A Thesis

entitled

Predicting Narcissistic and Grandiose Behavior on Facebook using Rorschach Potential Grandiosity and Narcissism Variables

by

Larson E. Sholander

Submitted to the Graduate Faculty as partial fulfillment of the requirements for the Master of Arts Degree in Clinical Psychology

_____

Dr. Gregory J. Meyer, Committee Chair

_____

Dr. Joni L. Mihura, Committee Member

_____

Dr. Mojisola F. Tiamiyu, Committee Member

_____

Dr. Amanda Bryant-Friedrich, Dean

College of Graduate Studies

The University of Toledo

December 2018

An Abstract of

Predicting Narcissistic and Grandiose Behavior on Facebook using Rorschach Potential Grandiosity and Narcissism Variables.

by

Larson Sholander

Submitted to the Graduate Faculty as partial fulfillment of the requirements for the Master of Arts Degree in
Clinical Psychology

The University of Toledo
December 2018

The goal of this study was to explore the relationship between the Rorschach Grandiosity and Narcissism Variables (GNVs), self- and other reports of narcissism, and narcissistic behavior on Facebook to understand how narcissistic tendencies manifest in everyday life. Using a sample of college students, Rorschach protocols were coded for 11 potential grandiosity and narcissism variables, and participants completed the Five-Factor Narcissism Inventory and invited someone who knew them well to do the same. Additionally, two criterion scales were constructed, one of reported engagement with Facebook and the other based on judges' ratings of narcissistic behavior on Facebook. After evaluating the factorial cohesiveness of the 11 GNVs, the resulting factor, along with self and other-reported narcissism, were correlated with judges' ratings of narcissistic behavior on Facebook and reported engagement with Facebook. According to the findings, narcissistic grandiosity by other-report was correlated with Facebook Engagement and narcissistic vulnerability by self-report were associated with judge-rated narcissistic behavior on Facebook. Surprisingly, self-reported and other-reported narcissistic grandiosity was strongly correlated, as was self-reported and other-reported

narcissistic vulnerability. Additionally, Facebook engagement was associated with judge's ratings of narcissistic behavior on Facebook. Limitations of the study include improper documentation and inadequate clarification by one Rorschach examiner, and the relative absence of participants judged to be highly narcissistic on Facebook. Implications of the findings include the challenge of differentiating narcissism among college students from other types of attention seeking behavior.

Table of Contents

List of Tables

List of Abbreviations

FB.....Facebook
FFNI……Five-Factor Narcissism Inventory

GNV……Grandiosity and Narcissism Variables

NPD.....Narcissistic Personality Disorder
NPI.....Narcissistic Personality Inventory

PA……...Parallel Analysis
PCA……Principle Components Analysis
PNI…….Pathological Narcissism Inventory

Chapter One

Introduction

Narcissism is an old construct that has endured the test of time. Narcissism was derived from the Greek myth of Narcissus who was entranced by his own reflection. Narcissism has since been elaborated upon by clinical theorists (Kernberg, 1998; Kohut, 1971, 1977), and it continues to be actively researched by psychologists. Narcissistic Personality Disorder (NPD) was included as an Axis II disorder in the Diagnostic and Statistical Manual of Mental Disorder- III (DSM-III; American Psychiatric Association, 1987), and it has remained in subsequent editions (American Psychiatric Association, 2013), despite suggestions for its removal from the DSM-5 (Skodol, 2009). Perhaps it was this threat that prompted a wave of research focused on developing methods for assessing narcissism as well as exploring its social and psychological characteristics. The clinical implications of narcissism make this construct an important area of research.

Significance of Narcissism

Narcissism is associated with psychopathology. In a national epidemiologic survey, NPD was associated with high rates of alcohol abuse, alcohol dependence, and drug dependence (Stinson et al., 2008). NPD is also linked with aggression (Hart, Adams, & Tortoriello, 2017; Li et al., 2016), sexual aggression (Baumeister, Catanese, & Wallace, 2002; Bushman, Bonacci, van Dijk, & Baumeister, 2003), psychopathy (Paulhus & Williams, 2002), suicidal behavior (Blasco-Fontecilla et al., 2010), and impulsivity (Jones & Paulhus, 2011; Vazire & Funder, 2006). It is also associated with difficulty at school and in the workplace, causing distress to others as well as the

narcissistic individual (Barnett & Flores, 2016; Meurs, Fox, Kessler, & Spector, 2013). Narcissism in college students, as measured by the Narcissistic Personality Inventory, increased by 30% between 1970 and 2006 (Twenge, Konrath, Foster, Campbell, & Bushman, 2008), and can lead to impaired functioning such as adjustment difficulties in college. For example, narcissism is associated with depression, emotional distress, and interpersonal and academic problems among college students (Weikel, Avara, Hanson, & Kater, 2010). For this reason, it is important to identify and explore aspects of narcissism in order to provide clinicians with a fully formed picture of the psychological processes involved in NPD.

Narcissism has been conceptualized by psychologists as a personality disorder and, alternatively, as a trait. Narcissistic Personality Disorder is characterized by patterns of grandiosity, a need for admiration, and a lack of empathy (DSM-5; American Psychiatric Association, 2013). The Narcissistic Personality Inventory (NPI; Raskin & Hall, 1981; Raskin & Hall, 1979) has been the primary instrument used to study narcissistic personality traits, having been used in an estimated 77% of social and personality research studies (Cain, Pincus, & Ansell, 2008). The NPI consists of seven scales—Authority, Self-Sufficiency, Superiority, Vanity, Exhibitionism, Entitlement, and Exploitativeness—to measure narcissistic personality traits or subclinical narcissism (Raskin & Terry, 1988). One criticism of the NPI (and the diagnostic criteria for NPD in general), however, is that it does not capture clinical aspects of narcissism such as narcissistic vulnerability (Pincus et al., 2009). Grandiosity and vulnerability are both

aspects of clinical research that have been a central focus of ongoing research on narcissism.

Grandiosity and Narcissism

Grandiosity is conceptualized as a central component of narcissism. However, there is a current push to include narcissistic vulnerability (Miller, Widiger, & Campbell, 2010). Several measures have been developed to capture both narcissistic grandiosity and narcissistic vulnerability, such as the Pathological Narcissism Inventory (PNI; Pincus et al., 2009) and the Five-Factor Narcissism Inventory (FFN; Glover, Miller, Lynam, Crego, & Widiger, 2012). The PNI associates narcissistic grandiosity with Entitlement Rage, Exploitativeness, Grandiose Fantasy, and Self-Sacrificing Self-Enhancement (Pincus et al., 2009), whereas the FFNI associates narcissistic grandiosity with "Indifference, Exhibitionism, Authoritativeness, Thrill Seeking, Grandiose Fantasies, Manipulativeness, Exploitativeness, Entitlement, Lack of Empathy, Arrogance and Acclaim Seeking" (Miller, Gentile, & Campbell, 2013, p. 756). Interpersonally, grandiose narcissists appear socially competent, self-assured, and extroverted (Miller et al., 2011). However, that appearance is thought to cover an underlying self-image that is more fragile and vulnerable. Correspondingly, the PNI associates narcissistic vulnerability with Contingent Self-Esteem, Hiding the Self, and Devaluing (Pincus et al., 2009), whereas the FFNI associates narcissistic vulnerability with Reactive Anger, Shame, Need for Admiration, and Cynicism (Glover et al., 2012). Interpersonally, vulnerable narcissists appear neurotic, shy, and introverted to others (Miller et al., 2011). Moreover, they often express anxious and avoidant attachment styles (Miller et al., 2011). Despite the current

trend in research to conceptualize narcissism as containing both vulnerable and grandiose components, clinicians agree that grandiosity is at the center of narcissism.

Grandiosity is also characteristic of other disorders. For example, an important symptom of mania is inflated self-esteem or grandiosity (DSM-5; American Psychiatric Association, 2013). Manic individuals typically overestimate their abilities, believing that they are the most skilled or the smartest (DSM-5; American Psychiatric Association, 2013). Psychopathy is also associated with grandiosity, along with callousness and compromised empathic functioning (Baskin-Sommers, Krusemark, & Ronningstam, 2014). Although psychopathy and narcissism overlap to a certain extent, they are separate constructs (Fossati, Pincus, Borroni, Munteanu, & Maffei, 2014). Narcissism and psychopathy share grandiosity and low agreeableness, but only psychopathy is associated with low conscientiousness (Fossati et al., 2014). Thus, the assessment of grandiosity aids in the understanding of not just narcissism, but psychopathy and mania as well.

Threat to Self

Generally, narcissistic grandiosity is characterized by vanity, inflated self-esteem, entitlement, and overestimations of power, abilities, and talents (Dickinson & Pincus, 2003). Another important criteria for narcissism is a general lack of empathy, however, research has suggested that narcissists are able to demonstrate cognitive empathy (i.e. theory of mind), but not emotional empathy (Baskin-Sommers, Krusemark, & Ronningstam, 2014). Furthermore, grandiosity is associated with entitlement, feeling superior to others, and self-enhancement (Grubbs & Exline, 2016; Maxwell, Donnellan, Hopwood, & Ackerman, 2011; Schröder-Abé, Rentzsch, Asendorpf, & Penke, 2016).

Entitlement is a central feature of narcissism that leads to continual disappointment for the individual. In their model of narcissism, Grubbs and Exline (2016) describe the cycle of entitlement:

> First, exaggerated expectations, notions of the self as special and inflated deservingness associated with trait entitlement present the individual with a continual vulnerability to unmet expectations. Second, entitled individuals are likely to interpret these unmet expectations in ways that foster disappointment, ego threat, and a sense of perceived injustice, all of which may lead to psychological distress indicators such as dissatisfaction across multiple life domains, anger, and generally volatile emotional responses. Furthermore, in the wake of disappointment, ego threat, or perceived injustice, entitled individuals are likely to attempt to bolster their entitled self-concept, leading to a reinforcement of entitled beliefs, thereby initiating the cycle again (p. 1204).

The cycle of entitlement leads to an oscillation between positive affect and negative affect that impacts many areas of the individual's life. For example, entitlement is related to anger (Grubbs, Exline, & Campbell, 2013), anxiety (Tritt, Ryder, Ring, & Pincus, 2010), externalization (Van Vlierberghe, Braet, Bosmans, Rosseel, & Bögels, 2010), and depression (Halvorsen, Wang, Eisemann, & Waterloo, 2010). Entitled narcissists are also more likely to experience spiritual struggles such as anger towards God, another source of distress in their life (Grubbs et al., 2013; Grubbs, Wilt, Stauner, Exline, & Pargament, 2016). In summary, narcissistic entitlement leads to a cycle of exaggerated—and,

therefore, unmet—expectations, psychological distress, volatile emotions, and subsequent attempts to reinforce their beliefs and their ego.

One way that narcissists deal with ego threat (or guard against disappointment) is by bolstering their sense of self through feelings of superiority. Individuals who express grandiosity frequently compare themselves to others, and, in particular, they compare themselves to those that they see as inferior in order to maintain grandiose self-views (Krizan & Bushman, 2011). Moreover, those who express grandiosity react with hostility when compared to people above them, but exhibit a positive affect when comparing themselves to people below them (Bogart, Benotsch, & Pavlovic, 2004). When given the chance, grandiose individuals tend to rate themselves as superior on attributes related to status such as social competence and leadership (Krizan & Bushman, 2011). Social comparisons, then, help narcissists keep their sense of self intact, which may partly explain the positive relationship between grandiosity and self-esteem (Foster & Trimm, 2008).

Grandiose self-enhancement is another way in which narcissists protect their image, both in the eyes of others and in their own eyes. Grandiose narcissists are interested in associating with popular and powerful figures (Campbell & Foster, 2002; Morf & Rhodewalt, 2001), and more interested in getting ahead than getting along (Campbell, Rudich, & Sedikides, 2002; Krizan & Bushman, 2011). Due to their belief that they are exceptional and superior, grandiose narcissists believe that only high-status people can understand them (DSM-5; American Psychiatric Association, 2013). Furthermore, self-enhancement can cause interpersonal problems in the long run, such as

earning the ill will of group members (Anderson, Ames, & Gosling, 2008). However, narcissists make a good first impression due to their charm, confidence, and flashy dress (Back, Schmukle, & Egloff, 2010). Similarly, narcissistic self-enhancement is seen as a positive attribute in short-term partners, but not in long-term partners (Schröder-Abé et al., 2016). Moreover, narcissistic self-enhancers were more particular about long-term partners, but not short-term partners (Schröder-Abé et al., 2016). Schröder and colleagues (2016) explain that this is because "narcissists perceive many sexual affairs as an achievement, while preferring selected 'trophy' long-term partners, and narcissists have a charming appeal for short-term, but not lasting, social relationships" (p. 12).

Self-Reported Narcissism and Narcissistic Behavior

A significant challenge in diagnosing and treating NPD is the incongruence between how a narcissistic person sees themselves and how others see them. Previous studies have demonstrated that self-and peer-reported social functioning are the most discrepant for pathological narcissism (Oltmanns, Melley, & Turkheimer, 2002). Typically, the peers rated targets as demonstrating more narcissistic tendencies than the target's self-report (Clifton, Turkheimer, & Oltmanns, 2004). Although narcissists sometimes have a limited idea of how they are perceived, they typically believe that their ratings and peer ratings are similar (Lukowitsky & Pincus, 2013). In fact, recent research indicates that narcissists' response style is not more defensive or invalid on self-report measures (Sleep, Sellborn, Campbell, & Miller, 2017). Furthermore, some studies have been able to show modest convergence between self-report and peer-report (Fiedler, Oltmanns, & Turkheimer, 2004), but the association between self-reported and peer-

reported narcissism is still lower than other personality disorders. Moreover, peer-reports tend to agree with each other (Klonsky & Oltmanns, 2002), and provide additional information about personality functioning beyond self-reports (Fiedler et al., 2004; Miller, Pilkonis, & Clifton, 2005), which further suggests that narcissists' self-awareness is incongruent with their peers' perceptions. There is typically high agreement between others regarding the personality of the target (Vazire, Naumann, Rentfrow, & Gosling, 2008). Ultimately, both self-and other-reports provide valuable information about personality and interpersonal functioning, but relying solely on self-reports provides an incomplete picture of the individual.

It has been noted that the field of psychology over-relies on self-reports at the expense of behavioral observations and, in fact, behavioral studies are declining (Baumeister, Vohs, & Funder, 2007). Both personality and social psychological studies rely on questionnaires in lieu of behavioral studies despite the APA's declaration that 2000 to 2010 was "The Decade of Behavior" (Baumeister et al., 2007, p. 397). Relying on self-reports is problematic because it does not necessarily translate into real world behavior. For example, questions such as "How do people with different degrees of a personality trait behave differently?" and "How do situational variables such as physical aspects, social relationships, and cultural structures affect what people do?" cannot be answered by self-report alone (Baumeister et al., 2007, p. 401). For this reason, it is important to incorporate behavioral studies directly into psychological studies in general and into studies of narcissism in particular.

Partly in response to Baumeister et al.'s (2007) reprimand, a handful of researchers included behavioral studies in their research on narcissism. For example, Holtzman and colleagues (2010) attached a microphone and recording device to study subjects as they went about their day to determine how narcissism manifests itself in the real world. As predicted, narcissism was correlated with extraverted behavior as well as disagreeable acts such as swearing, arguing, and verbal expressions of anger (Holtzman, Vazire, & Mehl, 2010). Moreover, narcissism was correlated with sexual language, and the exploitativeness/entitlement component of narcissism was strongly related to academic disengagement (Holtzman et al., 2010). Other researchers have transferred their framework for accurately identifying personality from outward behavior and preferences to studies that identify observable narcissistic characteristics. In one study, independent observers were asked to rate the narcissism of target participants based solely on their impression of the participant's picture (Vazire et al., 2008). Observer's judgments were significantly correlated with the target's extroversion, agreeableness, leadership/authority, self-absorption/self-admiration, and exploitativeness/entitlement—all of which are strongly associated with narcissism (Vazire et al., 2008). The expression of narcissism on social media is another arena that has received increasing attention from researchers and the popular media.

Narcissism and Social Media

An increasing number of researchers are attempting to study the relationship between mental health and social media use (Clayton, Osborne, Miller, & Oberle, 2013; Feinstein et al., 2013; Lapidot-Lefler & Barak, 2012; Litt & Stock, 2011). Some have

even alluded to social media as a cause of narcissism (Jayson, 2009). However, evidence indicates that social media does not increase narcissism, but narcissism instead is a personality disorder that can be observed through an individual's conduct on social media (Davenport, Bergman, Bergman, & Fearrington, 2014; Horton, Reid, Barber, Miracle, & Green, 2014). Studies have shown that Facebook (FB) users express higher levels of narcissism than non-Facebook users (Brailovskaia & Margraf, 2016; Ryan & Xenos, 2011). Narcissism is related to higher rates of self-disclosure and more self-promotional content (Winter, Neubaum, Eimler, et al., 2014). Posting photos and status updates on social media are a means for narcissistic people to showcase their talents, beauty, and intellect. Ryans and Xenos (2011) suggest that "Facebook specifically gratifies the narcissistic individual's need to engage in self-promoting and superficial behavior" (p. 1663). Social media provides a context rich with observable behavior, making it an ideal environment for studying narcissistic grandiosity.

Although there are multiple forms of social media—such as Twitter, Instagram, Snapchat, Vine, YouTube, WeChat, Pinterest, Reddit, Tumblr, LinkedIn, and What'sApp, to name a few—Facebook is ideal to study because of its diverse media content. Facebook has evolved to provide its users the same medium for disseminating information that is offered on other social media sites. For example, live videos can be streamed to followers similar to Snapchat, photos can be edited and shared like Instagram, and links to websites of interest and status updates can be shared in a manner comparable to Twitter. Moreover, most social media sites can be linked to one's Facebook so that content posted on Instagram, Twitter, Pinterest, etc., is simultaneously

posted on Facebook. Additionally, Facebook facilitates self-promotion and self-expression (Kaplan & Haenlein, 2010; Kietzmann, Hermkens, McCarthy, & Silvestre, 2011). Users are able to express who they are through group affiliations, art preferences, photos, and other content. Altogether, social media provides a wealth of information about an individual.

As mentioned previously, increased Facebook activity is associated with narcissism (Brailovskaia & Margraf, 2016; Horton et al., 2014; Ryan & Xenos, 2011). In particular, Facebook is associated with the exhibition component of narcissism, confirming that narcissists use Facebook to self-promote (Panek, Nardis, & Konrath, 2013). In one study, researchers found that "[n]arcissists' use of Facebook for attention-seeking and validation explained their greater likelihood of updating about their accomplishments and their diet and exercise routine" (Marshall, Lefringhausen, & Ferenczi, 2015, p. 35). Moreover, the entitlement/exploitativeness component of narcissism is associated with a wish for a response from others, dissatisfaction with the responses of others, anger, and retaliation towards individuals who do not respond (Zell & Moeller, 2017). Those who expressed higher narcissistic authority falsely claimed that they received more responses to their post than they actually received (Zell & Moeller, 2017). Narcissism is also correlated with using Facebook to meet new people (Eşkisu, Hoşoğlu, & Rasmussen, 2017), which is consistent with narcissists' tendency to be extraverted (Miller et al., 2016).

Narcissism is associated with certain Facebook activity. Research shows that the more narcissistic a person is, the more friends they will have on Facebook and the more

time they will spend on Facebook (Buffardi & Campbell, 2008; Eşkisu et al., 2017; Carvalho & Pianowski, 2017). In fact, both extraversion and narcissism are related to number of Facebook friends and photos of oneself (Martin, Baily, Cicero, & Kerns, 2012; Orr, Sisic, Ross, et al., 2009). Narcissists who write relatively little about themselves on social media are more likely to post self-promoting and sexy pictures of themselves (DeWall, Buffardi, Bonser, & Campbell, 2011). Furthermore, latent semantic content in individual updates was linked to predicted narcissism, but narcissism was weakly associated with number of friends and not with frequency of status updates or time spent on Facebook in a study by Garcia and Sikström (2014). Other research has shown that narcissism is associated with the frequency of status updates (Ong et al., 2011) and is negatively perceived by peers (Kauten, Lui, Stary, & Barry, 2015). In fact, untrained, non-clinical participants are able to identify narcissistic profiles with relative ease (Buffardi & Campbell, 2008). Upon further analysis, the researchers determined that the content identified by raters as most influential in forming their narcissistic impressions were the Facebook user's self-promotion of the main photo, main photo attractiveness, sexiness, and the quantity of social interactions (Buffardi & Campbell, 2008). Similarly, previous studies that required participants to rate the personality of people in a photo found that impressions of narcissists were formed based on their choice of clothing, the effort they put into their appearance, and the "less inhibited display of their bodies" (Vazire et al., 2008, p. 1446). Social media, then, is an environment that facilitates the narcissistic expression of grandiosity.

Despite the increase in behavioral studies of narcissism and social media, the overall number of behavioral studies is very limited. Moreover, the studies often rely on self-report, although some studies use other-reports or behavioral observations as well. In fact, in spite of the criticisms of the NPI's validity (Pincus et al., 2009), it is still being used in the majority of studies that examine the relationship between narcissism and social media. An overreliance on self-report and a neglect of behavioral studies creates a gap in research that is important to fill (Bornstein, 2012; Huprich & Ganellen, 2006). For this reason, researchers have suggested that narcissism needs to be assessed comprehensively (Handler & Hilsenroth, 2006), using a multimethod assessment (Mihura & Graceffo, 2014). Multimethod assessment is necessary in order to obtain multiple forms of information. Self-reports are good measures of an individual's understanding of his or her experiences, but there is sometimes a discrepancy between how someone describes himself or herself and how he or she actually behaves (Mihura, 2012). In order to get a full picture of a person's functioning and predict spontaneous behavior, it is important to incorporate external methods of assessment (Mihura & Graceffo, 2014). One way to do this is by integrating performance-based assessment methods, such as the Rorschach Inkblot Task, with self-reports and behavioral observations. The attributions and behaviors observed while completing the Rorschach can help identify facets of narcissism that the participants may not be aware of and, thus, may not be able to endorse using self-report measures.

Rorschach Inkblot Task

The Rorschach inkblot task is a "behavioral task" or "free response measure" that is used to assess personality (Meyer & Kurtz, 2006, p. 224). The Rorschach is a performance measure that utilizes 10 inkblot cards and asks participants to answer the question, "What might this be?" (Meyer, Erard, Erdberg, Mihura, & Viglione, 2011, p. 5). In this way, the Rorschach inkblot task offers multiple *in vivo* glimpses into problem-solving strategies and behavior, "including: direct observation of task behavior; comparison of numerous dimensions of visual and verbal performance with normative expectations; and analysis of the content, imagery, and sequence of responses" (Meyer et al., 2011, p. 1). The Rorschach is a behavioral task that requires the respondent to draw on their internal resources to solve a problem, giving the examiner an opportunity observe their reactions to frustration, their problem-solving capabilities, and content or themes that are frequently on their mind.

The Rorschach may be especially useful for assessing narcissistic and grandiose tendencies because of the discrepancy between self-report and actual behavior. People respond to self-reports in what they perceive as a socially desirable manner (Paulhus & John, 1998), leading to an incongruity between self-report and actual behavior. Moreover, narcissists have lower insight into their problems (though see Sleep et al., 2017), leading to further discrepancies between self-report and observer ratings (Oltmanns et al., 2002; Clifton et al., 2004). The Rorschach, in contrast, does not rely on insight, and it is relatively immune to responding in a socially desirable manner (Hartmann & Hartmann, 2014; Nørbech et al., 2016; Schultz & Brabender, 2013).

Moreover, a subset of Rorschach scales has been shown to have good validity (Mihura, Meyer, Dumitrascu, & Bombel, 2013), is widely used in clinical practice (Wright et al., 2017), and continues to be taught in many clinical training programs (Mihura, Roy, & Graceffo, 2017). Although the Rorschach does not use any single variable to define narcissism (Handler & Hilsenroth, 2006), there are several variables that have been developed to identify facets of narcissism and grandiosity.

Meyer, Gritti, and Marino (2017) assembled eleven potential Rorschach grandiosity and narcissism variables (GNV). Seven of the variables were assembled or derived from previous literature and include Omnipotence (OMP; Cooper & Arnow, 1986), Idealization (IDL; Berg, 1990; Cooper & Arnow, 1986; Lerner & Lerner, 1980), Elevated Mood States (EMS; Cooper & Arnow, 1986), Reflection (r; Meyer et al., 2011), Personal Knowledge Justification (PER; Meyer et al., 2011), Exhibitionism (EXH; Wagner, 1965), and Magic (MAG; Homann, 2013). Four of the variables were created by Meyer and his colleagues (2017). They include Expanded Personal Reference (EPR), Narcissistic Devaluation (NDV), Narcissistic Deflation (NDF), and Narcissistic Denial (NDN). Each of the variables captures behavior, verbal expressions, imagery, and content related to grandiosity and narcissism. Coding criteria and examples can be found in Table 1, and the full criteria are in Appendix A.

Table 1

Potential Rorschach Grandiosity and Narcissism Variables (GNVs): Conceptual Basis and Scoring Examples (Gritti, Marino, Lang, & Meyer, 2017)

GNVs	Conceptual Basis	Rorschach Scoring Examples
Omnipotence (OMP) (Adapted from Cooper,	Makes claim to unrealistic powers, influence, inflated worth, etc.,	"You might do better doing the pictures first (points to

GNVs	Conceptual Basis	Rorschach Scoring Examples
Perry, & Arnow, 1988)	often in an attempt to deal with powerlessness or worthlessness, which are denied.	location sheet) and from these you could easily write down what I saw."
Idealization (IDL) (Adapted from Cooper & Arnow, 1988; Lerner and Lerner, 1980; Berg, 1990)	Response contents or comments directed to the examiner that indicate all-good and powerful object images.	"Jesus Christ"; "A crown, a king's crown"; "These tests were really amazing – you must have learned so much about me. I know you can help me."
Personal Knowledge Justification (PER) (Exner, 2003; Meyer et al., 2011)	Uses personal and private knowledge to justify her or his response, preventing the examiner from challenging the adequacy of the response itself.	"It looks like a boomerang; I've used them before and that's what they look like"
Expanded Personal Reference (EPR) (Meyer et al., 2016)	Expansion of PER that includes seeing one's self in the card, putting one's self in the response in some way, linking one's self to the percept: "Everything is about me."	"Very nice colorful clothes. I always dress up in colors, and the walls of my house are all red and blue."
Elevated Mood States (EMS) (Adapted from Cooper & Arnow, 1986)	The presence of an uplifted affective state identified in percepts or in the respondent him or herself.	"I know I'm going to enjoy this because I'm in such a good mood"; "Two people dancing to exhaustion."
Narcissistic Devaluation (NDV) (Meyer et al., 2016)	Narcissistically invested, embellished or otherwise positive and appealing objects are also devalued, dismissed, or denigrated.	"A stupid giant"; "It looks like a wizard wearing a dunce cap."
Narcissistic Deflation (NDF) (Meyer et al., 2016)	Percepts possessing deflated or impotent parts, or instances in which a sentient object would feel ashamed if it was on display.	"A deer with broken antlers"; "A bird without wings"; "A giant with tiny limp arms."
Narcissistic Denial (NDN) (Meyer et al., 2016)	Verbalizations that negate or significantly diminish themes of inferiority, vulnerability, or frailness.	"This person is not desperate;" "It looks like a girl crying. She's not really crying – probably just acting."
Exhibitionism (EXH) (Adapted from Wagner, 1965)	Objects engaged in activities performed for the benefit of an audience or designed for display.	"A ballerina"; "Skating"; "Dancing"; "Playing an instrument"
Magic (MAG) (Adapted from	Percepts of magical figures or figures possessing supernatural	"A witch"; "A wizard"; "A magic bottle"

GNVs	Conceptual Basis	Rorschach Scoring Examples
Homann, 2013)	powers.	
Reflection (r) (Exner, 2003; Meyer et al., 2011)	An object and its symmetrically identified mirror image or reflection.	"A woman looking at herself in the mirror."

The eleven GNVs capture facets of grandiose and vulnerable narcissism. Omnipotence, Idealization, Personal Knowledge Justification, Expanded Personal Reference, Elevated Mood States, Magic, and reflection involve manifestations of grandiosity, whereas Narcissistic Devaluation, Narcissistic Deflation, and Narcissistic Denial are linked to narcissistic vulnerability (Gritti, Marino, Lang, & Meyer, 2017). Personal Knowledge Justification and reflection may also be associated with narcissistic vulnerability in addition to narcissistic grandiosity. Personal Knowledge Justification involves a reaction and subsequent strategy for counteracting perceived threats or criticism by drawing on personal knowledge or experience to justify the response. Such responses protect the individual from criticism. Reflection may also be related to narcissistic vulnerability because it captures a possible "mirror-hungry" presentation. Grandiosity is not only a feature of narcissism, but also psychopathy and mania. Thus, the GNVs related to grandiosity capture features that are exhibited in other pathologies.

Previous studies have found support for using the GNVs. Using a principle components analysis, Marino (Marino, Meyer, & Mihura, 2012) found that Expanded Personal Reference, Idealization, Personal Knowledge Justification, and Omnipotence defined one component in an inpatient offender sample. Gritti, Marino, Lang, and Meyer (2017) conducted a study using the R-PAS normative data and determined that Expanded Personal Reference, Personal Knowledge Justification, Omnipotence, and Idealization

defined one component. They replicated these component results in an outpatient sample in Milan (Gritti et al., 2017). However, in this sample, Exhibitionism, Elevated Mood States, Reflection, Narcissistic Devaluation, Magic, and Narcissistic Deflation also defined a weak second component. The first component meaningfully correlated with clinician ratings of narcissism on the SWAP, though the second did not (Gritti et al., 2017). In an inpatient sample, Sholander, Meyer, and Gritti (2017) found a single dimension, and Exhibitionism, Elevated Mood States, Expanded Personal Reference, and Idealization defined that component. Thus, there is research supporting a single dimension that is defined by potential grandiosity and narcissism variables, albeit with some inconsistency in defining variables across samples.

Rationale for Current Study

Given the relationship between narcissism and certain behavioral manifestations on social media, the inadequacy of solely using self-report measures of narcissism, and the value of observing behavior *in vivo*, research is warranted to further support the efficacy of predicting narcissistic behavior in everyday settings. Moreover, it is important to identify and explore aspects of narcissism in order to provide clinicians with a comprehensive picture of the psychological processes involved in NPD. Many studies on narcissism rely on the self-report method, which provides useful information, but does not necessarily predict how a narcissistic individual will act in a given situation. An overreliance on self-report and a neglect of behavioral studies creates a gap in research that is important to fill. One way to do this is to integrate performance-based assessment methods, such as the Rorschach Inkblot Task, with self-reports and behavioral

observations. The attributions and behaviors observed while completing the Rorschach can help identify facets of narcissism that the participants may not be aware of and, therefore, may not be able to endorse using self-report measures. In order to evaluate narcissism, this study will use five measures: scores derived from the Rorschach's inkblot task, self-reports on the Five-Factor Narcissism Inventory, other ratings on the Five-Factor Narcissism Inventory, judges' evaluations of narcissistic behavior on social media, and participants' self-reported behavior on social media. Social media is a natural setting for observing narcissistic behavior. Although individuals determine the content of their pictures, posts, and biographical information, they have wide latitude in expressing individual differences, which provides insight into their interpersonal behavior. As such, it is expected that the coded features of Rorschach responding will predict ratings of narcissistic behavior on social media based on DSM-V criteria and Rorschach coding criteria.

Hypothesis 1: The potential Rorschach grandiosity and narcissism variables will be defined by a single dimension measuring aggrandizement, with substantive loadings from Omnipotence, Idealization, Personal Knowledge Justification, and Expanded Personal Reference.

Hypothesis 2: Although Rorschach variables are generally uncorrelated with self-reports of purportedly similar constructs (Meyer, 1997; Mihura et al., 2013), I anticipate the Rorschach grandiosity and narcissism factor, self-reported narcissism, and other-reported narcissism will positively correlate with reported counts of engaged behavior on Facebook that have been linked to narcissism (Facebook Engagement). In light of

research exploring the relationship between narcissism and social media use (Buffardi & Campbell, 2008; Eşkisu et al., 2017; Carvalho & Pianowski, 2017; Martin, Baily, Cicero, & Kerns, 2012; Orr, Sisic, Ross, et al., 2009), it is expected that the three methods for assessing narcissism will positively correlate with items of Facebook Engagement, such as their number of friends, frequency of status updates, and time spent on Facebook.

Hypothesis 3: Similarly, self-reported, other reported, and Rorschach assessed narcissism will correlate with observed narcissistic behavior on Facebook as rated by external judges. Observed narcissistic behavior on Facebook includes judges' ratings of self-promoting and aggrandizing photos, status updates, and other written content, consistent with past research (e.g., Buffardi & Campbell, 2008; Vazire et al., 2008).

Hypothesis 4: Furthermore, other-reported narcissism and the Rorschach factor will have stronger correlations with judge rated FB behavior than self-reported narcissism, and thus show incremental validity over self-reports.

Chapter Two

Methods

Participants

I obtained a sample of undergraduates from UT that provided data for two separate studies. The first was this study examining narcissism, and the other was a study by Fazel Hosseini, examining social and emotional intelligence. Measures and procedures related to the second study are not described here.

In order to determine the number of participants needed to detect a medium effect size, we reviewed another study that used 100 participants for the factor analysis and 55 participants in the clinician-rating analysis. Gritti and her colleagues (2017) found that the GNVs incremented over self-report data to predict clinician ratings of narcissism. Moreover, the GNVs were related to clinician ratings of narcissism, while self-reported narcissism was not (Gritti et al., 2017). Thus, the power for the raw correlation was the same as the power requirements for the incremental regression. We used G* Power 3 (Faul, Erdfelder, Lang, & Buchner, 2007) to identify an appropriate number of participants with an *a priori* statistical power analysis for a linear multiple regression with three predictors. The statistical parameters put into G*Power 3 included setting a two-tailed probability level to alpha=.05, an expected effect size of f^2=.202 (derived from an effect size of r = .41 found by Gritti et al., 2017), and 80% power. The results indicated that we would need 41 participants to have 80% confidence to detect a medium

sized effect in the population. Only subjects with a Facebook profile were invited to participate.

Because there were five different sources of data, attrition from one step to another, and exclusion criteria (to be described below) applied to each of the main data sources, sample sizes varied for each data source and their pairwise combinations. The final sample sizes by source of information were as follows: participant provided demographic information = 138, Facebook engagement = 126, participant self-reports of narcissism = 108, Rorschach assessed = 95, Facebook judged = 85, and other reported = 69. Pairwise sample sizes across data sources are provided later in Table 8 of the Results section.

Approximately 68% of the participants were female and 32% were male. The average age of the participants was 19.84 (SD = 4.73). Approximately 76.8% of the participants described themselves as Caucasian or White, 9.5% of the participants described themselves as African American or Black, 4.3% of the participants described themselves as Asian, 5.8% of the participants describes themselves as Multiracial, and 3.6% of the participants declined to answer.

Procedures

The University of Toledo IRB approved this study. Participants were recruited through Sona systems, a research recruitment system, for a two-part study. Before they began the study, participants read an informed consent form. The consent (1) asked the participants to agree to provide access to their Facebook profiles during the second part of the study, (2) described the risks of the study, and (3) explained that they will email a

request to someone who knows them well, asking the outside party to complete two questionnaires about them. If they agreed to the consent, participants were directed to Qualtrics, a secure web survey platform used by Psychology Department faculty and students, to complete a series of questionnaires.

After they completed the questionnaires in Qualtrics, participants were asked to provide the email address of someone who knew them well. An email with a link to the FFNI survey on Qualtrics was then sent to that person, and they were asked to describe the participant in their responses. The other reporter also completed a second measure that was used for the other study previously mentioned.

After completing Part 1 on Qualtrics, participants were asked to sign up for the second part of the study, during which an examiner administered the Rorschach inkblot task and requested access to public information on the participant's Facebook profile, including his or her Facebook wall, profile photos, and the About Me section. In order to grant access to the examiner, the participant logged into their Facebook account after the administration and sent a friend request to a research Facebook account. Once the researcher accepted the friend request, the researcher had access to the participant's Facebook profile, which included information that the participant publicly shared, such as photos, articles, conversations, and status updates. Status updates include statements about what the participants are thinking or feeling. Profile pictures are the photos that the participant chooses to show everyone first when a friend visits their Facebook page. The About Me section of Facebook includes information that the participant has decided to share with others, such as their place of employment, education, group affiliations, and

art preferences. A research assistant then accessed and downloaded copies of the portions of the participants' Facebook profiles that were mentioned above. However, the judges primarily relied on coding live Facebook accounts, rather than the downloaded copies, because the accounts were more informative and updated in real-time. On the rare occasion that a participant unfriended us or deleted their account before we coded their profile, their downloaded file was used instead. The judges started by rating the About Me section of Facebook, and then proceeded to rate the Profile Pictures and Cover Photos. The judges only used pictures that had been posted in the last three years and placed more emphasis on recent pictures. Additionally, the judges used 25 pages of the Timeline to inform the coding of variables that relied on all of the Facebook information, which was obtained by selecting the page down button 25 times. This process standardized the data and helped to ensure that the judges were coding a sufficient amount of information, even though the specific content might vary depending on when each rating was completed.

Data Validation. In order to conduct a final analysis with valid data, exclusion criteria was used to omit certain participants. First, participants with a high rate of random responding were eliminated. Random items were added to the FFNI, along with other questionnaires that the participants completed, such as "I gave birth to a tractor earlier this year," and "I am the president's nominee for Secretary of Highway Hygiene." Participants who positively endorsed more than 1/3 of the random items across all of their completed measures (from this study and the other study) were excluded from the analysis. Second, participants who answered 33% or more of the random responding

items on the FFNI incorrectly were also excluded. Third, informants who took less than 9 minutes to complete the questionnaire were omitted from analysis because the questionnaires were designed to take approximately 20 minutes. This exclusion criteria omitted informants who did not fully read the items or thoughtfully complete the questionnaires. Fourth, participants who sent a survey link to their own email address rather than to an informant were omitted from the informant questionnaire. Fifth, participants with little or no Facebook information were removed from the analysis. Specifically, if the participant did not update their Facebook in the last 3 years, or if they did not appear in any of the content that was posted to the Facebook profile, they were omitted from analyses. Sixth, two participants who were well above the average age of the sample were omitted from the judge rated Facebook analyses.

Measures

Facebook Activity Questionnaire. Participants completed a 15-item questionnaire that tapped important dimensions of Facebook activity. Facebook Engagement, the only variable used in the analyses, was measured with eight items: "How often do you check Facebook?," "On a typical day that you check Facebook, how much time do you actively spend on it?," "How many Facebook friends do you have?," "How often do you post a picture of yourself, including a picture that you are in with others?," "How many times have you updated your status on Facebook in the last 4 weeks?," "How often in the last 4 weeks have you taken a picture of your self for sharing?," "How many times per month do you update your profile picture?," and "How many likes do your profile pictures receive on average?." These eight items ask for

frequency counts of specific behaviors or actions, as opposed to evaluative judgments. The remaining non-count items that were not used for the Facebook Engagement scale can be found in Appendix B. The questions used are designed to measure the participant's level of activity and behavior on Facebook. Several studies have demonstrated that the number of Facebook friends is positively correlated with narcissism (Buffardi & Campbell, 2008; Carvalho & Pianowski, 2017; Gentile, Twenge, Freeman & Campbell, 2012).

Additional questions related to self-reported motivations and beliefs about Facebook use were asked for potential use in future exploratory analyses. For example, attractiveness was measured by two items that ask how attractive the participant thinks their Facebook pictures are (e.g., "Rate the attractiveness of your profile picture"). Self-reported attractiveness was included because previous research has indicated that narcissists are more likely to rate their pictures as attractive or glamorous (Ong, et al., 2011). Privacy was measured with one item that assesses how public the participant's Facebook profile is (i.e., "Who can see your Facebook posts?") and subsequent items that ask if participants change their privacy setting for the content that they shared. Lastly, based on Davenport et al. (2014), we asked two additional items: "It is important that my followers admire me" and "It is important that my profile makes others want to be my friend."

Uses of Facebook Scales. The Uses of Facebook Scales was included as another potential source of supplementary exploratory analysis that may be examined at a later time. It is a 23-item questionnaire that was adapted by Marshall and her colleagues

(2015) from a variety of sources (Hughes, Rowe, Batey, & Lee, 2012; Seidman, 2013) to measure motivations for using Facebook. Each statement begins with the stem "I use Facebook to…" and then ends with a statement related to one of four conceptual categories. Seven of the items measure self-validation (e.g., "I use Facebook to get attention"); five of the items measure self-expression (e.g., "I use Facebook to express my identity/opinions"); three items measure communication (e.g., "I use Facebook to get to know people better"); and four items measure information gathering (e.g., "I use Facebook to keep abreast of current events"). Each statement is rated using a seven-point Likert scale (1 = Strongly Disagree and 7 = Strongly Agree).

List of Status Updates. The List of Status Updates was added to the list of questionnaires to provide a follow up Marshall et al.'s research (2015) and will not be used in the primary analysis for this study. The List of Status Updates is a 23-item list of topics that are frequently incorporated in Facebook status updates (Marshall et al., 2015). Topics include diet, views on politics, pets, exercise routines, and social activities. Participants were asked to indicate how frequently they posted information about each category using a Likert scale ranging from Never (1) to Very often (5). Social activities and everyday life define one domain, intellectual themes define a second domain, achievement orientation defines a third domain, and diet and exercise defines the fourth domain.

Five-Factor Narcissism Inventory. The Five-Factor Narcissism Inventory (Glover et al., 2012) is a 148-item measure of narcissistic traits. It is a self-report measure that uses a five-point Likert scale ranging from the statement is false or the participants

strongly disagrees (1) to the statement is definitely true or the participant strongly agrees (5). The FFNI measures narcissistic variants of the Five-Factor-Model (FFM) (e.g., Exhibitionism as a narcissistic variant of gregariousness). There are 15 scales on the FFNI: Reactive Anger, Shame, Indifference, Need for Admiration, Exhibitionism, Thrill-Seeking, Authoritativeness, Grandiose Fantasies, Cynicism/Distrust, Manipulativeness, Exploitativeness, Entitlement, Arrogance, Lack of Empathy, and Acclaim-Seeking (Glover et al., 2012). It was developed to assess grandiose and vulnerable dimensions of narcissism. The FFNI shows convergent and discriminant validity with the NEO PI-R (Glover et al., 2012) along with a series of self-report and other-report measures (Miller, Gentile, et al., 2013). Additionally, it shows convergent, discriminant, and incremental validity in both clinical and community samples (Miller, Few, et al., 2013).

Criteria for Coding Manifestations of Narcissism on Facebook. Manifestation of Narcissism on Facebook Coding was developed to measure grandiose and narcissistic behavior on social media. The Facebook criteria is written here in the same order that the Facebook content was coded by the raters (see Appendix C for the exact content). First, the About Me section (Details subsection) was coded for self-promoting information, self-promoting quotes, and entertaining quotes. Second, the Profile pictures from the last 3 years were coded, with an emphasis on the most recent pictures, for variables such as self-promotion, showing off, and the degree to which participant was posed for their picture. Third, the Cover Photos from the last 3 years were coded, with an emphasis on the most recent pictures, for variables such as the degree to which the picture was spectacular, the degree to which a picture is unique, and the degree to which a picture

highlights the individual and their strength. Additionally, both the profile photos and cover photos shared some variables such as narcissism cues (e.g., showy clothing, make up, plucked eyebrows, and muscles) which were derived from a study by Vazire and her colleagues (2008). These cues were initially derived from uniform photos taken in lab of unprepared students and later adapted for our purposes. Fourth, 25 pages of the timeline was reviewed and considered alongside all the other sources of information to make ratings for variables such as the GNV Facebook counterparts and DSM-5 narcissism criteria counterparts. Furthermore, the Profile Pictures, Cover Photos, and Timeline were reviewed for the frequency of selfie photos. At the end, the raters coded all of the content for the degree to which the content was agentic, communal, and generally narcissistic, with the latter being a composite summary impression of narcissism.

Most of the variables were rated on the following 5-point unipolar Likert scale: 0 = not present, 1 = possibly present, 2 = is present, 3 = occasionally present, and 4 = often present. However, some variables, like Submissive vs. Dominant, Grouchy vs. Affectionate, Common vs. Special, and Communal vs. Powerful were rated on a 5-point bipolar continuum (e.g., where 4 represented fully dominant and 0 represented fully submissive). Furthermore, some of the variables, like the narcissism cues, used different benchmarks for points on the scale to help better differentiate between ratings (e.g., for attractiveness: 0 = unattractive, 1 = plain, but not unappealing, 2 = average features, 3 = would be considered handsome or pretty, 4 = model-like features; strikingly handsome or beautiful).

The coding criteria was revised several times before it was finalized. Variables that were derived from the literature were modified to fit the Likert scale mentioned above. The Likert scale was designed to be coded based on the evidence, presence, and sometimes frequency of the variable. One of the major difficulties in coding the Facebook material was that some participants were very active and others were not. This difference in Facebook activity led to a higher probability of narcissism cues being coded for participants who were more active on Facebook.

Rorschach Inkblot Task. The Rorschach task was administered to participants during the second part of the study. As mentioned previously, the Rorschach is a performance measure that utilizes 10 inkblot cards and asks participants to answer the question, "What might this be?" The Rorschach was administered to participants according to R-PAS guidelines by three examiners (Fazel Hosseini, Forrest Wright, and me) who collected between 6 and 54 records. The Rorschach protocols were fully coded using the R-PAS guidelines and then they were coded using the GNV criteria. One protocol that was collected was lost because a new file was inadvertently saved over the previous one. A total of 95 Rorschach protocols were coded.

Statistical Analyses

GNV Interrater Reliability. In order to establish reliability, a second rater and I calibrated our coding by jointly coding 20 Rorschach protocols. The second rater and I then independently coded 61 Rorschach protocols from this study according to the GNV criteria described above and resolved disagreements through discussion. The protocols were randomly selected, and we remained blind to the participants. Once the interrater

reliability was sufficiently established, or the absolute percentage agreement for low base variables was favorable, I continued to code the remaining 35 Rorschach protocols.

FB Interrater Reliability. Similarly, the second rater and I coded 85 FB profiles, calculated interrater reliability, and resolved disagreements through discussion (see Table 3 in Results). We calibrated using 38 profiles and the reliability was calculated using 47 profiles. Afterwards, I coded the remaining 8 profiles. The Facebook ratings were made while we were blind to the Rorschach coding. In order to remain blind, I created a new random ID for any FB Profiles that I collected, while the second rater created a new random ID for profiles that were collected by the other two examiners. I kept the key for my profiles, and the second rater kept the key for the other profiles. The disagreements were considered resolved once there was a maximum 1-point difference between the raters on the 5-point scale. The single-rater interrater reliability was computed at the participant level and interpreted using Cicchetti's benchmarks (1994) as mentioned above. Any disagreements with a remaining 1-point difference were averaged before they were used in the statistical analysis.

However, there were two disagreements with 2-point differences that resulted from the coders looking at the same Facebook profile within days of each other. In this instance, the participant's activity on his or her Facebook profile was frequently updated, resulting in the raters coding slightly different content. After agreeing that the variables with a 2-point difference each should be coded because they accurately reflected the content observed, the coders preserved the ratings they assigned and averaged their assigned ratings for the statistical analysis.

Correcting Skew. In order to prepare for further analysis, the structure of the GNV narcissistic factor was assessed once the 95 Rorschach protocols had been coded for the 11 GNVs. To test the first hypothesis (i.e., that a single dimensional structure will define the Rorschach grandiosity and narcissism variables as a measure of aggrandizement), the distributions of the Rorschach GNVs were analyzed. Abnormal skew and kurtosis were addressed using the ladder of transformation (Behrens, 1997) to correct for skewness values $\geq$ 2.0 (Curran, West, & Finch, 1996), giving preference to the simpler square root transformation over more extreme measures when additional gains were relatively minor. The descriptive data for the Rorschach GNV variables, including the skew for the transformed variables, using a square root transformation, can be found in Table 4 of the Results section.

The values for the square root transformation were retained for Idealization, Personal Knowledge Justification, Expanded Personal Reference, Elevated Mood State, Narcissistic Deflation, Exhibitionism, and Reflection. The original values for the remaining variables (Omnipotence, Narcissistic Devaluation, Narcissistic Denial, and Magic) were retained because their skew could not be fixed by any transformation due to the fact that people only had scores of 0 or 1. Thus, the original values for Omnipotence, Narcissistic Devaluation, Narcissistic Denial, and Magic were used, and the square root of Idealization, Personal Knowledge Justification, Expanded Personal Reference, Elevated Mood States, Narcissistic Deflation, Exhibitionism, and Reflection were retained.

The distribution for Facebook Engagement was assessed. I reviewed the distribution of the individual items. The skew for all of the items, except the number-of-status-updates variable, was brought below 2.0, using the square root transformation. The number-of-status-updates item was scanned for outliers, and two participants were identified who updated their Facebook status 100 or more times per day, with the next highest frequency being 40 per day. The mean number of status updates in our sample was 4.48. Given the substantial difference between the outliers and the mean, a square root transformation alone was ineffective in correcting this item. Instead, winsorizing was used to bring the outliers to a value of 41 in conjunction with a square root transformation to correct the skew

Descriptive statistics for self-reported FFNI, other reported FFNI scales, and the Facebook Engagement scale were evaluated to determine if they formed normal distributions. If skew was found to be above 2.0, the scales were transformed to correct the skew. FFNI scales were coded by appropriately reverse coding items and computing means across all the items that belonged on each scale.

Analysis of Hypotheses. In order to test the first hypothesis, the intercorrelation matrices for the sample of Rorschach protocols was analyzed using the Kaiser-Meyer-Olkin statistic (KMO; Kaiser, 1974) and Bartlett's sphericity test (Bartlett, 1937) to ensure that the matrix was suitable for component analysis. Next, parallel analysis (PA) was used to determine how many components to retain (Velicer, Eaton, & Fava, 2000), using O'Connor's (2000) SPSS syntax. Due to its capability to adjust for the effect of sampling error, PA is considered to be one of the most accurate factor retention methods

(Hoelzle & Meyer, 2013; Hayton, Allen, & Scarpello, 2004; Steger, 2006). Components were retained if their eigenvalue was larger than the 95th percentile of the corresponding eigenvalues extracted from 1,000 matrices of randomly generated data sets containing the same number of cases and variables as the target data set.

In order to test the second hypothesis, the items of reported engagement with Facebook were used to build a Facebook Engagement scale. The inter-item and corrected item-total correlations were examined to determine how well the items cohered together. Additionally, Cronbach's alpha was used to determine the internal consistency of the scale. Because the items were on such different scales, they were standardized before computing a mean.

Next, a composite of judges' ratings of narcissistic behavior on Facebook (Judged FBN) was created. First, items that needed to be reversed were reverse coded. Second, gender-specific items were omitted, as including them would reduce the sample size. Third, the inter-item correlations and the corrected item-total correlations were examined. Items with negative or near zero corrected item-total correlations were dropped because they did not track with the other items (Cheerful, Elevated Mood States, Entertaining Quotes, and Fraternity-Sorority Type). Fourth, items with corrected item total correlations less than .20 were dropped (Self-Promoting Quotes, Tender [R], and Narcissistic Devaluation). Fifth, Cronbach's alpha was used to determine the internal consistency of the scale. Sixth, the skew for the Judged FBN was examined to see if it was less than 2.0.

A correlational analysis was then used to test the hypothesis that the GNV scale and the FFNI scales are associated with narcissistic behavior on Facebook, as measured by the previously constructed Facebook Engagement scale and the Judged FBN scale.

Chapter Three

Results

Interrater Reliability and Descriptive Statistics

Table 2 provides the interrater reliability results for coding the Rorschach protocols. According to the results, Idealization, Personal Knowledge Justification, Elevated Mood States, and Reflection had excellent agreement. Expanded Personal Reference, Narcissistic Deflation, Exhibitionism, and Magic had fair agreement. Omnipotence had poor agreement and was coded very infrequently. Narcissistic Devaluation and Narcissistic Denial did not generate ICCs because one or both raters never coded it. For low base rate variables, the absolute percent agreement provides an important measure of agreement. The absolute agreement was > 99.5% for Omnipotence, Narcissistic Devaluation, Narcissistic Deflation, Exhibitionism, and Magic; it was 98.09% for Expanded Personal Reference.

Table 2

Intraclass Correlation (ICC) for the Interrater Reliability of GNV Coding

	Protocols	Responses	
Variable	ICC Single	*M* Base Rate	% Agreement
Omnipotence	.39	.0018	99.78
Idealization	.80	.0312	98.31
Personal Knowledge Justification	.75	.0059	99.56
Expanded Personal Reference	.59	.0140	98.09
Elevated Mood States	.88	.0290	99.19
Narcissistic Devaluation	---	.0004	99.93
Narcissistic Deflation	.47	.0029	99.71
Narcissistic Denial	---	.0000	100.00
Exhibitionism	.53	.0044	99.56
Magic	.49	.0015	99.85
Reflection	.94	.0096	99.85

Note. n = 61 protocols and 1,363 responses.

Table 3 provides the interrater reliability for coding 47 Facebook profiles, as well as descriptive statistics for the variables. As can be seen, there was variation in agreement between examiners. There was poor agreement for variables like Narcissistic Deflation, Status Seeking, and Plucked Eyebrows. There was good agreement for variables like Seeking Admiration, Feminine, and Sexiness. There was excellent agreement for variables like Reflection, Tender, and Selfies. Due to the variability in agreement, the protocols were coded by both examiners and all disagreements were resolved according to the procedures outlined previously.

Table 3

Descriptive Statistics and Interrater Reliability for Facebook Coding

Data Source and Variable	*M*	SD	Min.	Max.	Skew	Ku.	ICC
About Me (with Timeline)							
Self-Promoting Info	.22	.54	0	2.5	2.80	7.13	.04
Self-Promoting Quotes	.26	.65	0	3	2.67	6.32	.59
Entertaining Quotes	.12	.33	0	2	3.30	12.30	.53
Profile Pictures							
Attractiveness	2.01	.97	0	4	-.28	-.24	.72
Self-promotion	.80	.92	0	3.5	1.05	.27	.54
Posed & Self Alone	1.29	1.24	0	4	.57	-.90	.84
Sexiness	.65	.93	0	3.5	1.39	.94	.73
Showing Off	.55	.74	0	3	1.24	.46	.36
Prep. Time	1.71	1.12	0	4	.20	-.78	.43
Cover Photos							
Self-Promotion	.51	.72	0	3	1.34	.83	.53
Serene vs. Exciting	1.58	.81	0	4	-.03	.04	.57
Ordinary vs. Special	1.74	.88	0	3.5	-.05	-.94	.65
Communal vs. Agentic	1.39	.96	0	4	.49	-.28	.60
Ideals of Power	.55	.80	0	3.5	1.65	2.21	.47
Events vs. Personal Statement	1.39	1.07	0	4	.63	-.50	.72
Tender (R)	.95	.94	0	3.5	.74	-.45	.78
Profile and Cover Photos							
Showy Clothing	.93	.93	0	3	.69	-.75	.50
Fraternity/sorority type	.33	.85	0	4	2.77	6.95	.61
Neat appearance	2.27	.80	0	4	-.35	.37	.35

Data Source and Variable	*M*	SD	Min.	Max.	Skew	Ku.	ICC
Cheerful	1.74	1.05	0	4	.00	-.74	.51
Feminine (F)	2.34	1.06	0	4	-.53	-.12	.70
Makeup (F)	1.96	1.05	0	4	-.05	-.70	.67
Plucked eyebrows (F)	1.98	.94	0	4	-.20	-.44	.44
Cleavage showing (F)	.59	.90	0	3.5	1.47	1.16	.83
Eyeglasses (M) (R)	.64	1.36	0	4	1.89	2.00	.97
Muscular (M)	.31	.61	0	2	2.18	3.89	.56
All Content							
Selfies	1.17	1.34	0	4	.82	-.69	.85
Omnipotence	.32	.70	0	3.5	2.71	7.42	.57
Idealization	.61	.70	0	3	1.36	1.27	.38
Personal Knowledge Justification	.05	.20	0	1.5	5.32	33.82	.42
Expanded Personal Reference	.13	.33	0	2	3.42	13.96	.05
Elevated Mood State	.27	.50	0	2	2.09	3.78	.15
Narcissistic Deflation	.11	.42	0	3	5.00	27.90	-.02
Exhibitionism	.31	.72	0	3.5	2.74	7.08	.47
Magic	.10	.36	0	2	4.34	19.36	-.02
Reflection	.40	.79	0	4	2.43	6.02	.76
Self-Importance	.28	.66	0	3	2.62	6.01	.58
Belief in Specialness	.36	.59	0	2.5	2.13	4.22	.50
Seeking Admiration	.69	.94	0	3.5	1.33	.81	.65
Un-empathic	.13	.42	0	2.5	3.79	15.64	.43
Status seeking	.17	.46	0	2.5	3.35	11.85	.13
Agentic	1.92	.70	0	3.5	-.10	.65	.57
Communal (R)	2.41	.82	0	4	-.42	.05	.55
Narcissism	1.07	1.20	0	4	.88	-.29	.59

Note: ICC $n = 47$, except for Narcissism, which had $n = 27$. (F) = females only, (M) = males only, (R) = reverse coded.

The descriptive statistics for the Rorschach GNVs are listed in Table 4. After the transformation, Omnipotence, Narcissistic Devaluation, Narcissistic Deflation, Narcissistic Denial, Exhibitionism, and Magic remained severely skewed. Personal Knowledge Justification was moderately skewed, and Idealization, Expanded Personal Reference, and Elevated Mood State were mildly skewed.

Table 4

Descriptive Statistics for the Rorschach GNVs

Variable	Mean	SD	Min.	Max.	Skew	Ku.	Skew AT
Omnipotence	.03	.18	0	1	5.44	28.23	5.44
Idealization	.58	1.05	0	5	2.23	5.11	1.15
Personal Knowledge Just.	.18	.53	0	3	3.33	11.78	2.53
Expanded Personal Reference	.41	1.03	0	6	3.44	13.61	1.96
Elevated Mood States	.61	.79	0	4	1.48	2.91	.43
Narcissistic Devaluation	.03	.18	0	1	5.44	28.23	5.44
Narcissistic Deflation	.06	.29	0	2	4.96	26.50	4.26
Narcissistic Denial	.01	.10	0	1	9.75	95.00	9.75
Exhibitionism	.13	.47	0	3	4.28	19.77	3.36
Magic	.04	.20	0	1	4.63	19.89	4.63
Reflection	.37	.81	0	5	3.11	12.18	1.63

Note: n = 95. AT = After transformation.

In Table 5, the descriptive statistics from Gritti and her colleagues (2017) are presented to provide a comparison between our sample of college students and her sample of adults. Except for Narcissistic Denial and Reflection, this study has significantly fewer instances of each code. These differences are unlikely due to different coding conventions, as the same researcher supervised and contributed to coding in both studies. In summary, Narcissistic Denial is rare to the point of essentially being absent in both studies, and this study has fewer instances of all of the other codes. With the exception of Reflection, the remaining scores had mean values that were less than one third of the values found in the norms. Thus, there is a low prevalence of Rorschach assessed narcissism and grandiosity in this sample of college students.

Table 5

Descriptive Statistics from Gritti et al., 2017 for Comparison

Variable	Mean	SD	Min.	Max.	Skew	Ku.	Skew AT
Omnipotence	.29	.93	0	9	6.48	54.12	1.74
Idealization	1.43	1.87	0	9	1.91	3.87	.44
Personal Knowledge Just.	.77	1.29	0	8	3.08	12.89	.92
Expanded Personal Reference	1.63	2.41	0	15	2.30	6.96	.70
Elevated Mood States	1.53	1.56	0	8	1.31	2.04	.04
Narcissistic Devaluation	.62	.24	0	1	3.67	11.62	3.67
Narcissistic Deflation	.26	.54	0	3	2.52	8.06	1.50
Narcissistic Denial	.02	.19	0	2	9.64	97.10	8.52
Exhibitionism	.59	1.03	0	6	2.31	6.44	1.05
Magic	.19	.44	0	2	2.34	4.96	1.92
Reflection	.49	.87	0	4	1.77	2.38	1.17

AT = After transformation.

The descriptive statistics for both the FFNI self-report and other-report are presented in Table 6. The skew for each scale is below 2.0. Additionally, the individual items for the FFNI self-report cohered well together, and Cronbach's alpha for Narcissistic Grandiosity and Narcissistic Vulnerability were .94 and .87 respectively. Similarly, the individual items for the FFNI other-report cohered well together, and Cronbach's alpha for Narcissistic Grandiosity and Narcissistic Vulnerability were .93 and .92 respectively. The FFNI was rated on a five-point Likert scale ranging from the statement is false or the participant disagrees (1) to the statement is definitely true or the participant strongly agrees (5). Because the means are close to the midpoint of 2.5, and the maximum values for self and other ratings of narcissistic grandiosity are 3.7 and 3.8 respectively, the presence of narcissistic grandiosity is not notable in this sample.

Table 6

Descriptive Statistics for the Five-Factor Narcissism Inventory

	N	M	SD	Min.	Max.	Skew	Ku
SR VNarc	108	2.83	.49	1.63	3.96	-.26	-.30
SR GNarc	108	2.59	.44	1.50	3.71	.26	-.04
OR VNarc	69	2.74	.55	1.39	4.24	.03	.65
OR GNarc	69	2.68	.38	1.77	3.82	.22	.71

Note: SR GNarc = Self-reported narcissistic grandiosity, SR VNarc = Self-reported narcissistic vulnerability, OR GNarc = Other-reported narcissistic grandiosity, OR VNarc = Other-reported narcissistic grandiosity.

Table 7 shows descriptive statistics for the items in the Facebook Engagement Scale, including the skew for the square root transformed items. Three items did not require a transformation because there skew values were below 2.0. Number of Status Updates remained skewed after the transformation. This variable was winsorized according to the process outlined in Methods. Thus, the items on the Facebook Engagement Scales formed a relatively normal distribution.

Table 7

Descriptive Statistics for the Facebook Engagement

	M	SD	Min	Max	Sk	Ku	Skew AT
How often Check FB	9.82	3.10	1.00	12.00	-1.29	.42	---
Time on FB*	7.52	3.65	0	21.21	3.11	14.63	.62
Number of FB Friends*	21.25	9.25	1.73	63.25	3.75	19.1	1.35
Frequency of Posting Pictures of Self*	1.11	.83	0	4.36	3.41	15.22	.84
Number of Status Updates*	1.01	1.52	0	6.4	6.09	41.26	2.89
Number of Pictures Taken for Sharing	2.85	1.52	1	7	0.58	-.22	---
Frequency of Profile Picture Updates	.71	.78	0	4	1.31	2.4	---
Number of Likes for Profile Pictures*	5.32	3.15	0	17.32	3.56	14.32	1.6

Note: * = Square Root Transformation; FB = Facebook.

Analyses for Hypothesis 1.

The first hypothesis stated that the potential Rorschach grandiosity and narcissism variables will be defined by a single dimension measuring aggrandizement, with substantive loadings from Omnipotence, Idealization, Personal Knowledge Justification, and Expanded Personal Reference.

Before PA was conducted, four GNVs were dropped from the analysis due to their infrequency. Narcissistic Denial was assigned only once to a single protocol. Omnipotence, Narcissistic Devaluation, and Magic formed a cluster of variables that could not be transformed because no one had a score greater than 1, and there were no more than four people obtaining a score. Consequently, these four variables were omitted and PA was conducted with 7 variables and 95 cases on 1000 randomly generated data sets. The GNV intercorrelation matrix was in the miserable[1] range (.56) according to Kaiser's (1974) classification of the KMO. However, Bartlett's Sphericity Test was significant ($p<.001$), indicating correlations were present in the matrix and suggesting the GNVs were suitable for factor analysis. The comparison of the actual eigenvalues (1.97 for the first component, 1.26 for the second component, 1.03 for the third component, and .94 for the fourth component) with those obtained from PA (1.54 for the first, 1.34 for the second, 1.18 for the third, and 1.06 for the fourth) suggested that there was one real factor present in the data. The final grandiosity factor was strongly defined by Personal

[1] Kaiser's (1974) descriptions for each range are as follows: <.50 = unacceptable, .50 to .59 = miserable, .60 to .69 = mediocre, .70 to .79 = middling, .80 to .89 = meritorious, and >.90 = marvelous.

Knowledge Justification, Exhibitionism, Narcissistic Deflation, and Expanded Personal Reference (loadings between .57 and .72), and more moderately defined by Idealization, Elevated Mood State, and Reflection (loading between .22 and .30; see Table 8). In this final solution, the factor explained 28.12% of the total variance.

Table 8

Final PCA solution

GNVs	Component Loading
Personal Knowledge Justification	.72
Exhibitionism	.69
Narcissistic Deflation	.66
Expanded Personal Reference	.58
Idealization	.30
Elevated Mood State	.29
Reflection	.22

Based on previous findings, it was expected that Expanded Personal Reference, Idealization, Personal Knowledge Justification, and Omnipotence would define one component (Gritti et al., 2017; Marino, 2015). Consistent with the hypothesis, Personal Knowledge Justification and Expanded Personal Reference were two of the four variables that strongly defined the factor. However, Exhibitionism and Narcissistic Deflation also defined the factor, whereas Idealization did not and Omnipotence could not, given that it had been omitted. Thus, the first hypothesis was only partially supported.

Because Personal Knowledge Justification, Exhibitionism, Narcissistic Deflation, and Expanded Personal Reference largely defined the single factor, these were used to create a GNV scale. Personal Knowledge Justification, Exhibitionism, Narcissistic Deflation, and Expanded Personal Reference were standardized, and the mean of these z

values was used to create the GNV scale that was then used for analysis. The interrater reliability of this scale between the second rater and me was fair (ICC = .59).

Analyses for Hypothesis 2-4.

According to the second hypothesis, I expected that the Rorschach grandiosity and narcissism factor, self-reported narcissism, and other-reported narcissism would positively correlate with reported counts of engaged behavior on Facebook that have been linked to narcissism (Facebook Engagement). In the third hypothesis, I expected that self-reported, other reported, and Rorschach assessed narcissism would correlate with observed narcissistic behavior on Facebook as rated by external judges.

The inter-item correlation matrix indicated that the Facebook Engagement items cohered together with correlations ranging from .05 to .55, and corrected item-total correlations above .34. Cronbach's alpha was .74.

The Judged FBN composite had a skew less than 2.0 (Skew = .26), and, was therefore in the acceptable range. Furthermore, the interrater reliability of the Judged FBN scale scores was ICC = .80 and Cronbach's alpha was .92. Thus, the Judged FBN scale was coded reliably, and it was internally consistent.

Correlational analyses was used to test the hypothesis that the GNV scale and the FFNI scale are associated with narcissistic behavior on social media as measured by participants' reports of Facebook Engagement and judges' ratings of observed narcissistic Facebook behaviors (see Table 9). According to the results, the GNV scale is not correlated with Facebook Engagement or judges' ratings of narcissistic behavior on Facebook. Similarly, self-reported narcissistic grandiosity, as measured by the FFNI, is

nonsignificant when correlated with Facebook Engagement and the judged Facebook narcissism scale. The other's rating of narcissistic grandiosity (r = .28) was more strongly and significantly correlated with the participants' Facebook Engagement than the participant's self-reported narcissistic grandiosity (r = .00). However, this did not hold true for the other's rating of narcissistic grandiosity relative to the judges' ratings of narcissistic behavior on Facebook (r = .18 vs. .14), neither of which were statistically significant. Interestingly, self-reported narcissistic vulnerability was correlated with the judges ratings of narcissism on Facebook (r = .36).

Table 9

Matrix of correlations

	Judged FBN	FB Engage	GNV	SR GNarc	SR VNarc	OR GNarc	OR VNarc
Judged FBN		**.43**	-.10	.14	**.36**	.18	.09
FB Engage	77		-.01	.00	.16	**.28**	.12
GNV	84	87		-.20	-.20	-.16	-.09
SR GNarc	66	108	75		**.27**	**.47**	-.03
SR VNarc	66	108	75	108		-.01	**.42**
OR GNarc	52	63	55	53	53		.18
OR VNarc	52	63	55	53	53	69	
Total N	85	126	95	108	108	69	69

Note: Lower left diagonal = cell N, Upper right diagonal = r, and Bold = $p < .05$
Note: FB Engage = FB Engagement, SR GNarc = Self-reported narcissistic grandiosity, SR VNarc = Self-reported narcissistic vulnerability, OR GNarc = Other-reported narcissistic grandiosity, OR VNarc = Other-reported narcissistic grandiosity.

Also, Judged FBN was significantly correlated with FB Engagement (r = .43), suggesting that either the judges were influenced by the overall amount of activity on Facebook or that narcissists tend to be more active on Facebook. Furthermore, self-reported narcissistic grandiosity was correlated with self-reported narcissistic vulnerability (r = .27), suggesting that narcissistic individuals exhibit facets of both

narcissistic grandiosity and narcissistic vulnerability. Self-reported narcissistic grandiosity was also significantly and strongly correlated other's ratings of narcissistic grandiosity (r = .47), suggesting that grandiose narcissists are able to identify the same features of narcissism that observers are able to identify. Similarly, self-reported narcissistic vulnerability was correlated with other-reported narcissistic vulnerability (r = .42). In summary, Hypothesis 2 and 3 were partially supported. Hypothesis 4, which proposed incremental validity analyses, was not tested because of the lack associations between variables.

In order to better understand the unexpected factor structure of the GNV scale along with its non-significant relationship with criterion variables in this study, examiner differences were explored. These analyses seemed warranted because the two coders realized that a large number of Examiner 3's protocols were insufficiently clarified and inadequately documented as they were applying GNV coding to all the protocols. Table 10 thus contrasts the final coding of the protocols collected by Examiner's 1 and 2 with Examiner 3. According to the results in Table 10, with the exception of Elevated Mood States, the GNVs were substantially less frequent in Examiner 3's protocols. Omnipotence was non-existent in Examiner 3's protocols. Idealization was present in Examiner 1 and 2's protocols approximately twice as often as in Examiner 3's protocols, Personal Knowledge Justification was present six times as often, and Expanded Personal Reference was present approximately 4 times as often. Thus, it is likely that the difference in Rorschach documentation led to fewer instances of the GNVs in Examiner 3's protocols.

Table 10

Mean Comparison of GNV scores Between Examiners

	Examiner 1 & 2			Examiner 3		
	M	SD	*M* BR	M	SD	*M* BR
Omnipotence	.07	.26	.0031	.00	.00	.0000
Idealization	.79	1.28	.0340	.42	.80	.0177
Personal Knowledge Justification	.33	.69	.0144	.06	.30	.0024
Expanded Personal Reference	.71	1.40	.0309	.17	.47	.0072
Elevated Mood States	.64	.85	.0278	.58	.75	.0249
Narcissistic Devaluation	.07	.26	.0031	.00	.00	.0000
Narcissistic Deflation	.10	.37	.0041	.04	.19	.0016
Narcissistic Denial	.02	.15	.0010	.00	.00	.0000
Exhibitionism	.26	.66	.0113	.02	.14	.0008
Magic	.07	.26	.0031	.02	.14	.0008
Reflection	.48	1.04	.0206	.28	.57	.0120

Note: BR = Base Rate

Chapter Four

Summary, General Discussions, and Final Considerations

The first aim of this study was to examine the factor structure of the 11 GNVs among college students in order to replicate previous findings (Gritti et al., 2017) and to provide further support for the generalizability of using the GNVs to assess narcissism. Similar to previous findings, a one-factor solution was discovered. That solution, however, was unexpectedly defined by Narcissistic Deflation and Exhibitionism in addition to two expected variables, Personal Knowledge Justification and Expanded Personal Reference. Omnipotence and Idealization were expected to load onto the single factor. However, Omnipotence was excluded from the analysis because it had such a low base rate in the sample, and Idealization was not coded as often as it had been in other samples. One possible reason for this, and a potential limitation to this study, is that approximately 50% of the protocols were not sufficiently clarified, and interactions between the examiner and the respondent were not properly documented. Both Omnipotence and Idealization contain specific criteria for coding the respondent's behavior, including interactions with the examiner. Because a substantial portion of the Rorschach protocols were not properly documented, aggrandizing and narcissistic interactions between the respondent and examiner were not consistently recorded, likely compromising the Omnipotence and Idealization scores.

The second aim of this study was to develop reliable measures for coding narcissistic behavior on Facebook and determine if those scales were associated with narcissism as assessed by a self-report measure, an informant-report measure, and a

performance task. Two criterion scales were used for these analyses: FB Engagement and Judged Facebook Narcissism (Judged FBN). FB Engagement contained items related to the participant's self-reported behavior on Facebook that have been linked to narcissism in previous research. Judged FBN contained variables that were developed from the literature and utilized by two judges to rate participants on different facets of narcissism. The scales were internally consistent, and Judged FBN was reliably coded.

The correlations between the GNV scale and narcissistic behavior on Facebook were non-significant. On the other hand, the correlation between self-reported narcissistic vulnerability and the Judged FBN was significant, as was the correlation between the informant ratings of narcissistic grandiosity and FB Engagement. As predicted, the informant rating of narcissism was more strongly related to Facebook Engagement than self-reported narcissism. It is worth noting here that items on the FB Engagement scale, such as the number of friends one has on Facebook and the frequency of status updates, are consistently linked with narcissism in the narcissism research literature (Buffardi & Campbell, 2008; Carvalho & Pianowski, 2017; Gentile, Twenge, Freeman & Campbell, 2012). Evidently, others are also able to identify narcissistic tendencies in the same people who visibly exhibit active involvement with Facebook.

It is perhaps not surprising that self-reported narcissistic vulnerability was linked to judged narcissistic behavior on Facebook, but it is surprising that narcissistic grandiosity was unrelated. This suggests that the variables designed to assess observable narcissistic behavior on Facebook were able to identify self-ascribed narcissistic vulnerability. Perhaps one explanation for this phenomenon is that grandiose narcissistic

behavior is possibly normative on social media and therefore cannot be used to identify true narcissistic grandiosity. If that is the case, the attention seeking behavior of grandiose narcissists may be indistinguishable from normal college student behavior.

The third aim of this study was to determine if the Rorschach factor is more strongly associated with judged rated FB behavior than self-reported narcissism, and thus show incremental validity of self-reports. Because the GNVs did not correlate with the Judged Facebook Narcissism and Facebook Engagement scales, the GNVs were unable to provide incremental validity. Given the unusual composition of the GNV scale, it is perhaps unsurprising that the GNV scale did not provide incremental validity. Moreover, and as previously mentioned, approximately 50% of the protocols were not sufficiently clarified or documented with a verbatim record. As a result, there was an incomplete record of what was said and done and it is likely that this led to a lower rate of GNV coding in general.

Limitations

Several limitations to this study have already been identified, such as improper documentation and infrequent clarification questions during the Rorschach task. Another possible limitation is that there may have been more students who sent the informant reports to themselves that were not excluded from the analysis. As previously mentioned, students who clearly sent the informant report to themselves were excluded. It is possible that savvier participants sent the informant report to themselves using an email address that did not contain the participant's name. This may be one possible explanation for the unusually high correlation between self-reported and other-reported narcissistic

grandiosity and vulnerability. Future studies should request a phone number for the informant in addition to an email address to provide accountability.

Furthermore, our sample is composed of young college students, limiting generalizability of the results. College students in 2017 and 2018 grew up under different norms than college students 10 years ago. Many of the students grew up with social media and therefore use it differently than other demographics. For this reason, it is difficult to generalize these results because college students do not represent the population at large.

Future Directions

This research project has indicated several lines of interesting research that could be conducted in the future. First, there should be continued study of the GNVs to determine if the factor structure can be replicated across samples. For example, the GNVs had a substantially lower mean and standard deviation in this college sample when compared to the adult sample collected by Gritti et al. (2017), with the exception of Narcissistic Denial. With the exception of Reflection, the college student mean remain lower than the adult norms even when considering the subset of protocols that provided adequate documentation. Second, longitudinal studies should be conducted to determine if narcissistic behavior on social media endures over time or if what appears narcissistic actually reflects a developmentally appropriate phase.

Third, additional data collection would be needed in the future to more meaningfully analyze the hypotheses. The valid sample of Rorschach protocols collected by Examiners 1 and 2 is not sufficiently large to properly test the hypotheses in this

thesis. Table 11 shows the pairwise Ns for Examiners 1 and 2. There are only 42 Rorschach protocols (GNVs) that align with 37 Facebook profiles (Judged FBN), 42 Facebook Activity Questionnaires, 36 FFNI self-report, and 26 FFNI other-reports. According to the power analysis conducted previously, the sample that Examiner's 1 and 2 collected is not large enough to conduct an analysis.

Table 11

Examiner 1 and 2's Pairwise Ns across Data Sources after Excluding Protocols from Examiner 3

	GNV	Judged FBN	FB Engage	SR	OR
GNV	42				
Judged FBN	37	37			
FB Engage	42	37	42		
SR	36	31	36	36	
OR	26	24	26	22	26

Note: SR = Self-reporter Narcissistic Grandiosity and Vulnerability, OR = Other-reported Narcissistic Grandiosity and Vulnerability

In conclusion, the present study provided a useful means for identifying narcissistic behavior on Facebook. Additionally, it further supported the need to use multiple forms of assessing personality. In light of the research and analysis provided in this study, researchers should continue to develop new forms for identifying and categorizing behavior across contexts that provide *in vivo* sampling of how personality manifests in different environments.

References

Ahn, H., Kwolek, E. A., & Bowman, N. D. (2015). Two faces of narcissism on SNS: The distinct effects of vulnerable and grandiose narcissism on SNS privacy control. *Computers in Human Behavior, 45*, 375-381. doi:10.1016/j.chb.2014.12.032

American Psychiatric Association. (1987). *Diagnostic and statitstical manual of mental disorders* (3rd ed., revised). Washington, D.C.: American Psychatric Publishing.

American Psychiatric Association. (2013). *Diagnostic and statitstical manual of mental disorders* (5th ed.). Arlington, VA: American Psychatric Publishing.

Anderson, C., Ames, D. R., & Gosling, S. D. (2008). Punishing hubris: The perils of overestimating one's status in a group. *Personality and Social Psychology Bulletin, 34*, 90-101. doi:10.1177/0146167207307489

Back, M. D., Schmukle, S. C., & Egloff, B. (2010). Why are narcissists so charming at first sight? Decoding the narcissism–popularity link at zero acquaintance. *Journal of Personality and Social Psychology, 98*, 132-145. doi:10.1037/a0016338

Barnett, M. D., & Flores, J. (2016). Narcissus, exhausted: Self-compassion mediates the relationship between narcissism and school burnout. *Personality & Individual Differences, 97*, 102-108. doi:10.1016/j.paid.2016.03.026

Bartlett, M. S. (1937). Properties of sufficiency and statistical tests. *Proceedings of the Royal Society of London. Series A, Mathematical and Physical Sciences, 160*, 268-282. doi:10.1098/rspa.1937.0109.

Baskin-Sommers, A., Krusemark, E., & Ronningstam, E. (2014). Empathy in narcissistic personality disorder: From clinical and empirical perspectives. *Personality Disorders: Theory, Research, and Treatment, 5*, 323.

Baumeister, R. F., Catanese, K. R., & Wallace, H. M. (2002). Conquest by force: A narcissistic reactance theory of rape and sexual coercion. *Review of General Psychology, 6,* 92-135. doi:10.1037/1089-2680.6.1.92.

Baumeister, R. F., Vohs, K. D., & Funder, D. C. (2007). Psychology as the science of self-reports and finger movements: Whatever happened to actual behavior? *Perspectives on Psychological Science, 2*, 396-403. http://journals.sagepub.com/home/pps

Behrens, J. T. (1997). Principles and procedures of exploratory data analysis. *Psychological Methods, 2*, 131-160. doi:10.1037/1082-989X.2.2.131

Berg, J. L. (1990). Differentiating ego functions of borderline and narcissistic personalities. *Journal of Personality Assessment, 55*, 537-548. doi:10.1080/00223891.1990.9674089

Blasco-Fontecilla, H., Baca-Garcia, E., Duberstein, P., Perez-Rodriguez, M. M., Dervic, K., Saiz-Ruiz, J., . . . Oquendo, M. A. (2010). An exploratory study of the relationship between diverse life events and specific personality disorders in a sample of suicide attempters. *Journal of Personality Disorders, 24*, 773-784. doi:10.1521/pedi.2010.24.6.773

Bogart, L. M., Benotsch, E. G., & Pavlovic, J. D. (2004). Feeling superior but threatened: The relation of narcissism to social comparison. *Basic and Applied Social Psychology, 26,* 35-44. http://dx.doi.org/10.1207/s15324834basp2601_4

Bornstein, R. F. (2012). Rorschach score validation as a model for 21st-century personality assessment. *Journal of Personality Assessment, 94,* 26-38. doi:10.1080/00223891.2011.627961

Brailovskaia, J., & Margraf, J. (2016). Comparing Facebook users and Facebook non-users: Relationship between personality traits and mental health variables – An exploratory study. *PLoS ONE, 11,* 1-17. doi:10.1371/journal.pone.0166999

Buffardi, L. E., & Campbell, W. K. (2008). Narcissism and social networking web sites. *Personality & Social Psychology Bulletin, 34*, 1303-1314. doi:10.1177/0146167208320061

Bushman, B. J., Bonacci, A. M., van Dijk, M., & Baumeister, R. F. (2003). Narcissism, sexual refusal, and aggression: Testing a narcissistic reactance model of sexual coercion. *Journal of Personality and Social Psychology, 84*, 1027-1040. doi:10.1037/0022-3514.84.5.1027

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. http://dx.doi.org/10.1016/j.cpr.2007.09.006

Campbell, W. K., & Foster, C. A. (2002). Narcissism and commitment in romantic relationships: An investment model analysis. *Personality and Social Psychology Bulletin, 28*, 484-495. http://journals.sagepub.com/home/psp

Campbell, W. K., Rudich, E. A., & Sedikides, C. (2002). Narcissism, self-esteem, and the positivity of self-views: Two portraits of self-love. *Personality and Social Psychology Bulletin, 28*, 358-368. http://journals.sagepub.com/home/psp

Carvalho, L. d. F., & Pianowski, G. (2017). Pathological personality traits assessment using Facebook: Systematic review and meta-analyses. *Computers in Human Behavior, 71*, 307-317. doi:10.1016/j.chb.2017.01.061

Cicchetti, D. V. (1994). Guidelines, criteria, and rules of thumb for evaluating normed and standardized assessment instruments in psychology. *Psychological Assessment, 6*, 284-290. doi:10.1037/1040-3590.6.4.284

Clayton, R. B., Osborne, R. E., Miller, B. K., & Oberle, C. D. (2013). Loneliness, anxiousness, and substance use as predictors of Facebook use. *Computers in Human Behavior, 29*, 687-693. doi:10.1016/j.chb.2012.12.002

Clifton, A., Turkheimer, E., & Oltmanns, T. F. (2004). Contrasting perspectives on personality problems: Descriptions from the self and others. *Personality and Individual Differences, 36*, 1499-1514. doi:10.1016/j.paid.2003.06.002

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*, 155-159. http://dx.doi.org/10.1037/0033-2909.112.1.155

Cooper, S. H., & Arnow, D. (1986). The Rorschach Defense Scales. *Unpublished scoring manual*, Department of Psychology, Cambridge Hospital, Cambridge, MA.

Curran, P. J., West, S. G., & Finch, J. F. (1996). The robustness of test statistics to nonnormality and specification error in confirmatory factor analysis. *Psychological Methods, 1,* 16-29. doi:10.1037/1082-989X.1.1.16

Davenport, S. W., Bergman, S. M., Bergman, J. Z., & Fearrington, M. E. (2014). Twitter versus Facebook: Exploring the role of narcissism in the motives and usage of different social media platforms. *Computers in Human Behavior, 32*, 212-220. doi:10.1016/j.chb.2013.12.011

DeWall, C. N., Buffardi, L. E., Bonser, I., & Campbell, W. K. (2011). Narcissism and implicit attention seeking: Evidence from linguistic analyses of social networking and online presentation. *Personality and Individual Differences, 51*, 57-62. doi:10.1016/j.paid.2011.03.011

Dickinson, K. A., & Pincus, A. L. (2003). Interpersonal analysis of grandiose and vulnerable narcissism. *Journal of Personality Disorders, 17*, 188-207. doi:10.1521/pedi.17.3.188.22146

Eşkisu, M., Hoşoğlu, R., & Rasmussen, K. (2017). An investigation of the relationship between Facebook usage, Big Five, self-esteem and narcissism. *Computers in Human Behavior, 69*, 294-301. doi:10.1016/j.chb.2016.12.036

Feinstein, B. A., Hershenberg, R., Bhatia, V., Latack, J. A., Meuwly, N., & Davila, J. (2013). Negative social comparison on Facebook and depressive symptoms: Rumination as a mechanism. *Psychology of Popular Media Culture, 2*, 161-170. doi:10.1037/a0033111

Fiedler, E. R., Oltmanns, T. F., & Turkheimer, E. (2004). Traits associated with personality disorders and adjustment to military life: Predictive validity of self and peer reports. *Military Medicine, 169,* 207-211. doi:10.7205/MILMED.169.3.207

Fossati, A., Pincus, A. L., Borroni, S., Munteanu, A. F., & Maffei, C. (2014). Are pathological narcissism and psychopathy different constructs or different names for the same thing? A study based on Italian nonclinical adult participants. *Journal of Personality Disorders, 28,* 394-418.

Foster, J. D., & Trimm, R. F., (2008). On being eager and uninhibited: Narcissism and approach-avoidance motivation. *Personality & Social Psychology Bulletin, 34*, 1004-1017. doi:10.1177/0146167208316688

Garcia, D., & Sikström, S. (2014). The dark side of Facebook: Semantic representations of status updates predict the Dark Triad of personality. *Personality and Individual Differences, 67,* 92-96. doi:10.1016/j.paid.2013.10.001

Glover, N., Miller, J. D., Lynam, D. R., Crego, C., & Widiger, T. A. (2012). The Five-Factor Narcissism Inventory: A five-factor measure of narcissistic personality traits. *Journal of Personality Assessment, 94*, 500-512. doi:10.1080/00223891.2012.670680

Gritti, E. S., Marino, D. P., Lang, M., & Meyer, G. J. (2017). Assessing narcissism using Rorschach-based imagery and behavior validated by clinician reports: Studies with adult patients and nonpatients. *Assessment*. doi:10.1177/1073191117715728

Grubbs, J. B., & Exline, J. J. (2016). Trait entitlement: A cognitive-personality source of vulnerability to psychological distress. *Psychological Bulletin, 142*, 1204-1226. doi:10.1037/bul0000063

Grubbs, J. B., Exline, J. J., & Campbell, W. K. (2013). I deserve better and God knows it! Psychological entitlement as a robust predictor of anger at God. *Psychology of Religion and Spirituality, 5*, 192-200. doi:10.1037/a0032119

Grubbs, J. B., Wilt, J., Stauner, N., Exline, J. J., & Pargament, K. I. (2016). Self, struggle, and soul: Linking personality, self-concept, and religious/spiritual struggle. *Personality and Individual Differences, 101*, 144-152. https://doi.org/10.1016/j.paid.2016.05.365

Halpern, D., Valenzuela, S., & Katz, J. E. (2016). 'Selfie-ists' or 'Narci-selfiers'?: A cross-lagged panel analysis of selfie taking and narcissism. *Personality and Individual Differences, 97*, 98-101. doi:10.1016/j.paid.2016.03.019

Halvorsen, M., Wang, C. E., Eisemann, M., & Waterloo, K. (2010). Dysfunctional attitudes and early maladaptive schemas as predictors of depression: A 9-year follow-up study. *Cognitive Therapy and Research, 34*, 368-379. doi:10.1007/s10608-009-9259-5

Handler, L., & Hilsenroth, M. J. (2006). Rorschach assessment of narcissistic personality disorder. In S. K. Huprich (Ed.), *Rorschach assessment of the personality disorders.* (pp. 223-262). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

Hart, W., Adams, J. M., & Tortoriello, G. (2017). Narcissistic responses to provocation: An examination of the rage and threatened-egotism accounts. *Personality and Individual Differences, 106,* 152-156. doi:10.1016/j.paid.2016.10.049

Hartmann, E., & Hartmann, T. (2014). The impact of exposure to Internet-based information about the Rorschach and the MMPI–2 on psychiatric outpatients' ability to simulate mentally healthy test performance. *Journal of Personality Assessment, 96,* 432-444. doi:10.1080/00223891.2014.882342

Hayton, J. C., Allen, D. G., & Scarpello, V. (2004). Factor retention decisions in exploratory factor analysis: A tutorial on parallel analysis. *Organizational Research Methods, 7,* 191-205. doi:10.1177/1094428104263675

Hoelzle, J. B., & Meyer, G. J. (2013). Exploratory factor analysis: Basics and beyond. In J. A. Schinka, W. F. Velicer, & I. B. Weiner (Eds.), *Handbook of psychology: Research methods in psychology, Vol. 2, 2nd ed* (164-188). Hoboken, NJ, US: John Wiley & Sons Inc.

Holtzman, N. S., Vazire, S., & Mehl, M. R. (2010). Sounds like a narcissist: Behavioral manifestations of narcissism in everyday life. *Journal of Research in Personality, 44,* 478-484. http://dx.doi.org/10.1016/j.jrp.2010.06.001

Homann, E. (2013). *Development of a Rorschach scale of omnipotence and its relation to closed-system information processing*. Unpublished Manuscript, Michigan Psychoanalytic Institute, Farmington Hills, Michigan.

Horton, R. S., Reid, C. A., Barber, J. M., Miracle, J., & Green, J. D. (2014). An experimental investigation of the influence of agentic and communal Facebook

use on grandiose narcissism. *Computers in Human Behavior, 35,* 93-98. doi:10.1016/j.chb.2014.02.038

Hughes, D. J., Rowe, M., Batey, M., & Lee, A. (2012). A tale of two sites: Twitter vs. Facebook and the personality predictors of social media usage. *Computers in Human Behavior, 28,* 561-569. doi:10.1016/j.chb.2011.11.001

Huprich, S. K., & Ganellen, R. J. (2006). The advantages of using the Rorschach to assess personality disorders. In S. K. Huprich (Ed.), *Rorschach assessment of the personality disorders.* (pp. 22-53). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

Jayson, S. (2009, August 24). Are social networks making students more narcissistic? *USA Today*. Retrieved from http://www.usatoday.com/

Jones, D. N., & Paulhus, D. L. (2011). The role of impulsivity in the Dark Triad of personality. *Personality and Individual Differences, 51*, 679-682. https://doi.org/10.1016/ j.paid.2011.04.011

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika, 39*, 31-36. doi:10.1007/BF02291575

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons, 53,* 59-68. doi:10.1016/j.bushor.2009.09.003

Kauten, R. L., Lui, J. H. L., Stary, A. K., & Barry, C. T. (2015). "Purging my friends list. Good luck making the cut": Perceptions of narcissism on Facebook. *Computers in Human Behavior, 51,* 244-254. https://doi.org/10.1016/j.chb.2015.05.010

Kernberg, O. F. (1998). Pathological narcissism and narcissistic personality disorder: Theoretical background and diagnostic classification. In O. F. Kernberg (Ed.), Aggressivity, Narcissism, and Self-Destructiveness in the Psychotherapeutic Rela: New Developments in the Psychopathology and Psychotherapy of Severe Personality Disorders (pp. 45-59). New Haven, CT: Yale University Press.

Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons, 54*, 241-251. https://doi.org/10.1016/j.bushor.2011.01.005

Klonsky, E. D., & Oltmanns, T. F. (2002). Informant-Reports of Personality Disorder: Relation to Self-Reports and Future Research Directions. *Clinical Psychology: Science and Practice, 9*, 300-311. doi:10.1093/clipsy.9.3.300

Kohut, H. (1971). *The Analysis of the Self*. Madison, CT: International Universities Press.

Kohut, H. (1977). *The Restoration of the Self*. Madison, CT: International Universities Press.

Krizan, Z., & Bushman, B. J. (2011). Better than my loved ones: Social comparison tendencies among narcissists. *Personality and Individual Differences, 50*, 212-216. doi:10.1016/j.paid.2010.09.031

Lapidot-Lefler, N., & Barak, A. (2012). Effects of anonymity, invisibility, and lack of eye-contact on toxic online disinhibition. *Computers in Human Behavior, 28*, 434-443. https://doi.org/10.1016/j.chb.2011.10.014

Lerner, P., & Lerner, H. (1980). Rorschach assessment of primitive defenses in borderline personality structure. In J.S. Kwawer, H.D. Lerner, P.M. Lerner, & A.

Sugarman (Eds.), *Border-line phenomena and the Rorschach test* (pp. 257-274). New York: International University Press.

Li, C., Sun, Y., Ho, M. Y., You, J., Shaver, P. R., & Wang, Z. (2016). State narcissism and aggression: The mediating roles of anger and hostile attributional bias. *Aggressive Behavior, 42*, 333-345. doi:10.1002/ab.21629

Litt, D. M., & Stock, M. L. (2011). Adolescent alcohol-related risk cognitions: The roles of social norms and social networking sites. *Psychology of Addictive Behaviors, 25* 708-713. doi:10.1037/a0024226

Lukowitsky, M. R., & Pincus, A. L. (2013). Interpersonal perception of pathological narcissism: A social relations analysis. *Journal of Personality Assessment, 95*, 261-273. doi:10.1080/00223891.2013.765881

Marino, D. P. (2015). *Exploring manifestations of grandiosity in Rorschach responding in an inpatient offender population with severe psychiatric disorders* (Doctoral dissertation). Retrieved from https://etd.ohiolink.edu

Marino, D. P., Meyer, G. J., & Mihura, J. L. (March, 2012). *Breaking the self-reported narcissism juggernaut: A comprehensive look at assessing grandiosity through performance based assessment.* Paper session presented at the 74th Annual Meeting of the Society for Personality Assessment, Chicago, IL.

Martin, E. A., Bailey, D. H., Cicero, D. C., & Kerns, J. G. (2012). Social networking profile correlates of schizotypy. *Psychiatry Research, 200*, 641-646. doi:10.1016/j.psychres.2012.06.031

Marshall, T. C., Lefringhausen, K., & Ferenczi, N. (2015). The Big Five, self-esteem, and narcissism as predictors of the topics people write about in Facebook status updates. *Personality & Individual Differences, 85*, 35-40. https://doi.org/10.1016/j.paid.2015.04.039

Maxwell, K., Donnellan, M. B., Hopwood, C. J., & Ackerman, R. A. (2011). The two faces of Narcissus? An empirical comparison of the Narcissistic Personality Inventory and the Pathological Narcissism Inventory. *Personality and Individual Differences, 50*, 577-582. https://doi.org/10.1016/j.paid.2010.11.031

Meurs, J. A., Fox, S., Kessler, S. R., & Spector, P. E. (2013). It's all about me: The role of narcissism in exacerbating the relationship between stressors and counterproductive work behaviour. *Work & Stress, 27*, 368-382. doi:10.1080/02678373.2013.849776

Meyer, G., Erard, R., Erdberg, P., Mihura, J., & Viglione, D. (2011). *Rorschach performance assessment system: Administration, coding, interpretation, and technical manual.* Toledo, Ohio: Rorschach Performance Assessment System, LLC.

Meyer, G. J., Gritti, E. S., & Marino, D. (2017). *Coding criteria for potential Rorschach grandiosity and narcissism variables*. Unpublished scoring manual, Department of Psychology, University of Toledo, Toledo, OH.

Meyer, G. J., & Kurtz, J. E. (2006). Advancing personality assessment terminology: Time to retire "objective" and "projective" as personality test descriptors. *Journal of*

Personality Assessment, 87, 223-225. http://dx.doi.org/10.1207/s15327752jpa8703_01

Mihura, J. L. (2012). The necessity of multiple test methods in conducting assessments: The role of the Rorschach and self-report. *Psychological Injury and Law*, 5, 97-106. doi:10.1007/s12207-012-9132-9

Mihura, J. L., Meyer, G. J., Dumitrascu, N., & Bombel, G. (2013). The validity of individual Rorschach variables: Systematic reviews and meta-analyses of the comprehensive system. *Psychological Bulletin, 139*, 548-605. doi:10.1037/a0029406

Mihura, J. L., Roy, M., & Graceffo, R. A. (2017). Psychological assessment training in clinical psychology doctoral programs. *Journal of Personality Assessment, 99*, 153-164. http://dx.doi.org/10.1080/00223891.2016.1201978

Mihura, J. L., & Graceffo, R. A. (2014). Multimethod assessment and treatment planning. In C. J. Hopwood & R. F. Bornstein (Eds.), *Multimethod clinical assessment* (pp. 285-318). New York, New York: The Guilford Press.

Miller, J. D., Few, L. R., Wilson, L., Gentile, B., Widiger, T. A., MacKillop, J., & Keith Campbell, W. (2013). The Five-Factor Narcissism Inventory (FFNI): A test of the convergent, discriminant, and incremental validity of FFNI scores in clinical and community samples. *Psychological Assessment, 25*, 748-758. doi:10.1037/a0032536

Miller, J. D., Gentile, B., & Campbell, W. K. (2013). A test of the construct validity of the Five-Factor Narcissism Inventory. *Journal of Personality Assessment, 95*, 377-387. doi:10.1080/00223891.2012.742903

Miller, J. D., Hoffman, B. J., Gaughan, E. T., Gentile, B., Maples, J., & Campbell, W. K. (2011). Grandiose and vulnerable narcissism: A nomological network analysis. *Journal of Personality, 79* 1013-1042. doi:10.1111/j.1467-6494.2010.00711.x

Miller, J. D., Lynam, D. R., McCain, J. L., Few, L. R., Crego, C., Widiger, T. A., & Campbell, W. K. (2016). Thinking structurally about narcissism: An examination of the Five-Factor Narcissism Inventory and its components. *Journal of Personality Disorders, 30*, 1-18. doi:10.1521/pedi_2015_29_177

Miller, J. D., Pilkonis, P. A., & Clifton, A. (2005). Self- and other-reports of traits from the Five-Factor Model: Relations to personality disorder. *Journal of Personality Disorders, 19*, 400-419. doi:10.1521/pedi.2005.19.4.400

Miller, J. D., Widiger, T. A., & Campbell, W. K. (2010). Narcissistic personality disorder and the DSM-V. *Journal of Abnormal Psychology, 119*, 640-649. doi:10.1037/a0019529

Morf, C. C., & Rhodewalt, F. (2001). Unraveling the paradoxes of narcissism: A dynamic self-regulatory processing model. *Psychological Inquiry, 12*, 177-196. doi:10.1207/S15327965PLI1204_1

Oltmanns, T. F., Melley, A. H., & Turkheimer, E. (2002). Impaired social functioning and symptoms of personality disorders assessed by peer and self-report in a

nonclinical population. *Journal of Personality Disorders, 16*, 437-452. doi:10.1521/pedi.16.5.437.22123

Ong, E. Y. L., Ang, R. P., Ho, J. C. M., Lim, J. C. Y., Goh, D. H., Lee, C. S., & Chua, A. Y. K. (2011). Narcissism, extraversion and adolescents' self-presentation on Facebook. *Personality and Individual Differences, 50*, 180-185. https://doi.org/10.1016/ j.paid.2010.09.022

Orr, E. S., Sisic, M., Ross, C., Simmering, M. G., Arseneault, J. M., & Orr, R. R. (2009). The influence of shyness on the use of Facebook in an undergraduate sample. *Cyberpsychology & behavior, 12*, 337-340. doi:10.1089/cpb.2008.0214

O'connorO'Connor, B. P. (2000). SPSS and SAS programs for determining the number of components using parallel analysis and Velicer's MAP test. *Behavior Research Methods, Instruments, & Computers, 32*, 396-402. https://doi.org/10.3758/BF03200807

Panek, E. T., Nardis, Y., & Konrath, S. (2013). Mirror or Megaphone?: How relationships between narcissism and social networking site use differ on Facebook and Twitter. *Computers in Human Behavior, 29*, 2004-2012. doi:10.1016/j.chb.2013.04.012

Paulhus, D. L., & John, O. P. (1998). Egoistic and moralistic biases in self-perception: The interplay of self-deceptive styles with basic traits and motives. *Journal of Personality, 66*, 1025-1060. doi:10.1111/1467-6494.00041

Paulhus, D. L., & Reid, D. B. (1991). Enhancement and denial in socially desirable responding. *Journal of Personality and Social Psychology, 60*, 307-317. doi: 10.1037/0022-3514.60.2.307

Paulhus, D. L., & Williams, K. M. (2002). The Dark Triad of personality: Narcissism, Machiavellianism and psychopathy. *Journal of Research in Personality, 36*, 556-563. doi:10.1016/S0092-6566(02)00505-6

Pincus, A. L., Ansell, E. B., Pimentel, C. A., Cain, N. M., Wright, A. G., & Levy, K. N. (2009). Initial construction and validation of the Pathological Narcissism Inventory. *Psychological Assessment, 21*, 365-379. doi:10.1037/a0016530.

Raskin, R., & Hall, C. S. (1981). The Narcissistic Personality Inventory: Alternative form reliability and further evidence of construct validity. *Journal of Personality Assessment, 45*, 159-162. http://dx.doi.org/10.1207/s15327752jpa4502_10

Raskin, R., & Terry, H. (1988). A principal-components analysis of the Narcissistic Personality Inventory and further evidence of its construct validity. *Journal of Personality and Social Psychology, 54*, 890-902. doi:10.1037/0022-3514.54.5.890

Raskin, R. N., & Hall, C. S. (1979). A narcissistic personality inventory. *Psychological Reports*, 45, 590. doi:10.2466/pr0.1979.45.2.590

Ryan, T., & Xenos, S. (2011). Who uses Facebook? An investigation into the relationship between the Big Five, shyness, narcissism, loneliness, and Facebook usage. *Computers in Human Behavior, 27,* 1658-1664. doi:10.1016/j.chb.2011.02.004

Schröder-Abé, M., Rentzsch, K., Asendorpf, J. B., & Penke, L. (2016). Good enough for an affair. Self-enhancement of attractiveness, interest in potential mates and

popularity as a mate. *European Journal of Personality, 30*, 12-18. doi:10.1002/per.2029

Schultz, D. S., & Brabender, V. M. (2013). More challenges since Wikipedia: The effects of exposure to Internet information about the Rorschach on selected Comprehensive System variables. *Journal of Personality Assessment, 95*, 149-158. doi:10.1080/00223891.2012.725438

Seidman, G. (2013). Self-presentation and belonging on Facebook: How personality influences social media use and motivations. *Personality and Individual Differences, 54*, 402-407. doi:10.1016/j.paid.2012.10.009

Sholander, L. E., Meyer, G. J., & Gritti, E. S. (March, 2017). *Assessing potential grandiosity and narcissism with the Rorschach in a mixed inpatient and outpatient sample*. Paper session presented at the Annual Meeting of the Society for Personality Assessment, San Francisco, CA.

Skodol, A. (August, 2009). *Emerging DSM-V perspectives on personality disorders.* Plenary address presented at the Eleventh International Congress for the International Society for the Study of Personality Disorders, New York, New York.

Sleep, C. E., Sellbom, M., Campbell, W. K., & Miller, J. D. (2017). Narcissism and response validity: Do individuals with narcissistic features underreport psychopathology? *Psychological assessment, 29*, 1059-1064. doi:10.1037/pas0000413

Steger, M. F. (2006). An illustration of issues in factor extraction and identification of dimensionality in psychological assessment data. *Journal of Personality Assessment, 86,* 263-272. doi:10.1207/s15327752jpa8603_03

Stinson, F. S., Dawson, D. A., Goldstein, R. B., Chou, S. P., Huang, B., Smith, S. M., . . . Grant, B. F. (2008). Prevalence, correlates, disability, and comorbidity of DSM-IV narcissistic personality disorder: Results from the Wave 2 National Epidemiologic Survey on Alcohol and Related Conditions. *The Journal of Clinical Psychiatry, 69,* 1033-1045. doi:10.4088/JCP.v69n0701

Tritt, S. M., Ryder, A. G., Ring, A. J., & Pincus, A. L. (2010). Pathological narcissism and the depressive temperament. *Journal of Affective Disorders, 122,* 280-284. doi:10.1016/j.jad.2009.09.006

Twenge, J. M., Konrath, S., Foster, J. D., Campbell, W. K., & Bushman, B. J. (2008). Egos inflating over time: A cross-temporal meta-analysis of the Narcissistic Personality Inventory. *Journal of Personality, 76,* 875-902. doi:10.1111/j.1467-6494.2008.00507.x

Van Vlierberghe, L., Braet, C., Bosmans, G., Rosseel, Y., & Bögels, S. (2010). Maladaptive schemas and psychopathology in adolescence: On the utility of Young's schema theory in youth. *Cognitive Therapy and Research, 34,* 316-332. doi:10.1007/s10608-009-9283-5

Vazire, S., & Funder, D. C. (2006). Impulsivity and the self-defeating behavior of narcissists. *Personality and Social Psychology Review: An Official Journal Of*

The Society For Personality And Social Psychology, Inc, *10*, 154-165. doi:10.1207/s15327957 pspr1002_4

Vazire, S., Naumann, L. P., Rentfrow, P. J., & Gosling, S. D. (2008). Portrait of a narcissist: Manifestations of narcissism in physical appearance. *Journal of Research in Personality, 42*, 1439-1447. doi:http://dx.doi.org/10.1016/j.jrp.2008.06.007

Velicer, W. F., Eaton, C. A., & Fava, J. L. (2000). Construct explication through factor or component analysis: A review and evaluation of alternative procedures for determining the number of factors or components. In R. D. Goffin & E. Helmes (Eds.), *Problems and solutions in human assessment: Honoring Douglas N. Jackson at seventy.* (pp. 41-71). New York, NY: Kluwer Academic/Plenum Publishers.

Wagner, E. E. (1965). Exhibitionistic human movement responses of strippers: An attempt to validate the Rorschach M. *Journal of Projective Techniques & Personality Assessment, 29*, 522-524. doi:10.1080/0091651X.1965.10120246

Weikel, K. A., Avara, R. M., Hanson, C. A., & Kater, H. (2010). College adjustment difficulties and the overt and covert forms of narcissism. *Journal of College Counseling, 13,* 100-110. doi: 10.1002/j.2161-1882.2010.tb00052.x

Winter, S., Neubaum, G., Eimler, S. C., Gordon, V., Theil, J., Herrmann, J., . . . Krämer, N. C. (2014). Another brick in the Facebook wall—How personality traits relate to the content of status updates. *Computers in Human Behavior, 34*, 194-202. doi:10.1016/j.chb.2014.01.048

Wright, C. V., Beattie, S. G., Galper, D. I., Church, A. S., Bufka, L. F., Brabender, V. M., & Smith, B. L. (2017). Assessment practices of professional psychologists: Results of a national survey. *Professional Psychology: Research and Practice, 48,* 73-78. doi:10.1037/pro0000086

Zell, A. L., & Moeller, L. (2017). Narcissism and "likes": Entitlement/Exploitativeness predicts both desire for and dissatisfaction with responses on Facebook. *Personality & Individual Differences, 110*, 70-73. doi:10.1016/j.paid.2017.01.029

Appendix A

Coding Criteria for Potential Rorschach Grandiosity and Narcissism Variables

Coding Criteria for Potential Rorschach Grandiosity and Narcissism Variables
University of Toledo Psychological Assessment Lab
Gregory J. Meyer, Emanuela S. Gritti, David P. Marino
Last Updated June 13, 2018

Introduction:

This manual provides coding guidelines for 11 variables thought to be associated with grandiosity and narcissistic qualities: Omnipotence, Idealization, Elevated Mood States, Personal Knowledge Justification, Expanded Personal Reference, Narcissistic Devaluation, Narcissistic Deflation, Narcissistic Denial, Exhibitionism, Magic, and Reflection. The manual provides a general definition of each variable as well as coding guidelines and example responses. Many of the variables described here have roots in the Rorschach literature already (Omnipotence, Idealization, Elevated Mood States, Personal Knowledge Justification, Exhibitionism, Magic, and Reflection) though the others are new (Expanded Personal Reference, Narcissistic Devaluation, Narcissistic Deflation, and Narcissistic Denial). This coding manual has been undergoing fairly continuous revision and updating and we anticipate this will continue in the future.

Omnipotence (OMP)

Omnipotence coding draws heavily on the criteria developed for the Rorschach Defense Scales (Cooper & Arnow, 1986; Cooper, Perry, & Arnow, 1988). As a defense, omnipotence is seen when a person claims to have or acts as if s/he has unrealistic powers, specialness, influence, or inflated worth in an effort to deal with fears of powerlessness and worthlessness, which are disavowed or denied. As noted by Cooper and Arnow (p. 14), "This may take the form of a conviction that the individual has the right to expect gratification and homage from others or to be somehow treated as a special person. Omnipotence often involves an idealization of the self in which there is an unconscious conviction that one deserves to be lauded by others and treated as privileged." To the original Omnipotence criteria developed by Cooper and Arnow, we

have added an aggrandizing form of intellectualization that draws on some of their coding criteria for the Intellectualization defense. Also, we extended the code to instances in which the person asserts that the task is easy, that the response is obvious, that he or she is doing well, or that the percept looks the way it does because of personal wishes or feelings.

Scoring Criteria

(*Italic font indicates our additions or elaborations to the original criteria by Cooper & Arnow*)

1) During either the Response Phase or Clarification Phase the individual describes himself or herself with blatant and excessively positive terms. This may take one or several forms.
   a) Individual makes laudatory remarks to special abilities. References may be made to the self as having special test-taking abilities or special capabilities outside of the testing situation.
      i) "I think you are going to hear some very distinctive responses. My vocabulatory [sic] is such that it will only be truly understandable by the next century."
      ii) "That looks like a seahorse. Due to my keen sensibilities I can discern that to be an especially pretty seahorse. It might not look like that to many others, however."
      iii) "I saw some interesting things on that card; that was really quite clever of me. I've always been told I'm quite clever."
      iv) "I could go on with this all night."
      v) "Yes actually it's hard to find me scared of something."
   b) Individual sees himself in the actual blot (i.e. percept includes the self) or his possessions and this is elaborated with *positive or* aggrandizing remarks.
      i) "That looks like me when I was dressed up to go to the prom. I was the prettiest girl at the prom that night."
      ii) "This looks just like my tongue; this is my tongue… I wonder if this card was modeled after my tongue."

2) In describing the percept the person uses the word "we" in referring to himself as the perceiver. Schafer (1954, p. 241) refers to this as the "editorial we." *It is also known as the "royal we." In a related manner, code instance when the respondent uses "us" when referring to him or herself as the perceiver.*
   a) "Here we see a person." *(Note: The respondent is not showing the card to the examiner.)*
   b) "We will say it looks like a snake assuming we are asked to see such things."
   c) *"Let us move forward to the next card."*
   d) *"Let's find something that's not so disgusting."*
   e) Below Threshold:

i) This is a big giant from outer space and we're looking upward towards him, from below. (In this context, we assume the "we" is indicating that the two are looking at the card together or collaboratively)

3) The individual "lectures" the examiner on how to improve his testing technique.
   a) "You might do better doing the pictures first (points to location sheet) and from these you could easily write down what I saw."
   b) *"You would be able to keep up with me better if you learned shorthand."*

4) The individual gives the examiner permission to write something down or to ask various questions, etc., *or directs the examiner to do certain things*
   a) "You can write down that I said I was tired of this."
   b) *"Here's a good one; listen to this."*
   c) *"Just go ahead and ask if you need me to explain that."*
   d) *"Don't write that down." (stated in an assertive way, not anxiously or with embarrassment)*

5) The person tells the examiner how to improve the inkblots *or what should or should not be included in the inkblot.*
   a) "This card would work better if you moved this section up to the top."
   b) "If I was making these cards, I would do it different. There's ways they could be improved."
   c) "This is the gray matter of the brain. It resembles the picture in the book I have that have the same shape. Actually the picture [inkblot] should be a little bit different; these points don't make any sense."
   d) "It's two bears, but the red should absolutely not be there. It's misguided; a picture of bears should not include these red parts."

6) The individual demonstrates a kind of haughtiness in relation to the examiner *with an arrogantly superior and disdainful attitude*.
   a) "I think I've spelled that idea out sufficiently."
   b) *"If you can't see that now, I don't think I can help you out."*

7) The person asserts that the task is easy, asserts that the response is obvious without specification, that he or she is doing well, or that the percept looks the way it does because of personal wishes or feelings. Code the latter for declarations and assertions, not for anxious or hesitant statements. Also, the word "obviously" does not automatically indicate OMP; it is not coded when used to identify an obvious critical bit or key feature as part of a logically explained rationale following a question.
   a) "Oh, here's an easy one."
   b) "Oh yeah, I got a great one here."
   c) "I'm impressed that I found that one." (referring to the response object)
   d) "I said it looks like a bat because it just does. It's obvious."

e) *"A penis. Definitely that's what the artist intended."*
f) *"A woman's body – it's obvious, anyone could see it."*
g) *"Why does it look like a tunnel? Well, because that is what I had in mind."*
h) *"A landscape." CP: "I don't know, it just has the feel of a landscape, that's all."*
i) *"A flower." CP: "Because I want it to be. Flowers always give me a good feeling, so that's why."*
j) *Below Threshold:*
   i) *"A landscape." CP: "I don't know; I guess it has the feel of a landscape. I'm not sure what else to say; it just looks that way to me."*
   ii) *"A flower." CP: "I'm not sure; maybe flowers are on my mind or something. They do give me a good feeling. Do you see it?"*
   iii) *"I said it looks like a bat because … well, the wings, obviously, and the head and ears here."*
   iv) *"(What about it makes it look like blood?) Oh, red obviously, and it's dripping down."*

8) *The person takes "ownership" of a response object by claiming it as a possession. This criterion differs from 1)-b) in that the person is not saying they are seeing one of their actual possessions in the inkblot. Rather, they are identifying an object and then figuratively taking ownership of it by claiming it as a possession.*
   a) *After describing coyotes in the D7 area of Card I during the response phase, the clarification phase includes: "These are my coyote sentinels on either side."*
   b) *After seeing a boat in the card and without claiming to own a boat, "There's our boat traveling through the water."*

9) *The person shows intellectualized and polished verbiage in an attempt to show her alleged knowledge and erudition.* This may take the form of presenting the response in an overly technical, scientific, literate, or intellectual way (from Intellectualization: Lerner & Lerner, 1980) or there is an exaggerated striving for aesthetic, historical, or scientific specificity in the content (Schafer, 1954). This includes instances in which technical jargon is used to describe the response such as the naming of animal genera, geologic periods, culturally atypical gods, uncommon anatomy, specific human tribes, or various historical figures: *To qualify the verbalization needs to sound clearly technical, educated, or specialized and not available to common knowledge.*
   a) "Two tragic Kafkaesque figures."
   b) "A lateral trilobite from the Cenozoic period."
   c) *"Here are two homo sapiens with conical craniums and extended gluteals."*
   d) "Enlongated cylindroids."
   e) *"Myelinated axons with the typical dendritic branching"*
   f) *"Two Theyyam Gods, really look like them, but probably you don't even know what I am talking about; but they are exactly like them"*
   g) *Below Threshold: Terminology that is reasonably part of common knowledge*
      i) *"A power station"*
      ii) *"A microscope"*

iii) "A human heart"
iv) "The Virgin Mary"

Idealization (IDL)

Idealization coding relies heavily on the Primitive Idealization criteria developed for the Rorschach Defense Scales (Cooper & Arnow, 1986; Cooper, Perry, & Arnow, 1988), which in turn incorporate the Idealization coding criteria developed for the Lerner Defense Scales (Lerner & Lerner, 1980). These criteria also subsume the Grandiosity Content proposed by Berg (1990). As a defense, idealization occurs when a person identifies with unrealistic, all-good or powerful objects. As Cooper and Arnow (p. 15) note, "The defensive aim of this aggrandizement of objects is to ensure the individual's protection against 'bad' objects; objects are made so powerful that they cannot be destroyed or harmed by one's own aggression or by that projected onto other objects. Another aim is to vicariously share in the power and greatness of the idealized objects as gratification of one's own narcissistic needs." To Cooper and Arnow's original criteria, we added an element from their Hypomanic Denial coding in which inkblot features are aggrandized, even when the content itself is not.

One of the most challenging aspects of coding Idealization concerns powerful objects. The aim is to code for objects that are powerful in an aggrandized way, as great, strong, larger-than-life, important, heroic, magnificent, or grand, but not to code for objects that are powerful in a dangerous way, as intimidating, feared, malevolent, or aggressive. The intent here is to code for objects aligned with the grandiosity of narcissism rather than the callousness of psychopathy. But deciphering the line between these can be challenging. In general, objects qualify for the Idealization code when they are described with adjectives suggesting superiority, greatness, excellence, power, largeness, importance, fame, impressiveness, magnificence, specialness, virtuousness, or beauty. In general, objects do not qualify for the Idealization code when they are described with adjectives suggesting threat, danger, maliciousness, aggressiveness, malevolence, or harm. Similarly, if one aggrandized object occurs in a response with a malevolent object the response would not receive an IDL code unless the aggrandizing object was overpowering or overcoming the malevolent object.

Scoring Criteria

(*Italic font indicates our additions or elaborations to Cooper & Arnow*)

1) Human, Human-Like, Animal, and Animal-Like Figures

a) Human figures and animals are described in blatant and excessively positive terms.
   i) "Two handsome, muscular Russians doing that famous dance."
   ii) "A seahorse, a beautiful animal in all its splendor and beauty."
   iii) "Two fancy women in an argument"

iv) "A giant [powerful] butterfly"
v) "A heroic [huge] puppy"
vi) "A massive [gigantic] guy"
vii) "A towering figure"
viii) Below Threshold: "A big elephant," "Crab with a big claw," "Ants are crawling around and they are all happy" [code EMS instead], "Bigfoot [or Yeti]," "Godzilla"; objects that are imposing but dangerous, threatening, or damaged in some way

b) Parts of human or animal figures are described in blatant and extreme positive terms.
   i) (Card I) "It looks like a gorgeous female body, so supple, perhaps a ballet dancer."
   ii) (Card X) "A rippling, muscular arm."
   iii) Below Threshold: "It looks like a heavy leg, maybe from a horse."

c) Human figures or positively described distortions of human form are perceived. This would include officials, figures of fame or strength, athletic superstars (Lerner & Lerner, 1980).
   i) "Charles de Gaulle."
   ii) "An astronaut, one of those fellows who landed on the moon."
   iii) "Jesus Christ."
   iv) "Like a rock star; here's his guitar too."
   v) Warrior; General; Knight; Ninja [powerful, aggrandized figures despite links to aggression]
   vi) King; Queen
   vii) Angel
   viii) Below Threshold: "A trumpet player"; "soldier"; "policeman"; "evil queen"; "angel with horns"; "two monks"; "priests"; "Two karate guys"

d) Specific great or spectacular animal percepts.
   i) (Card VIII) "It looks like Mighty Mouse."
   ii) (Card VIII) "It looks like Rin Tin Tin."
   iii) Pegasus; Thunderbird;
   iv) Below Threshold: "A deer or moose with antlers."; "Mickey Mouse"; "Dragon"; "Griffin"; "Minotaur"; "Gargoyle" is typically seen as frightening so it is not coded unless its positive qualities are noted

e) Percepts that involve an enhancement of the human form. This rating would include statues of famous figures, giants, supermen, angels, idols, mythological figures, and deities (Lerner & Lerner, 1980).
   i) "A bust of Queen Victoria."
   ii) "Powerful beings from another planet ruling over these other creatures."
   iii) "A bust of Jesus Christ."
   iv) "Iron Man," "Wizard," "Super Hero"
   v) "Superman's feet"
   vi) "Santa Claus," "Mermaid"
   vii) "Fairy"

viii) Below Threshold: "The Terminator"; "Looks like a monster to me" (a monster would generally be below threshold, unless the emphasis was on aggrandized qualities over threat potential); Devil, Warlock (enhancement needs to be positive); Troll, Elf, Dwarf, Cupid, or other unelaborated mythological figure not aggrandized or embellished.

2) Inanimate Objects

a) Objects described in blatant and excessively positive terms.
   i) "A mighty baseball bat."
   ii) "An ornately decorated chair."
   iii) "Beautiful pastel colors"
   iv) "Fancy old dress"
   v) "Giant sunglasses"
   vi) Below Threshold: "A pretty flower"; "It's nice; a nice scene" (Unelaborated use of the words "pretty" or "nice" fall below threshold.)

b) Objects that are possessions or part of the apparel or tools of figures of adoration, or strength.
   i) "A crown, a king's crown."
   ii) "A crest of royalty."
   iii) *"A castle"*
   iv) "Chandelier"
   v) Precious stones (e.g., "a diamond," "rubies," "a giant emerald") and metals (e.g., "gold," "a silver pot," "a platinum earing") or "jewels"
   vi) "Trophy" or "Medal of Honor"
   vii) "Coat of arms"
   viii) "Chalice"
   ix) "The Holy Shroud"
   x) Aggrandized objects of strength on the border of not being coded due to threat potential:
      (1) "Indian War Bonnet"
      (2) "A Samurai's sword"
      (3) (Card IV) "A helmet with downturned horns and a nose guard…curves and point at the top look like a decorated and fearsome top."
      (4) (Card VI) "A decorated shield with a sword on top of it; a coat of arms"
   xi) Below Threshold: "The dress of a can-can dancer"; "a crest of some sort, maybe a school crest that has lions"; "A tomahawk/sword/gun";

c) Objects that are themselves considered spectacular, magnificent, or venerated as figures of adoration or strength
   i) *"It's like the Golden Gate Bridge"*
   ii) *"A basilica, like the Duomo in Florence"*
   iii) *"The statue of Christ the Redeemer in Rio"*
   iv) *"A totem pole, decorated with feathers, sitting on a hill"*
   v) *"A beautiful painting with colors that provide peace, serenity, and joy"*
   vi) *"The Star of David"*

vii) *"The Statue of Liberty"*
viii) *"An Aztec pyramid"*
ix) *"A massive starship"*
x) *Below Threshold: "A totem pole" (unelaborated), "A fancy building of some sort," "Abstract art," unelaborated "Eiffel Tower" to D11 of Card X, unelaborated "Star… the way it's shaped"; unelaborated spaceship or rocket; "battleship," "warship," "jet fighter," or "modern bomber" (i.e., objects designed for combat); "Mayan ruins" (any object in "ruins" would not qualify, even if once spectacular); objects associated with reverence more than adoration or strength (e.g., Synagogue, Chinese Temple; unelaborated church with a big cross); "Mayan (or Aztec, and the like) building" unless the percept was elaborated in some ornamental manner.*

d) Percepts involving spectacular natural phenomena
   i) (Card IX) "It looks like the Grand Canyon."
   ii) (Card X) "A nebula. Different cloud formations which would represent different stages of formation of planets and the solar system."
   iii) (Card VI) "An aerial view of a giant canyon with a river flowing down it"
   iv) (Card VIII) "A rainbow… all the different colors"
   v) Below Threshold: unelaborated "coral"

3) Behaviors Towards the Examiner or Testing Procedures

a) The individual refers to the examiner, testing procedure, or testing materials in blatantly positive terms.
   i) "You really know how to listen – I wish the other Doctors did as well."
   ii) "These tests were really amazing – you must have learned so much about me. I know you could help me."

b) Laudatory remarks toward the tester that appear to serve the function of the individual sharing in the greatness of the idealized tester.
   i) "It's easy and more productive for me this time around in taking the test. You're so much more intelligent and sensitive seeming than the other psychologist."

c) Idealized comments about the inkblot. These are responses in which the content itself does not qualify for IDL but the respondent describes the idealized and positive quality of the inkblot image.
   i) (Card I, side D) "Witches. They are very well drawn witches."
   ii) (Card III) "Two people fighting. How cleverly conceived and artistically laid out."

***Multi-object Responses**. When one object in a response meets criteria for IDL but another does not (e.g., "two crabs holding emeralds") code IDL so long as the other object is relatively benign or neutral. IDL would not be coded if the overall percept conveys a sense of danger or malevolence (e.g., "bloody ghosts flying around a castle").*

Personal Knowledge Justification (PER)
(From the R-PAS Manual; Meyer et al. [2011]; pp. 131-132; copyrighted material)

"Personal Knowledge Justification (PER) responses occur when the respondent refers to personal knowledge or experience to justify or bolster a response. Most often the source of knowledge is private and not a source of information that the examiner also shares. Some examples of PER phrasing follow:

"*It's a tulip. I know they look just like that; we grow them in the backyard*." PER
"*It looks like a boomerang… Because I've used them before and that's what they look like*." PER
"*It's obviously boogers. I know because I have boys*." PER
"*A fighter airplane. This is not the version they fly today. To get it, you'd have to have studied the difference between the modern and classic fighter plane as I have*." PER

The requirement that a PER justify or bolster a response is not always easily discernible in response verbiage and behavior. PER is interpreted as representing assertions of personal knowledge to defend one's self-image in a way that can be perceived as self-centered, boastful, and annoying. It also involves a sense of insecurity, as if one's descriptions are being challenged. In essence one codes the implied assertion that "*I'm seeing it that way because I have personally seen, heard, touched, tasted, smelled, or otherwise had experience with it*."

Do not code PER. PERs are not coded when the respondent is clearly just sharing his or her experience with the examiner and trying to make a personal connection. In and of themselves, statements about personal attitudes, interests, likes, and dislikes do not qualify as PER. Thus, one would not code PER for "*The colors are so beautiful that I think of flowers. I like a lot of flowers. I particularly like chrysanthemums.*" Also, do not code PER for simple asides like, "*I must be getting hungry*." Respondents must clearly be using their personal experience to justify the percept that they described. Examiners generally would not code reference to what the respondent considers to be common knowledge or public facts (e.g., "*It looks like that old-style hair-do they used to wear*," "*It looks like the dragon from Harry Potter; did you see that movie?*") unless it is clearly being used as a response justification based on personal knowledge (e.g., "*That looks like Alfred Hitchcock's head. I've seen all of his movies and that looks like him*," "*Looks like a map of Ireland. I was looking at a map of it just last week*.").

For similar reasons, simple statements about the test response process or the respondent's performance, such as, "*I'm seeing a lot of masks*," "*I'm really nervous about what the test will reveal about me*," or "*I saw this the last time I took this test*" are not coded PER. Also, statements like "*It's facing me*," or "*I'm too scared, I don't want to look at it any more*" are not PER because the personal comments do not use personal experience to support or justify the response looking the way it does.

Do code PER. Some subtle examples that do cross the threshold are the following, "*It looks just like one of my daughter's finger-paintings*," or "*It looks just like my beagle, Trixie*." Here, even though the respondents do not sound very defensive, they could have said "a finger-painting" or even "a child's finger-painting" in the first example or "a beagle" in the second example, but instead they offered personal experience in support of the percepts in a way that made the percepts less vulnerable to dispute or challenge. After all, the examiner – like most other people – is not in a position to say the percept is faulty or flawed because it does not look like her daughter's finger-painting or the respondent's beagle."

Expanded Personal Reference (EPR)

This code reflects an expanded version of the traditional PER coding category that includes seeing oneself in the card (e.g., "That looks like the back of my throat."), putting oneself into the response in some way (e.g., "It's like I'm lying on the ground looking up at this giant standing over me."), linking oneself to the percept (e.g., "It's a rose. They're my favorite flower."), expressing personal feelings about the percept (e.g., "I feel sad about this one; it looks like an animal got hurt."), and referencing one's personal experiences related to the percept even if they do not directly justify the percept (e.g., "it looks like pizza. I'd like one right now because I'm hungry."). The core phenomenon being coded is the notion that "everything relates to me." This code is almost always accompanied by the first person pronouns "I," "me," or "my."

However, not all uses of a first person pronoun qualify for an EPR code. Falling below threshold for coding are references to personal inadequacy or inability (e.g., "I'm not very good at this," "I'm not very creative"), anxiousness about task performance or evaluation (e.g., "I hope that doesn't make me sound crazy"; "I'm seeing a lot of animals; is that normal?"), uncertainty about the nature of a percept (e.g., "I'm thinking it's an alligator but I don't know the difference between an alligator and a crocodile…"; "A butterfly with funny wings, I've never seen one quite like this before"), and comments about the approximate nature of a percept (e.g., "I want to say a heart again. I keep getting images of it but it is not quite complete."). In addition, do not code the simple self-references that occur when respondents describe what the percept looks like to them (e.g., "To me this looks like…," "I would say this looks like…"), ask the examiner questions about appropriate task behavior (e.g., "Is it okay if I turn it?," "Do I have to use the whole thing?"), or indicate when they are finished (e.g., "That's all I see in that one.," "I know you'd like me to see two or three, but that's really all I can make out of it.").

Although it is a subtle difference, if the respondent refers to his or her decision making process in an externalized way where parts of the self are described as autonomous rather than referring to the self as a cohesive agent, code EPR. For instance, code "Because of the curve, my eyes decided these were hands," but do not code "Because of the curve, I was thinking these were hands." Similarly, code "My brain decided these are elves," but

do not code "To me these are elves." Finally, code "A moth; it's gray like my head pictures moths to be," but do not code "A moth; it's gray like I picture moths to be."

Another subtle distinction has to do with statements about perspective or vantage point. If the respondent places him or herself into the percept, code the response for EPR. However, if the respondent is communicating to the examiner about how to understand the perspective being described, do not code EPR. Thus, code EPR for, "These look like islands in the ocean, like I am [flying/hovering/in the sky] above them" but do not code EPR for, "These look like islands in the ocean, like [I'm looking from above/I'm seeing it from an aerial perspective/you're looking at a map]." Similarly, code EPR for, "It's far off in the distance, like I'm here peering at it through the mist" but do not code EPR for, "It's far off in the distance, like I'm/you're seeing through a mist."

Coding EPR also can be complicated when it occurs in the context of circumstantial rambling responses where the respondent's ideation strays from the Rorschach task onto other topics. Not infrequently these other topics can be accompanied by personal stories and remembrances. These kinds of derailments away from the task are not coded EPR. However, confusing and loose communications are still coded for EPR if they meet the basic criteria where the respondent links him or herself to the percept, puts him or herself into the card or into the response in some way, expresses personal feelings about the percept, or references personal experiences related to the percept in ways that do not directly justify the percept. Thus, the following clarification in response to a percept of a jaw with teeth on Card IV is not coded for EPR because the derailed communication about the self does not relate to the percept: "Right here, Louisiana. They got surfing down there, in Mississippi but that's not the way I want the government to think of me. I don't want to get into a cult. Two or three main drives in the computer, I racked up a phone card, a computer energy card, type that in there and randomly ask questions I don't talk to any crazy people on it but still I'm using a code for it, looking at some of the stuff there's China, Brazil, Canada and Niagara." EPR is coded in the following response to Card I, with the relevant text supporting the code in italic font: "It looks like a tarantula on a leaf that I seen on a commercial the other day [PER would be coded here]. And it goes around like that it has these big ol' eye things and this is right there and the reflection makes it look like, the spider and the hair has a face to it and two on each side and long sticks and they are maybe five inches or it looks like a tarantula and uh a with a hand grip wrench or it looks like there's a uh could be coming over a leaf like a leaf in front of it *and it's peeking around at me*. I don't know if this is a study where you need to bring a third or fourth person but this is more intimacy. Yeah it would be a tarantula with the white spots here and the bulb blocked by the leaf. *I get real scared when I see stuff like that.* Can I turn it upside down?" Similarly, EPR is coded in the following clarification for a dragon seen on Card I, with the supporting communication in italic font: "Yeah, see his ears, his eyes and his teeth, and uh… the reason why I see that is because the devil is an ancient serpent, a fiery red and green seven-headed dragon, *that is a serpent (points to card) and that reminded me of him. He is always around me, but he is*

not bothering me, he is always talking to me telling me to call the sheriff and help me get out of here, but…."

A final set of distinctions has to do with personal reactions. When the respondent expresses feelings about the percept, the key coding question is whether the reactions are about "it," the object being seen, or "I," the personal feelings and reactions of the perceiver about the object being seen. Code EPR for "This gives me a feeling of an unorganized mess" but do not code EPR for "It's an unorganized mess." Similarly, code EPR for "Internal anatomy… it looks like a medical student made it up; [it's obnoxious to me / I find it obnoxious]" but do not code EPR for "Internal anatomy… it looks like a medical student made it up; [it's obnoxious / it looks obnoxious]." Also, at times people have reactions to the cards themselves rather than to a percept. This probably occurs most often on Card VIII when people express surprise or pleasure at the fact that the card is so colorful. These spontaneous reactions to the stimuli seem different than the reactions people have to their own responses. EPR is coded for the latter, personal reactions to one's productions, but not to the former, reactions to the card in the absence of a response.

Note: If the person actually sees him or herself in the card in a positive or aggrandizing way, code OMP rather than EPR, and if the person is using personal experience to clearly justify why they are seeing the percept, code PER rather than EPR. Also, if two distinct response verbalizations qualify for more than one code, both would be assigned (e.g., "They look like the kind of penguins I've seen at our zoo [PER]… I feel bad for them [EPR]; they have their heads down like they're sad or dejected.")

General Examples:

1) *"The colors are so beautiful that I think of flowers. I like a lot of flowers.*"
2) *"That looks like ice cream. I must be getting hungry." (Stated with assurance not embarrassment, anxiousness, or muttered to self.)*
3) *"It looks pretty much like a heart. Like that Valentine I saw in your waiting room."*
4) *"That looks like pain, you know? It reminds me of a bad headache I had earlier today."*
5) *"Two people lifting a heavy basket. I hurt my back one time lifting something heavy."*
6) *"Looks like an old woman. Kind of reminds me of my mother."*
7) *"Sort of looks like a rabbit here. My father was a hunter; we went rabbit hunting once."*
8) *"A pretty sunset. That's my favorite time of day."*
9) *"That's my anger" (Here the person is seeing himself in the inkblot, but it is not embellished in a positive or aggrandizing way so it does not qualify for OMP.)*
10) *"That's like a boomerang. If I was holding it, I'd hold it right here (demonstrates)."*

11) "This one looks like a dog. We always had dogs when I was a kid and I still do now."
12) "Two black bears. They're my favorite kind of bear."
13) "A pretty yellow flower. That might be the best shade of yellow I've ever seen."
14) "Two eyes. It looks like they're watching me."
15) "A mask. Like if I was wearing it, I'd be looking out of the eye holes here."
16) "A monster. I watch a lot of horror movies." (Stated with assurance not embarrassment, anxiousness, or muttered to self.)
17) "Looks like the space shuttle. If I were in there, I'd be driving it."
18) "Very nice colorful clothes. I always dress up in colors, and the walls of my house are all red and blue."
19) "I don't like this. I don't know why I can't say it reminds me of anything but it's sinister or something happening."
20) "I see a lot of similarity between these two women. She has more wash than the other. I'd take away symbolism from that. I think things of a symbolic nature register real high with me because I think that should say something."
21) "Lungs, kidneys. I'm disappointed I don't see a heart."
22) "It reminds me of what I think I might see if I looked under a microscope." (Had the respondent said "It reminds me of what you/someone might see if you/they looked under a microscope" this would not be coded.)
23) "Two lions. I'm just such an animal person; I see them everywhere."
24) "A kind of bird, very tall, staring straight at me, it is very mad at me. Maybe going to kick something, maybe me."
25) "The lady doesn't have a head, but I don't care."

Elevated Mood States (EMS)

The Elevated Mood State coding is derived from one subcomponent of Pollyannish Denial (#1 below) and two subcomponents of Hypomanic Denial (#2 and #3 below) from the Cooper and Arnow (1986) Rorschach Defense Scales. What these criteria have in common is positive affective states identified in percepts or in the respondent him or herself. Note that when applying the criteria below, if happy or uplifted characters are also doing something aggressive or destructive, coding can be complicated. If the characters experiencing the affect are un-conflicted about what they are doing, code the response EMS. However, if the characters are ambivalent in their experiences or they are not aware of something adverse about to happen to them, do not code EMS.

Scoring Criteria

(*Italic font indicates our additions or elaborations to the original criteria by Cooper & Arnow*)

1) Figures are described with an emphasis on fun, pleasure, pleasantness, happiness, and the like. Include figures engaged *together* in activities such as dancing, playing, or

relaxing. These kinds of responses should convey the sense of a mildly euphoric affect state. *(This is in contrast to idealization, which* refers to the exaggeration of an object's power, worth, or attractiveness rather than to its affect state.*) Objects or figures that* could be *associated with fun, pleasure, relaxation, happiness, etc. (e.g., "A fireworks display," "A dancer," "A ballroom," "A pretty landscape") but that are not elaborated in a way to indicate the activity or experience of elevated mood is present are not coded. A person or animal smiling is just enough to qualify for the EMS code. However, if it is elaborated in a way to suggest sinister or malevolent intent, or if it is diminished in some fashion (e.g., "it has a little smile"), or if it only emerges following a query in the CP, do not code EMS. A single person or animal described as dancing also would be enough to qualify for an EMS code.*

a) (Card IV) "There is a boy having a lot of fun sitting on a water plug. I mean a fire plug. His feet are in opposite directions. His head is back. I think he is laughing." (Schafer, 1954, p.244).
b) (Card IX) "Two girls dancing with very full skirts. Their hair is blowing back from their heads. They seem to be enjoying themselves, carefree.
c) (Card VIII) "Two bears playing together around a tree."
d) "Two people making love" or "Two people kissing": responses describing people involved in such activities qualify for EMS, so long as they appear consensual and pleasurable.
e) "Two animals giving each other a High-5"
f) "Bears playing patty-cake"
g) "Two people playing drums" or "Two people playing in a band"
h) "Someone playing hopscotch, jumping."

2) *Objects are described as having elevated, buoyant, or hypomanic mood states. This category is a step up in intensity from 1) because it* goes beyond simple *positive affect,* happiness, enjoyment, or fun to more frank hypomania: e.g., increased energy, increased self-esteem, gregariousness, overenthusiasm, restlessness, triumphant attitude or stance.
   a) (Card III) "Two very confident looking people."
   b) (Card IV) "A man so full of energy he doesn't know where to go first."
   c) (Card VII) "Two dancers. They look so happy that they couldn't sit still if they wanted to."
   d) (Card X) "This person has just had a great idea and he's telling this one."
   e) (Card III) "Two people dancing to exhaustion."
   f) (Card X) "A party! Just an explosion of color, energy, and excitement."
   g) (Card III) "An orchestra leader who is passionate about it…The red is the passion."

3) *The respondent expresses feelings of positive, elevated, or euphoric mood.* This would include overt reference to feeling happy, cheerful, self-confident, etc.
   a) (Prior to Card I) "I know I'm going to enjoy this because I'm in such a good mood."

b) (Card X) “I’m glad to see this one. It makes me feel good. It’s just how I feel – full of light and sunshine.”

Narcissistic Devaluation (NDV)

Narcissistic devaluation is coded in instances when narcissistically invested or embellished objects (e.g., grand, idealized, valuable, attractive, appealing, important, magical, magnificent, elegant, special) or otherwise positive and appealing objects are also devalued, dismissed, or denigrated. In essence an object of beauty or strength is tarnished or described in pejorative, critical ways. This includes instances when otherwise positive or appealing objects have disfiguring or disturbing attributes added (e.g., “*a sexy woman but she has the head of a gorilla*”). Thus, one would not code “*an ugly dog*,” but one would code “*a stupid giant*.” The "ugly dog" captures a negative image, but it does not relate specifically to narcissistic dynamics because a dog on its own is not a clearly positive or appealing object. On the other hand, the “stupid giant” is a more specific devaluation of a larger than life object. Simple amalgams of incongruous object features (e.g., “*a raccoon head with chicken wings*,” “*two people with the heads of a chicken*,” “*a weird bat with a slug mouth*”) are not coded. Similarly, conflicting imagery in a percept that is generally malevolent, dangerous, or aversive would not be coded (e.g., RP: “*A beautiful costume with two ugly blue spiders on it*.” CP: “*It looks like a monster, see here’s the head and the legs here; the spiders are part of the costume. He's like evil and he wants spiders over him*.”).

One of the challenges with the NDV code is differentiating narcissistic devaluation from general devaluation, where any object can be denigrated or devalued. For narcissistic devaluation it is important that the object being devalued or denigrated is positive or appealing. This is fairly easy to do when the objects are embellished as special or important in some way. It is less easy to do when the objects are not. The standard here is to think of what most people would consider positive and appealing rather than neutral or mixed. On the Rorschach some of the more common generally positive or appealing images are flowers and butterflies, as most people like them and find them pleasant. (The common giants, angels, and wizards qualify because they possess special or enhanced attributes). However, other commonly seen objects do not carry general appeal or specialness, including a person, bear, bat, pelt, crab, or tree. These affectively mixed or neutral objects would not be assigned an NDV code unless they were invested or embellished in some fashion.

General Examples:

1) *“An ugly flower.”*
2) *“This here looks like a flat-chested princess.”*
3) *“A fancy woman with breasts, high-heeled shoes, and a bird’s beak for a mouth.”*
4) *“A disgusting-looking piece of modern architecture.”*
5) *“It looks like a wizard wearing a dunce cap.”*

6) *"Like some royal guy with a red robe and silver crown holding ridiculous looking blue pom-poms."*
7) *(Card IV) "It looks like a man who everybody thinks is great but I think he stinks."*
8) *"A graceful manta ray with some ugly tumor down here."*
9) *"An aristocratic looking old woman with sagging aboriginal breasts."*
10) *"(RP:) JFK in profile. (CP:) I see the chin, mouth, nose, the shape of the hair – I guess I'm thinking of him after the assassination with the back of his head blown off."*
11) *Below Threshold:*
    a) *"A humpback"*
    b) *"A disgusting picture; just looks like chaos."*

Narcissistic Deflation (NDF)

Narcissistic Deflation captures instances when objects are missing a key part of their identity (e.g., "*A bird without wings*"), possess deflated or impotent parts (e.g., "*A giant with tiny limp arms*"), or are described as dying, decaying, deteriorating, or eroding. The idea here is to code imagery of inadequacy, ineptitude and incompleteness. In many respects, this code captures instances when a sentient object would likely feel ashamed of itself if it were on display, such as "*a deer with broken antlers*." Objects that have clearly been aggressed upon (e.g., "*a guy with his head blown off*") would not be coded.
Note: To help differentiate NDV and NDF, recognize that Deflation is designed to code shame and impotence rather than denigration or disgust. Interpretively, with NDF we assume the perceiver identifies with the percept more directly than in the distancing disgust-like reaction that is presumed with devaluation. Also, assigning an NDF code does not rule out also assigning an IDL code (e.g., "*An angel with broken wings*").

General Examples:
1) *"A bird without wings."*
2) *"A woman, but she's lacking breasts"*
3) *"A body without a backbone."*
4) *"A headless person."*
5) *"King Kong but without arms."*
6) *"A teapot without its spout."*
7) *"A snail that lost his shell."*
8) *"Like a mountain peak, but the ridges are eroding away."*
9) *"Two busts; here is the neck, bent forward like an old lady that has osteoporosis."*
10) *"It looks like a cedar tree. Like what you would see on the flag of Lebanon… sort of a tree that has been cut down; it has lost a lot of its mass."*
11) *"A tree that lost its leaves"*

12) *"I'm seeing a tower in the distance, a castle, on top of a mountain… The castle is precarious… it looks like it could tip off of the mountain. Everything around it has been worn away or destroyed."*
13) *"A deer without his antlers."*
14) *"Upside down butterfly (does not turn the card). CP: Here is the little antennas, wings, the tail; the wings are not complete, it seems big parts are missing."*
15) *"A very large scary monster; like you're looking up and its towering above you… it has these flimsy arms. They are kind of… there's a contradiction there. They don't fit the object. You'd expect the monster to have stronger arms. Maybe, I don't know, maybe it's weaker than it appears."*
16) *"I see a stem that got broken off; it's small and it's supposed to be big."*
17) *"A melting iceberg with faded colors"*
18) *Below Threshold:*
    a) *"A bear without a tail"*
    b) *"A cat that's been run over and flattened by a truck or something"*
    c) *"A fall leaf with a hole in it"*
    d) *A bloody, injured bird that needs urgent care."*

Narcissistic Denial (NDN)

Narcissistic Denial (NDN) captures instances in which the individual implicitly aims to preserve a positive or inflated perception by denying or minimizing the impact of perceptions connected to themes of weakness, vulnerability, fragileness, inferiority, or unattractiveness. This definition includes depression and dysphoric states but not aggressive, dangerous, or malicious qualities

Scoring Criteria

1) *A percept of weakness, vulnerability, fragileness, inferiority, or unattractiveness is negated or its significance is actively diminished:*
    a) *"This person is not desperate"*
    b) *"This animal has not been abandoned"*
    c) *"This is not an ugly butterfly"*
    d) *"It looks like a girl crying. She is not really crying, probably she is just acting."*
    e) *"This person is bleeding but doesn't feel any pain."*

2) *A percept or response clearly presents features of weakness, vulnerability, fragileness, inferiority, or unattractiveness but is also described or further elaborated in contradictory positive terms:*
    a) *"(on an achromatic card) This is all black… it's a dark and gloomy thing… But actually black is the combination of all the colors so in fact it doesn't upset me but is also pretty cool."*
    b) *"This man is old and sick but he also looks very rich and powerful."*

c) *"A nice broken dress."*

3) *Material in the response connected to weakness, vulnerability, fragileness, inferiority, or unattractiveness is minimized by resorting to humor or by placing the imagery in a funny or lighthearted context:*
   a) *"This is a very sad and desperate face, maybe she is screaming. But actually her features are so contracted that it is kind of comic and hilarious looking."*
   b) *"That's the dead body of a woman. But not scary or sad; it's kind of funny, like from the Corpse Bride movie."*

NDN is different from criterion A of OMP (e.g., "*Yes actually it's hard to find me scared of something")* because NDN is coded for features of the percept while OMP is coded for references to the individual him or herself.

Exhibitionism (EXH)

Wagner (1965, p. 523) originally defined exhibitionistic responses that were limited to humans engaged in movement; "An exhibitionistic M was operationally defined as a human movement response which involved an activity performed for the benefit of an audience (e.g., skating, dancing, playing an instrument) and/or an exhibitionistic enhancement of the individual through costuming, adornment, or other external trappings (e.g., 'dressed in costume for a ball', 'decked out in his Sunday best', 'wearing tight toreador pants')." Note that the last three examples could entail objects that do not qualify for a human movement code. Our expanded coding encompasses non-M responses consisting of objects that are designed for display to an audience or actually on display to an audience, such as "a symphony conductor," "a movie star," "a can-can dancer," "a rock star," "A showgirl with a large dress. It looks like a swallow tail dress," "two Japanese showgirls," "a peacock; here's his tail feathers," or "A ballerina." We also code mirroring responses where the audience and the object are the same, such as "a weightlifter checking himself out in the mirror" or "a bear doing dance moves in front of a window or mirror; he can see himself."

As indicated by the last example, coding is not limited to human objects, such that percepts of "A show dog strutting his stuff," "Big blackbirds taking a bow," or "Bears doing a choreographed dance" would qualify. Even inanimate objects could qualify if they are clearly on display or for display. So "a carved bust sitting on a pedestal" or "a beautiful painting ready for hanging on a museum wall" would qualify, though a simple picture, painting, or sculpture would not.

"Clowns" qualify for EXH only if clearly in a context of being on display or for show, rather than scary; a "clown face" generally would not qualify. A "mask" on its own (e.g., "Looks like a tribal mask of some sort.") generally would not qualify because it is designed to hide rather than exhibit the wearer. However, a mask would be coded if it

was elaborated in a way that indicated it was for a performance or a party (e.g., "An elaborate mask, like one made to wear at Carnival").

Characters described as engaging in an activity that may or may not be for display to an audience (e.g., "dancing," "skating," "playing drums," "fighting," "wrestling") would not be coded unless the context clearly indicated or implied it was for the benefit of an audience. However, characters described as being in costume would be coded by default because costumes are for the benefit of an audience (e.g., "A woman wearing a costume; she's got like butterfly wings and frilly antenna on her head.").

Costumes and dresses that clearly are designed for display are coded even if they are not being worn, such as "a bustier dress; it is very beautiful but has to be saved for parties and special occasions" or a "feminine dress, the dress of a can-can dancer." Code tuxedo if it is specified in a way that suggests it is for a special occasion for the wearer (e.g., a wedding tuxedo), but not for the tuxedo of a waiter or maître de, or an unspecified tuxedo.

Magic (MAG)

This code was first articulated by Homann (2013) in her study of omnipotence. It encompasses Magical Figures and also Objects Associated with Magic. Magical Figures include wizards, witches, magicians, sorcerers, genies, *witch doctors, exorcists, shamans,* or other figures engaged in magic, telepathy, *mind-reading, sorcery, or casting spells. Spirits (including ghosts, demons, sprites, and fairies), gnomes (including trolls, elves, and goblins), and mythical beings (including dragons and unicorns) are not coded unless they are attributed magical abilities*. Objects Associated with Magic include all the clothing, buildings, *utensils,* or objects associated with any of the objects coded above (witch's hat, *wizard's cape, witch's broom, sorcerer's* wand, amulet, *magic bottle,* magical object) or specifically identified as having magical or supernatural power. *Note that MAG does not differentiate between malevolent and benevolent objects.*

Reflection (r)
(From the R-PAS Manual; Meyer et al. [2011]; pp. 110-111; copyrighted material)

Reflection is coded when a response contains an object and its symmetrically-identified mirror image or reflection; e.g., "*a bear stepping across rocks and water; here's his reflection in the water* (to the W of Card VIII)" or "*a woman looking at herself in the mirror* (D9, Card III)." When a Reflection is coded, a Pair is not coded for the same objects.

Some reflection codes directly involve the representation of a person or animal viewing itself in a reflective surface. Such responses might suggest a need for mirroring

affirmation or a self-centered view in one's processing, much like in the myth of Narcissus. It is not clear whether the common landscape reflections given with the card turned sideways involve a less obvious expression of the same phenomenon.

Reflection is coded when a response contains an object and its mirror image or reflection. The most common Reflection occurs when the respondent turns Card VIII sideways and reports a reflection of a landscape scene. This response may or may not include the animal at D1 reflected in the water. Other examples of Reflection responses include "*a woman looking at herself in the mirror* (D9, Card III)" or "*a steamboat and its reflection* (Card IV, sideways)." Like a Pair, a Reflection must be based on the symmetry of the card so that the response objects are identical and seen on opposite sides of the vertical midline; that is, the response object and its reflection are at the same location on the either side of the card (e.g., Card VIII, animal and its reflection at D1). Thus, with the card upright, a reflection is "horizontal" on the left and right but not "vertical" in the up and down plane, so that "*a butterfly* (Card III, D3) *reflected in water* (D7)" is not coded.

In many cases, Reflection responses are quite obvious, for example "*a person and her reflection"* to the two D9's on Card III. In some cases, however, the words, "reflection" or "mirror," may simply refer to the symmetry of the blot. When one is not sure whether there is a Reflection (e.g., *"a person and a mirror image; yeah two of them"*), one should require that the reflective surface (e.g., water or mirror, etc.) be mentioned if the coding ambiguity is not spontaneously eliminated in other ways. **When Reflection is coded, a Pair is never coded.**

Appendix B

Facebook Activity Questionnaire

(Items 1-8 = Currently in Scale)

Frequency Items

1. How often do you check Facebook? (7 days a week (everyday), 6 days a week, 5 days a week, 4 days a week, 3 days a week, 2 days a week, 1 days a week, Once every few weeks, Once a month, Once every few months, Once a year, and Never)
2. On a typical day that you check Facebook, how much time do you actively spend on it?
3. How many Facebook friends do you have? If you do not know the exact number, please estimate.
4. How often do you post a picture of yourself, including a picture that you are in with others? (Times per month)
5. How many times have you updated your status on Facebook in the last 4 weeks? (Please type a number)
6. How often in the last 4 weeks have you taken a picture of your self for sharing? (Never, Very Rarely, Rarely, Occasionally, Frequently, Very Frequently, Everyday)
7. How many times per month do you update your profile picture?
8. How many likes do your profile pictures receive on average?

Non-Frequency Items

9. How active on Facebook are you? (Less active than friends, As active as friends, More active than friends)
10. Who can see your Facebook posts? (Public (anyone on Facebook), All friends, All friends except certain friends, Specific friends, Only Me)

11. What is your profile photo a picture of?
12. Why did you choose your profile picture?
13. List 5 adjectives to describe your profile picture.
14. Compared to most people's profile pictures, your profile picture is: (More attractive, Less attractive, Just as attractive)
15. Rate the attractiveness of your profile picture (Very unattractive, Unattractive, Average, Attractive, Very attractive)
16. What is your cover photo a picture of?
17. Why did you choose your cover photo?
18. "It is important that my profile makes others want to be my friend." (Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree)
19. "It is important that my friends admire me." (Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree)

Appendix C

Coding Criteria for Facebook

Facebook Page Criteria

Rating	Frequency	Presence	Evidence
0	Never	Not Present	No Evidence
1	Rarely	Possibly Present	Slight Evidence
2	Sometimes	Is Present	Clear Evidence
3	Frequently	Occasionally Present	Multiple Signs of Evidence
4	Almost Always	Commonly or Often Present	Abundant Evidence

About / Detail, supplemented by Timeline [review 20 pages of the Timeline]

Self-promoting information

- Persuading others about one's own positive qualities.

Self-promoting quotes: quotes that are meant to reflect the target's qualities or abilities.

Entertaining quotes: humorous quotes.

Note: Since the about me section does not indicate when the information was last updated, profiles with potentially old aggrandized comments, given few recent updates or limited activity, should be given a lower rating.

Profile picture(s) [last 3 years, emphasize more recent]

Attractiveness (largely based on facial features, with body secondary):

4 = model-like features; strikingly handsome or beautiful
3 = would be considered handsome or pretty
2 = average features
1 = plain, but not unappealing
0 = unattractive

Self-promotion: demonstrating a skill, accompanied by identity statements, exhibiting specialness, affiliation with something or someone important

Posed, with self-alone and glamourous, elegant, enticing, special, or superior

Sexiness: Sexy pose, suggestive clothing (lacey, low cut, revealing), flexing muscles, shirtless (men).

Showing off special skills, abilities, talents, or knowledge (not just personal identity)
Amount of prep time required (estimate time to prep for the picture or enhance it)
0 = spontaneously taken and no prep evident
1 = informally posed (e.g., knows photo to be taken, but regular clothes and activity)
2 = informally posed, formally prepped and with others (e.g., wedding, graduation)
3 = formally posed (e.g., particular angle), prepped for picture, and alone
4 = formally posed, prepped for picture, alone, and great care or enhanced
Note: "Formally posed" indicates that the member(s) in the photo have been carefully placed or directed by a professional photographer. Spontaneous photos in a formal setting or members lining up for a photo do not qualify as formally posed.

Cover Photo(s) [last 3 years, emphasize more recent]
Self-Promotion: Examples include collages of the target, pictures of just the target, close-up photos of some aspect of the target (jewelry on hands), drawings or artwork depicting the target, etc.
Exciting: Serene, Quiet, Tranquil vs. Exciting, Magnificent, Spectacular, Awe-Inspiring
Special: Common, Ordinary, Mundane vs. Unusual, Exotic, Unique, Special
Powerful: Communal: happy people together vs. Agentic: individual, powerful strength
Ideals: Conveys Ideals of Power, Brilliance, Beauty, True Love, or Greatness in God
Focus: Family and friends, vacation, holidays, events vs. Making a personal statement
(-) **Tender**: Cute, Cuddly, Floral, Tender, Warm,

Profile Photo(s) and Cover Photo(s)

Narcissism Cues (Initially derived from uniform photos taken in lab of unprepared students)

Rating	**Frequency**	**Presence**	**Evidence**
0	Never	Not Present	No Evidence
1	Rarely	Possibly Present	Slight Evidence
2	Sometimes	Is Present	Clear Evidence
3	Frequently	Occasionally Present	Multiple Signs of Evidence
4	Almost Always	Commonly or Often Present	Abundant Evidence

Everyone
Showy Clothing
- Attention-getting *and* fashionable, flashy, or expensive.
    - Fashionable: Popular trend and/or brand name clothing

    - Flashy: Flamboyant or conspicuous
    - Expensive: Clothing that appears costly, higher end brand name clothing, or well-made cloth.
- Goal: to code clothing that says "look at me" or "pay attention to my specialness."
- Give lower ratings to pictures depicting casual clothing that is understated and expensive.

Frat/sorority type

- Presence of a fraternity or sorority symbol in picture.

Neat (vs. messy) appearance

- Clean shaved or well-groomed beard.
- Neatly pressed clothing
- Matching
- Tucked in shirts when they are supposed to be tucked in.

Cheerful

- Frequent pictures of the participant smiling
- Code for the presence of lighthearted photos

Females

Feminine (vs. masculine)

- Feminine appearance, lipstick, earrings, haircut, clothing etc.
- Clothing that highlights femininity vs. clothing that hides femininity

Makeup

- 0=No makeup and almost never
- 2=Presence of makeup a lot of the time but a moderate amount. Or a lot on occasion.
- 4= Almost always and substantial, or lots of effort and most of the time.

Plucked eyebrows

- 0=unmaintained, natural, messy, unibrow
- 2=plucked
- 4=plucked and filled in or shaped

Cleavage showing

Males

Eyeglasses

- Do not consider sunglasses.

Muscular

Profile Photo(s), Cover Photo(s), and Timeline

Selfies

Rate Present: 0=Not, 1=Rarely, 2=Sometimes, 3=Moderately Often, 4=Often

- Any picture of *only* the participant that is taken *by* just the participant (i.e. no one is there to assist in taking the picture).

- Do not code for groups of people taking a selfie together.
- Typically, a selfie is taken with a camera phone or a webcam.

Facebook Counterparts to Potential Grandiosity and Narcissism Variables

Scale: 0 = Not Present, 4 = Often Present

Rating	Frequency	Presence	Evidence
0	Never	Not Present	No Evidence
1	Rarely	Possibly Present	Slight Evidence
2	Sometimes	Is Present	Clear Evidence
3	Frequently	Occasionally Present	Multiple Signs of Evidence
4	Almost Always	Commonly or Often Present	Abundant Evidence

Omnipotence (OMP)

Omnipotence is seen when a person claims to have or provides images to suggest s/he has unrealistic powers, specialness, influence, or inflated worth in an effort to deal with fears of powerlessness and worthlessness, which are disavowed or denied. As noted by Cooper and Arnow (p. 14), "This may take the form of a conviction that the individual has the right to expect gratification and homage from others or to be somehow treated as a special person. Omnipotence often involves an idealization of the self in which there is an unconscious conviction that one deserves to be lauded by others and treated as privileged."

Scoring Criteria

1) In the About Me section and the Facebook wall, the individual describes himself or herself with blatant and excessively positive terms.
    a. Individual makes laudatory remarks about special abilities. References may be made to the self as having special abilities or capabilities.
        i. "The average call me obsessed, the successful call me for advice."
        ii. "Hi I am Zack and I am awesome!"

2) The person shows intellectualized and polished verbiage in an attempt to show her alleged knowledge and erudition. This may take the form of making a statement or claim in an overly technical, scientific, literate, or intellectual way (Lerner & Lerner, 1980) or there is an exaggerated striving for aesthetic, historical, or scientific specificity in the content (Schafer, 1954). This includes instances of technical jargon, such as naming animal genera, geologic periods, culturally atypical gods, uncommon anatomy, specific human tribes, or various historical figures. To qualify the verbalization needs to sound clearly technical, educated, or specialized and not available to common knowledge.

3) The person posts pictures of themselves engaged in intellectual activities such as reading an academic book, visiting a museum, or conducting experiments in an attempt to show off their intellect.

General Examples

a. Showing a picture of oneself reading a book (i.e. "The Interpretation of Dreams" by Freud)

4) The Facebook owner references their knowledge or opinions as being superior to others. This can be seen in a Facebook wall post or in the comments section of another post.

General Examples

a. "Sophistry that needed to be dismantled"
b. "Where were all the kneeling NFL Players for this injustice?"
c. "President Trump has something now he didn't have a year ago, that is a set of accomplishments that nobody can deny. The accomplishments are there, look at his record, he has had a very significant first year."

Idealization (IDL)

In general, adjectives or images suggesting superiority, greatness, excellence, power, largeness, importance, fame, impressiveness, magnificence, specialness, virtuousness, or beauty indicate Idealization. In general, adjectives or images suggesting threat, danger, maliciousness, aggressiveness, malevolence, or harm do not indicate Idealization.

1. Human, Human-Like, and Animal-Like Figures
    a. Objects or individuals (self or others) are described in blatant and excessively positive terms.
        i. "I saw an incredible singer last night"
        ii. "Yesterday, I made cheesecake for the first time. Holy crap. I should also say that it turned out amazingly, and I'm looking forward to wielding my new-found superpower again soon."
    b. Idealized human figures are described or depicted in the individual's photos or Facebook wall, or About Me section. This would include images of figures of fame or strength, athletic superstars, or other more personal indications of status seeking imagery. These images are particularly likely to be present in the cover photo and profile photo. Descriptions may include statements that reference how some important or famous person agrees with the FB owner on some particular issue.
        i. Rock star

ii. Warrior; Knight; Ninja [powerful, aggrandized figures despite links to aggression]
iii. King; Queen
iv. Angel
v. "Chris is a real sharp guy with impeccable drive, and a dear friend of mine. He has lots of really valuable things to say, so give him a listen."

c. Portrayals of specific great or spectacular animals.
i. Mighty Mouse
ii. Super Dog
iii. Pegasus; Thunderbird; Phoenix

d. Images that involve an enhancement of the human form. This include statues of famous figures, giants, supermen, angels, idols, mythological figures, and deities.
i. Super Hero; Iron Man; Wizard
ii. Mermaid
iii. Fairy
iv. Goku
v. Below Threshold: The Terminator; Monster; Devil; Warlock; Troll; Elf; Dwarf; Cupid; Pokémon.

2. Inanimate Objects
a. Objects described in blatant or positive terms.
i. "Incredible concert"
ii. "Fantastic sunglasses"
iii. "Beautiful day"

b. Depictions of objects that are possessions or part of the apparel or tools of figures of adoration, or strength.
i. Crown
ii. Crest of royalty; Coat of arms
iii. A castle
iv. Trophy or Medal of Honor

Travel photos depicting "destination" objects that are themselves considered spectacular, magnificent, or venerated as figures of adoration or strength *are below threshold* unless they are aggrandized in some way. Below threshold examples of objects from vacation pictures:

i. Golden Gate Bridge
ii. The statue of Christ the Redeemer in Rio
iii. The Statue of Liberty
iv. An Aztec pyramid
v. Blarney Castle

Similarly, vacation images of spectacular natural phenomena are below threshold unless they are aggrandized in some way.

i. The Grand Canyon; Zion National Park
ii. Rainbow
iii. Nebula

Criteria

1. Are the objects elaborated in some way as to convey that the Facebook owner is special, important, or sophisticated? If so, code IDL.
    a. Elaborations could include statements or comments that convey that the Facebook owner is important, well-traveled, or cultured because of their relationship to the object in the picture.
    b. For this reason, do not code someone's vacation pictures IDL simply because there may be magnificent natural phenomena present, like the Grand Canyon, or awe-inspiring objects such as an Aztec pyramid.

Personal Knowledge Justification (PER)

"Personal Knowledge Justification (PER) responses occur when the participant refers to personal knowledge or experience to justify or bolster a statement. Most often the source of knowledge is private and not a source of information that other friends also share. PER is interpreted as representing assertions of personal knowledge to defend one's self-image in a way that can be perceived as self-centered, boastful, and annoying. It also involves a sense of insecurity, as if one's descriptions are being challenged. PER statements may be found in status updates. Additionally, PER statements may be found in the comment section of the participants' posts or in the posts of one of their friends. Some examples of PER phrasing follow:

General Examples:
"Based off of my background in stats..." PER
"I spent 10 years as a structural engineer. I know for a fact that is not how bridges are made." PER
"It's obviously a problem. I know because I have worked for the state." PER
"This is not the version of the airplane they fly today. To get it, you'd have to studied the difference between the modern and classic fighter plane as I have." PER

Expanded Personal Reference

This code reflects an expanded version of the traditional EPR coding category that includes relating oneself to media that people post. This involves seeing oneself in media (e.g., "That looks my tattoo."), linking oneself to someone else's media content (e.g., "It's a rose. They're my favorite flower."), and expressing personal feelings about the media (e.g., "This makes me feel sad"). The core phenomenon being coded is the notion that "everything relates to me." This code is almost always accompanied by the first person pronouns "I," "me," or "my."

Criteria

1. The statement or comment must be made in response to someone else's statement or post.
2. Code for statements that clearly indicate that the participant believes that everything relates to them.

General Examples:

1. *"I remember when we delayed vaccinating our children…"*
2. *"Those flowers are beautiful. I like a lot of flowers.*"
3. *"That food looks good. I must be getting hungry (or it is making me hungry)." (Stated with assurance not embarrassment or anxiousness.)*
4. *"That heart looks just like the valentine that I saw in my doctor's waiting room."*
5. *"You have a headache, too? I had one earlier today!"*
6. *"I hurt my back one time lifting something heavy."*
7. *"That picture kind of reminds me of my mother."*
8. *"My father was a hunter; we went rabbit hunting once."*
9. *"I saw a pretty sunset. That's my favorite time of day."*
10. *"That looks just like my jacket."*
11. *"That looks just like the 1971 Pinto that I used to have."*
12. *"I love that dog breed! We always had dogs when I was a kid and I still do now."*
13. *"Black bears are my favorite kind of bear."*
14. *"That is a pretty yellow flower. That might be the best shade of yellow I've ever seen."*
15. *"It's as if you knew just what I like!"*
16. *"I watch a lot of horror movies." (Stated with assurance not embarrassment or anxiousness.)*
17. *"NASA just launched its first rocket to Mars. If I were in there, I'd be driving it."*
18. *"Your clothes are so colorful! I always dress up in colors, and the walls of my house are all red and blue."*
19. *"I don't like picture (or statement). I don't know why I can't say it reminds me of anything but it's sinister or something."*
20. *"I really enjoyed "No Country for Old Men." It is a very symbolic movie. I think things of a symbolic nature register real high with me because I think that should say something."*
21. *"That picture reminds me of what I think I might see if I looked under a microscope." (Had the respondent said, "It reminds me of what you/someone might see if you/they looked under a microscope" this would not be coded.)*
22. *"I'm just such an animal person."*
23. *"My motorcycle hasn't had an oil change in months, but I don't care."*

Elevated Mood States

Elevated affective states identified in the self or others.

1. *Self or others are described as having elevated, buoyant, or hypomanic mood states. This category* goes beyond simple positive affect, happiness, enjoyment, or fun to more frank hypomania: e.g., increased energy, increased self-esteem, gregariousness, overenthusiasm, restlessness, triumphant attitude or stance.
2. *The participant expresses a euphoric mood.* Such statements should include words that are stronger than "happy."
3. Code for statements made in all capital letters that are meant to convey positive emotions rather than anger.
4. Code for "LOL", "LMAO", "Hahaha" as long as the following statement is not derisive or mocking.
5. Code for pictures where the participant is throwing their head back and laughing.

Examples:

1. "LOLOLOLLL the whisper and the swig HAHAHA I love this woman."
2. "This year is about to be LIT!"

Below Threshold:

1. Do not code for pictures where the participant is simply smiling.
2. Do not code for statements that are positive but not effusive.
3. Do not code for statements that are mocking and mean-spirited.
    a. "Single mothers love dressing their kids like the men who left them LOL"
    b. "Y'all stay curving people just for one person that doesn't even have interest in you, LMAO, can't relate." [Using slang, this person is mocking a second person for rejecting (curving) people because a third person has no interest in the second person.]

Narcissistic Devaluation (NDV)

Narcissistic devaluation is coded in instances when narcissistically invested or embellished objects (e.g., grand, idealized, valuable, attractive, appealing, important, magical, magnificent, elegant, special) or otherwise positive and appealing objects are also devalued, dismissed, or denigrated. In essence, an object of beauty or strength is tarnished or described in pejorative, critical ways.

Criteria

- Code NDV when the participant is critical of someone or something that is otherwise positive and appealing.
- It should be clear from the statement that the participant is reacting to a perceived offense or injustice against themselves.

(Countering) Narcissistic Deflation (NDF)

Code imagery or communication that seeks to counter or offset experiences of inadequacy, ineptitude, imperfection, or incompleteness. (Countering) Narcissistic Deflation captures instances when there is a need to counter threats to identity, feelings of deflation or impotence, or some type of death, decay, deterioration, or erosion. The idea here is to code imagery or communication that counters inadequacy, ineptitude, imperfection, or incompleteness. In many respects, this code captures instances that counter or contend with feeling public or private shame. Note that Deflation codes counter-reactions to shame and impotence, while Devaluation codes denigration or disgust.

Criteria

- Code when the participant describes or shows an image of someone or something that is otherwise positive as inadequate, inept, or impotent and seeks ego-bolstering support.
- Feelings of depletion or inadequacy are likely to lead to soliciting reassurance about their specialness or good looks. This can sometimes be seen on the Timeline when the target posts a statement or a photo that is self-deflating or self-denigrating in order to receive reassurance.
- Do not code when the text or picture is aggressive or contains an object that was aggressed upon.

Narcissistic Denial (NDN)

Narcissistic Denial (NDN) captures instances in which the individual implicitly aims to preserve a positive or inflated perception by denying or minimizing the impact of perceptions connected to themes of weakness, vulnerability, fragileness, inferiority, or unattractiveness. This definition includes depression and dysphoric states but not aggressive, dangerous, or malicious qualities.

Criteria

- Code NDN when the participant mentions themes connected to weakness and simultaneously denies (or compensates) weakness.

Exhibitionism (EXH)

Code for text and images that depict the participant as on display to an audience or engaged in an activity performed for the benefit of an audience (e.g., skating, dancing, playing an instrument).

Do not code when participants are depicted as engaging in an activity that may or may

not be for display to an audience (e.g., "dancing," "skating," "playing drums," "fighting," "wrestling") unless the context clearly indicated or implied it was for the benefit of an audience.

Do not code EXH when the participant posts a picture of themselves at a concert or other event with an audience unless the participant is depicted as being in the performance.

Magic (MAG)

This code was first articulated by Homann (2013) in her study of omnipotence. It encompasses Magical Figures and also Objects Associated with Magic. Magical Figures include wizards, witches, magicians, sorcerers, genies, *witch doctors, exorcists, shamans,* or other figures engaged in magic, telepathy, *mind-reading, sorcery, or casting spells.*

Spirits (including ghosts, demons, sprites, and fairies), gnomes (including trolls, elves, and goblins), and mythical beings (including dragons and unicorns) are not coded unless they are exhibiting or using magical abilities. Objects Associated with Magic include all the clothing, buildings, utensils, or objects associated with any of the objects coded above (witch's hat, wizard's cape, witch's broom, sorcerer's wand, amulet, magic bottle, magical object) or specifically identified as having magical or supernatural power. *Note that MAG does not differentiate between malevolent and benevolent figures or objects.*

1. Code for pictures that have magical creatures or beings.
2. Code for pictures of spells, superpowers, and other magical acts.
3. Code for references to magic.

Reflection (r)

Code reflection for pictures of the participant or the participant looking into a mirror (including if others are present). Often this will take the form of a "selfie" in which the participant takes a picture of their reflection in the mirror.

Also code reflection when the participant uses a filter, app, or program to create a symmetrical picture of themselves where they appear as a mirror image in the picture. In other words, code for reflection when the participant appears in an image alongside their mirror image even when a reflective surface (such as a mirror) is absent.

Do not code for reflection when the participant uses a filter, app, or program to create multiple "copies" of himself or herself and then pairs the pictures together in some way.

DSM-5 Coding Criteria (below are all criteria but unlimited success; see Cover Photo)
Rate Present: 0=Not, 1=Maybe, 2=At Least Once, 3= More Than Once, 4=Often
Profile picture(s), Cover Photos, or Timeline provide evidence of:

Exaggerated self-importance, including for talents or achievements
Personal beliefs in specialness and uniqueness
Seeking accolades or admiration
Privileged, entitled, deserving, or righteous beliefs or attitudes
Superior, haughty, conceited, condescending, or snooty beliefs or attitudes
Un-empathic beliefs or attitudes
Envy (in self or others)
Status seeking
Potential exploitative, opportunistic, abusive, mean behaviors or beliefs

Agentic

0		**1**	**2**	**3**	**4**	
Boring	Inhibited				Assertive	Active
Quiet	Reserved				Confident	Dominant
Silent					Energetic	
Withdrawn					Entertaining	
Submissive					Enthusiastic	High status
					Important	Intelligent
					Outspoken	

Communal

0		**1**	**2**	**3**	**4**	
Cruel	Grouchy				Affectionate	Cooperative
Stingy	Rude				Friendly	Generous
Quarrelsome					Pleasant	Warm

Narcissism: Overall impression of narcissism derived from the Timeline, About Me, Cover Photos, and Profile Photos. This rating primarily informed by manifestations of grandiosity, although narcissistic vulnerability may inform ratings as well, and no one previously coded variable should unduly inform the overall impression of narcissism.

My overall impression is that this person:

0 = Does not seem narcissistic at all
1 = May have minor or trivial narcissistic qualities
2 = Seems somewhat narcissistic
3 = Seems clearly narcissistic
4 = Seems very narcissistic