (Pincus et al., 2009; Ziegler-Hill et al., 2008). The items highlighted emotional disturbances related to absence of interpersonal validation, sensitivity to criticism, and entitled interpersonal expectations to help regulate self.

The fifth factor explored, Preoccupation with Success, included three items after CFA. This component included items related to need to be recognized as a successful person by others and having high standards. This item correlated with both subtypes. This makes sense as many theorists including Kernberg (1975) and Kohut (1978) have described that narcissists have high desire for success or achievement. Although, the subtypes may differ in their way of dealing with this desire. Grandiose narcissists are highly motivated to achieve success and status and may work hard to reach these goals while vulnerable narcissists may have these desires and goals but may feel directionless and helpless in actually making an effort to achieve them (Pincus et al., 2014). They may have high standards but never pursue them or may lack persistence to seek their fulfilment. The items included in the component only taps desires for success but not the strategies employed to deal with these desires hence it correlated strongly with both components. Either this component is a core feature of pathological narcissism as it is common to both types or this association may have been influenced by the choice of sample used in the study. Hence, this factor may produce different correlations once it is tested in clinical population. The total score on the scale will help highlight individuals with traits of pathological narcissism.

Limitations and Suggestions

The research only used deductive method for item generation. Although, the clinical experts provided feedback and evaluated the wording and content of the items, semi-structured interviews with the experts, individuals with high score on narcissism, or close friends, family members, or partners of individuals with narcissism will add to the content validity of the scale with respect to indigenous context. The research used student sample for both exploratory and confirmatory factor analysis with age ranging between 19 to 25. This may limit the generalizability of the results to nonclinical population and limited age range. The scale could be validated in clinical population or a wider range of general population. The psychometric properties of the scale can be further developed. This may include developing convergent validity, discriminatory validity, and test-retest reliability. Future researches can also standardize the test by developing its norm in both general and clinical population.

Future Implications

Narcissism has mostly been studied vastly in field of applied and organizational psychology. Although, often the studies have used scales on grandiose narcissism like (NPI) in Pakistan. This scale will provide more comprehensive results in future researches as it probes both types of narcissism. Moreover, this scale may also help enhance research on pathological narcissism with respect to its clinical implications or interpersonal problems. After being standardized for clinical population, the scale can be used in clinical setting as well as it highlights pathological aspects of narcissism (especially the vulnerable features which might be more prevalent in clinical setting) (Pincus et al., 2009). It will increase chances of individuals with vulnerability to narcissism in getting screened so they can get further help or treatment (although diagnostic assessment is compulsory for a diagnosis) and help avoid misdiagnosed.

REFERENCES

Almanasreh, E., Moles, R., & Chen, T. F. (2019). Evaluation of methods used for estimating content validity. *Research in social and administrative pharmacy*, *15*(2), 214-221.

Bishnoi, V., Kumar, A. (2016). Aaker's brand personality scale is not universal – Explanation and reasons for bikes in India. *J Market Anal, 4*, 14–27

Cain, N. M., Pincus, A. L., & Ansell, E. B. (2008). Narcissism at the crossroads: Phenotypic description of pathological narcissism across clinical theory, social/personality psychology, and psychiatric diagnosis. *Clinical Psychology Review*, *28*, 638– 656.

Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical assessment, research, and evaluation*, *10*(1), 7.

Dickinson, K. A., & Pincus, A. L. (2003). Interpersonal analysis of grandiose and vulnerable narcissism. *Journal of personality disorders*, *17*(3), 188-207.

Ellison, W. D., Levy, K. N., Cain, N. M., Ansell, E. B., & Pincus, A. L. (2013). The impact of pathological narcissism on psychotherapy utilization, initial symptom severity, and early-treatment symptom change: A naturalistic investigation. *Journal of Personality Assessment, 95,* 291–300.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. sage.

Campbell, W. K., & Foster, J. D. (2007). The narcissistic self: Background, an extended agency model, and ongoing controversies. In C. Sedikides & S. J. Spencer (Eds.), The self (pp. 115–138). Psychology Press.

Green, A., & Charles, K. (2019). Voicing the victims of narcissistic partners: A qualitative analysis of responses to narcissistic injury and self-esteem regulation. *Sage Open*, *9*(2), 2158244019846693.

Hair, J., Andreson, R., Tatham, R., & Black, W. (1998). Multivariate data analysis. 5th (ed) Prentice-Hall Inc. *Unites States of America*.

Hertzog, M. A. (2008). Considerations in determining sample size for pilot studies. *Research in nursing & health*, *31*(2), 180-191.

Hill, R. (1998). What sample size is "enough" in internet survey research? *Interpersonal Computing and Technology: An Electronic Journal for the 21st Century, 6*(3-4).

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, *6*(1), 1-55. ttp://dx.doi.org/10.1080/10705519909540118

Isaac, S., & Michael, W. B. (1995). *Handbook in research and evaluation*. San Diego, CA: Educational and Industrial Testing Services. https://psycnet.apa.org/record/1995-98981-000

Kaiser, H. F., & Rice, J. (1974). Little jiffy, mark IV. *Educational and psychological measurement*, *34*(1), 111-117. https://doi.org/10.1177/001316447403400115

Kernberg, O. F. (1967). Borderline personality organization. *Journal of the American Psychoanalytic Association, 15*, 641–685.

Kohut, H., & Wolf, E. S. (1978). The disorders of the self and their treatment: An outline. *International Journal of Psychoanalysis*, *59*, 413– 425.

Lynn, M. R. (1986). Determination and quantification of content validity. *Nursing research*, *35*(6), 382-386.

Morf, C. C., & Rhodewalt, F. (2001). Unraveling the paradoxes of narcissism: A dynamic self-regulatory processing model. *Psychological inquiry*, *12*(4), 177-196.

Morgado, F. F., Meireles, J. F., Neves, C. M., Amaral, A., & Ferreira, M. E. (2017). Scale development: ten main limitations and recommendations to improve future research practices. *Psicologia: Reflexão e Crítica*, *30*. https://doi.org/10.1186%2Fs41155-016-0057-1

Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS*. McGraw-hill education (UK).

Pett, M.A., Lackey, N.R. and Sullivan, J.J. (2003). *Making sense of factor analysis: The use of factor analysis for instrument development in health care research.* SAGE Publications, Thousand Oaks.

Pérez, E. R., & Medrano, L. A. (2010). Análisis factorial exploratorio: bases conceptuales y metodológicas. *Revista Argentina de Ciencias del Comportamiento (RACC)*, *2*(1), 58-66.

Pincus, A. L., Cain, N. M., & Wright, A. G. (2014). Narcissistic grandiosity and narcissistic vulnerability in psychotherapy. *Personality Disorders: Theory, Research, and Treatment*, *5*(4), 439.

Polit, D. F., Beck, C. T., & Owen, S. V. (2007). Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Research in nursing & health*, *30*(4), 459-467.

Raskin, R., & Terry, H. (1988). A principle components analysis of the narcissistic personality inventory and further evidence for its construct validity. *Journal of Personality and Social Psychology*, *54,* 890–902.

Ronningstam, E. (2011). Psychoanalytic theories on narcissism and narcissistic personality. *The handbook of narcissism and narcissistic personality disorder: Theoretical approaches, empirical findings, and treatments*, 41-55.

Samuels, P. (2017). Advice on exploratory factor analysis.

Shek, D. T., Yu, L., & Siu, A. M. (2014). The Chinese adolescent egocentrism scale: Psychometric properties and normative profiles. *International Journal on Disability and Human Development*, *13*(2), 297-307. https://psycnet.apa.org/record/2014-13593-017

Tabachnick, B. G., & Fidell, L. S. (2001). Using Multivariate Statistics Needham Heights. *MA: Allyn & Bacon*.

Watkins, M. W. (2000). Monte Carlo PCA for Parallel Analysis [Computer Software]. Ed & Psych Associates. *State College: Pennsylvania*.

Widiger, T. A., Sirovatka, P. J., Regier, D. A., & Simonsen, E. (Eds.). (2007). *Dimensional models of personality disorders: Refining the research agenda for DSM-V.*

Wink, P. (1991). Two faces of narcissism. *Journal of Personality and Social Psychology*, *61*, 590– 597.

Wynd, C. A., Schmidt, B., & Schaefer, M. A. (2003). Two quantitative approaches for estimating content validity. *Western journal of nursing research*, *25*(5), 508-518.

Zeigler-Hill, V., Clark, C. B., & Pickard, J. D. (2008). Narcissistic subtypes and contingent self-esteem: Do all narcissists base their self-esteem on the same domains?. *Journal of personality*, *76*(4), 753-774.