The Narcissism in Situations Framework for the Study of Narcissism in Social Interactions

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CONTENT

Abstract

The present dissertation presents a conceptual framework for the study of narcissism in social interactions (NARCissism In Situations: NARCIS). This framework differentiates between situation-invariant variables (e.g., trait narcissism) and situation-varying variables (e.g., positive feedback) for the prediction of narcissistic behavior (e.g. self-promotion). It built the theoretical basis for three studies that were placed along the time line of social interactions (i.e., at the beginning, in the daily intercourse, and within long-term friendships).

Study 1 examined whether the manifestation of individual differences in narcissism reduce in situations that include strong cues for the appropriateness of self-promotional behavior, as trait activation theory (Tett & Burnett, 2003) would expect. There were four experimental groups with varying strength of such cues: The participants either received impression-related primes, neutral primes, no primes, or an explicit instruction to describe themselves positively. Results showed that all participants promoted themselves more favorably and narcissistically towards a potential new friend in the instruction group only. However, the impact of narcissism on self-promotion was invariant across the conditions - though, only when controlling for the overlap with self-esteem. It was concluded that the grandiose core of narcissism was insensitive to the influence of situation-varying variables in terms of cue strength for self-promotion.

Study 2 investigated narcissism within social interactions in everyday life following an experience-sampling design in three consecutive substudies. In contrast to the findings from the first study, results of Study 2 showed that there was a strong situational influence on the expression of state narcissism - regardless of the individual's narcissism trait level. For example, both negative social feedback and positive feedback increased state narcissism levels due to ego protection or ego boosting mechanisms. Furthermore, negative social interactions enhanced state narcissism, especially when individuals had low state self-esteem (ego protection). In contrast, positive social interactions reduced state narcissism due to successful need satisfaction. At the situation-invariant level, trait narcissism but not trait self-esteem enhanced state narcissism as one form of trait manifestation. The results question the role of trait self-esteem but underscore the importance of state self-esteem on state narcissism.

Last but not least, Study 3 demonstrated that with increasing distinctive similarity (i.e., the similarity in the two friends' norm-deviating parts) in narcissism of two best friends' their distinctive similarities in their Big Five profiles augmented as well. Although Study 3 did not address situation effects directly, it discussed implications for situation-specific aspects of narcissism within long-term friendships.

All in all, the dissertation showed that NARCIS is a useful framework to disentangle situation and person effects for the study of narcissism and social interactions.

Zusammenfassung

Die vorliegende Dissertation präsentiert ein konzeptuelles Rahmenmodell zur Untersuchung von Narzissmus in sozialen Interaktionen (NARCissism In Situations: NARCIS). Dieses Rahmenmodell differenziert zwischen situations-invarianten Variablen (z.B. Narzissmus) und situations-variierenden Variablen (z.B. positives Feedback) zur Vorhersage narzisstischen Verhaltens (z.B. Selbstdarstellung). Es bildete die Grundlage für drei Studien, die entlang der Zeitlinie von sozialen Interaktionen platziert wurden (d.h., zu Beginn, im täglichen Verlauf und innerhalb von langjährigen Freundschaften).

Studie 1 untersuchte, ob sich die Manifestation von individuellen Unterschieden im Narzissmus in solchen Situationen reduziert, die starke Hinweisreize für die Angemessenheit selbstdarstellerischen Verhaltens beinhalten. Dieser Effekt wäre laut Trait-Activation-Theory erwartbar (Tett & Burnett, 2003). Es wurden vier Experimentalgruppen gebildet, die unterschiedlich starke Reize zur Selbstdarstellung beinhalteten: Die Teilnehmer erhielten entweder Primes, die mit einem guten Eindruck verbunden waren, neutrale oder keine Primes, oder eine explizite Aufforderung zur Selbstdarstellung. Die Ergebnisse zeigten, dass alle Teilnehmer sich selbst als positiver und narzisstischer gegenüber einem potentiellen neuen Freund / einer potentiellen neuen Freundin beschrieben, sobald sie explizit dazu aufgefordert wurden. Über die Bedingungen hinweg reduzierte sich der positive Einfluss von Narzissmus auf die Selbstdarstellung nicht. Jedoch blieb Narzissmus ein invarianter Prädiktor nur dann, wenn für die Überlappung mit Selbstwert kontrolliert wurde. Es wurde die Schlussfolgerung gezogen, dass der grandiose Kern von Narzissmus unempfindlich gegenüber dem Einfluss situations-variierender Variablen war (d.h. im Sinne von Reizstärke für Selbstdarstellung).

Studie 2 erforschte Narzissmus innerhalb sozialer Interaktionen im Alltag mit Hilfe eines experience-sampling Designs in drei aufeinander aufbauenden Teilstudien. Im Gegensatz zu den Befunden aus Studie 1 zeigten die Ergebnisse der zweiten Studie, dass es einen starken situativen Einfluss auf die Expression von State Narzissmus gab. Dieser war unabhängig vom individuellen Narzissmus-Niveau. Zum Beispiel erhöhten sowohl positives als auch negatives Feedback das State Narzissmus Level aufgrund von Selbsterhöhungs- oder Selbstschutzmechanismen. Außerdem stieg State Narzissmus in negativen Interaktionen an – vor allem dann, wenn Personen einen geringeren State Selbstwert hatten (Selbstschutz). Im Gegensatz dazu reduzierten positiv wahrgenommene Interaktionen State Narzissmus aufgrund von erfolgreicher Bedürfnisbefriedigung. Auf Ebene der situations-invarianten Variablen zeigte sich, dass Trait Narzissmus aber nicht Trait Selbstwert den State Narzissmus erhöhte (Trait Manifestation). Die Ergebnisse stellen die Rolle von Trait Selbstwert auf State Narzissmus infrage, unterstreichen aber die Wichtigkeit von State Selbstwert.

Studie 3 demonstrierte, dass mit einer zunehmenden distinktiven Ähnlichkeit (d.h., die Ähnlichkeit in den Aspekten der Persönlichkeit, die von der Norm abweichen) im Narzissmus zweier bester Freunde die distinktive Ähnlichkeit in deren Big Five Profilen ebenfalls steigt. Auch wenn die dritte Studie Situationseffekte nicht direkt adressierte, wurden Implikationen für situations-spezifische Aspekte von Narzissmus innerhalb von langjährigen Freundschaften diskutiert.

Zusammenfassend kann gesagt werden, dass die Dissertation die Nützlichkeit des NARCIS Rahmenmodells zur Unterscheidung von Person- und Situationseffekten für die Untersuchung von Narzissmus in sozialen Interaktionen demonstrieren konnte.

1. INTRODUCTION

Sorry losers and haters, but my I.Q. is one of the highest – and you all know it!

— Donald J. Trump, on Twitter, 2013

For many people, Donald Trump seems to be the embodiment of a narcissist. His self-promoting behavior has been observable on TV for a long time and recently cumulated in his decision to run for president. One item of one of the most applied measurements for narcissism is "I am a born leader" (Narcissistic Personality Inventory: NPI; Raskin & Hall, 1981), and it seems possible that Donald Trump would agree with it. We watch a lot of narcissistic people on TV and we like watching them because it is entertaining and exciting – and maybe because it is far away from our social environment and our own self-view. How would we feel if we knew that we all behave in narcissistic ways once in a while? Probably not very surprised. People react to ordinary personality questionnaires with the statement "It depends on the situation" quite often. While researchers in the area of narcissism mostly concentrated on what "high narcissists" think, feel, want, and do, some questions have not been sufficiently answered so far. Among them, for example: Are there situations that make people behave more narcissistic, or less narcissistic independent of their trait narcissism level? Which role do situational aspects play in the manifestation of narcissism in social interactions? What is the role of differences in narcissism within social interactions in general and dyads in particular? The present work aims at shedding light on these issues and thereby connecting ideas from the person-situation debate in personality research with the narcissism literature. I argue that it is valuable to disentangle situation-invariant variables (e.g., general trait levels of narcissism) from situation-varying ones (e.g., receiving feedback) to explain the expression of narcissistic behavior. More precisely, I propose a conceptual NARCissism In Situations framework (NARCIS) that includes influences from both kinds of variables. The dissertation intends to contribute to the understanding of narcissism as a personality trait that is continuous, varies between persons, and manifests itself within social interactions. It is also considered a personality state that depending on the situation can differ within persons.

The following paragraphs contain background information regarding narcissism in social interactions as well as the person-situation debate in personality psychology. Then, I describe the NARCIS framework in more detail (Section 2). I used it to derive research questions (Section 3) of three studies in total: Do narcissists[1] promote themselves irrespective of the strength of

[1] The terms "narcissism", "high narcissists", or "narcissists" are used from now on as an abbreviation for people with higher scores on instruments assessing subclinical narcissism. Furthermore, we refer to the grandiose form with its assertive orientation rather than the vulnerable one.

situational cues (Study 1)? In line with much recent research (e.g., Fleeson & Jayawickreme, 2015), are social events associated with fluctuations in state narcissism (Study 2)? Which role do personality similarities play within friendships of narcissists (Study 3)? Lastly, I present details on these studies, summarize them, and discuss implications for future directions (Section 7).

1.1 Narcissism in Social Interactions

Currently, there are at least two main research perspectives on narcissism: the clinical perspective, dealing with pathological narcissism and narcissistic personality disorder[2] (see Cain, Pincus, & Ansell, 2008, for a review; Pincus & Lukowitsky, 2010; Ronningstam, 2005), and the personality-psychological perspective, dealing with subclinical (i.e., non-pathological) levels of narcissism in the normal population (e.g., Back et al., 2013; Campbell, Brunell, & Finkel, 2006; Morf & Rhodewalt, 2001; Paulhus, 2001). All these conceptualizations stress that narcissists have a very special way to behave in social interactions. For example, high narcissists view themselves as grandiose and demand permanent confirmation from others. As soon as they observe that their superiority is threatened, they react mostly in arrogant, dominant, or aggressive ways (Bushman & Baumeister, 1998; Morf & Rhodewalt, 1993). Low narcissists have a lower sense of entitlement and craving for admiration; they are less extraverted but more agreeable than high narcissists (Paulhus, 2001). Hence, narcissists rely strongly on and even require other people and their feedback. Nonetheless, they potentially cause problems for interaction partners due to their intrusive and dominant behavior (e.g., Back et al., 2013; Twenge & Campbell, 2003). The following models of subclinical narcissism all stress this interpersonal dependency of narcissists. The NARCIS framework and thereby the development of the research questions of the three studies are based on the ideas of those models. However, NARCIS extends them by distinguishing situation-invariant from situation-varying effects (see Section 2).

1.1.1 The Dynamic Self-regulation Processing Model

The dynamic self-regulation processing model (Morf & Rhodewalt, 2001; Morf, Torchetti, & Schürch, 2011) argues that narcissists have a typical personality signature that incorporates (a) how they construct their self and that of others (i.e., an exaggerated grandiose self-view vs. the view that others are inferior) and (b) how the social environment reacts to them (i.e., positively at first, then reserved; Leckelt, Küfner, Nestler, & Back, 2015; Paulhus, 1998). Further, it explicitly differentiates between typical narcissistic *intra*personal and *inter*personal self-regulatory mechanisms to attain and uphold positive self-views. For example, on the one hand, narcissists self-regulate intrapersonally by attributing success to themselves but failures to

[2] The vulnerable form of pathological narcissism as measured, for example, with the pathological narcissism inventory (PNI; Pincus et al., 2009) includes lower levels of self-esteem, avoidance of social interactions, hypersensitivity to others' evaluations, and interpersonal problems. This is not addressed here.

others (Farwell & Wohlwend‐Lloyd, 1998; Rhodewalt & Morf, 1998), or fantasize about power and their career in stressful times (Raskin & Novacek, 1991). On the other hand, they interpersonally prefer successful and admiring partners as a means to elevate their own worth (Campbell, 1999) or degrade others who perform better than them (South, Oltmanns, & Turkheimer, 2003).

1.1.2 The Agency Model

Similar to the dynamic self-regulation processing model, the agency model of narcissism (Campbell et al., 2006) postulates that successful social interactions increase narcissistic esteem, which in turn feeds the agentic core. This core contains an agentic motivation to "get ahead" versus a communal orientation of "getting along" (see also Gebauer, Sedikides, Verplanken, & Maio, 2012), as well as the sense of entitlement and a clear approach-orientation. A successful social interaction occurs when narcissists are able to pursue their agentic goals and when other people satisfy them as well. For example, narcissists have certain interpersonal skills such as being charming, extraverted, and self-confident. These skills are used to present themselves favorably to others, self-promote, or play games (i.e., interpersonal strategies). In fact, narcissists seem to be quite successful with these strategies. The first impression of a narcissist is very positive: they are perceived as agreeable, entertaining, competent, attractive, loveable, and humorous (Back, Schmuckle, & Egloff, 2010; Oltmanns, Friedman, Fiedler, & Turkheimer, 2004; Paulhus, 1998).

1.1.3 The Narcissistic Admiration and Rivalry Model

The narcissistic and rivalry model (NARC; Back et al., 2013) explains the discrepancy in narcissistic behavior (e.g., to be charming vs. to be aggressive). The authors propose that there are two routes through which narcissists may maintain their grandiose self-views: admiration and rivalry. The admiration path is responsible for self-promotional behavior as a way to receive appreciation and is fueled by the agentic desire to be admired. This leads to striving for uniqueness, having grandiose fantasies, and to behaving in a charming way. In contrast, the rivalry path leads narcissists to antagonistically protect themselves and avoid drawbacks. Rivalry is linked to a striving for superiority, devaluating others, and aggressive behavior.

1.1.4 The Dark Triad

A somewhat different approach to narcissism is the concept of the Dark Triad (Furnham, Richards, & Paulhus, 2013; Paulhus & Williams, 2002), which concentrates less on the interpersonal strategies of narcissists, but expands the nomological net of the construct narcissism and distinguishes it from psychopathy and Machiavellianism. People with high scores on

psychopathy are vengeful and act impulsively. They behave in callous, reckless, thrill-seeking, and even criminal ways. In contrast, people scoring high on Machiavellianism are manipulative and pay attention to their reputation. They proceed in strategic and calculating ways to achieve their aims. All three constructs "share a common core of disagreeableness" (Paulhus & Williams, 2002, p. 561) and promote callousness and manipulative behavior. Whereas narcissism is primarily identity-related (i.e., confirmation of the grandiose self), the other two traits primarily pursue instrumental goals (i.e., money or career success). As such, narcissism stands apart from the other two "dark" traits.

1.2 The Understanding of Narcissism in the Current Work

The theoretical models for subclinical narcissism reported above share some basic aspects: First, they define the trait (i.e., narcissism) itself and its distinction from other traits such as Machiavellianism and psychopathy (Paulhus & Williams, 2002), high self-esteem (Raskin, Novacek, & Hogan, 1991) or vulnerable narcissism (Back et al., 2013). Second, they describe the underlying motivations (i.e., pursuing agentic goals, admiration) and self-regulatory mechanisms (e.g., ego protection, ego boosting). Third, the behavioral outcome is studied in concrete situations, for example, in first acquaintances, job interviews, dating, group discussions, performance tests, gambling, or in white-noise-paradigms (John & Robins, 1994; Lakey, Rose, Campbell, & Goodie, 2008; Lämmle, Oedl, & Ziegler, 2014; Paulhus, Westlake, Calvez, & Harms, 2013; Wallace & Baumeister, 2002). As described in more detail in Section 2, the here proposed NARCIS framework considers these ideas, as well. However, it expands them by systematically differentiating person and situation effects in the study of subclinical narcissism.

In this work narcissism is also placed within the concept of the Dark Triad, meaning that its effects on outcome variables are always controlled for the influences of Machiavellianism and psychopathy. This approach is useful in interpreting the specific or unique effect of narcissism. For example, while many researchers report that narcissism is associated with infidelity and less commitment within, as well as more dates outside a romantic relationship (Buss & Shackelford, 1997; Campbell, Foster, & Finkel, 2002), controlling for Machiavellianism and psychopathy showed that there either is a non-significant or a negative association (for women) between narcissism and the actual infidelity (Jones & Weiser, 2014). Instead, men and women scoring high on psychopathy and women scoring high on Machiavellianism were most likely to be unfaithful. This example illustrates the usefulness of using the entire Dark Triad in analyses of narcissism. Hence, NARCIS makes its assumptions about the effect of trait narcissism *after* the influences of psychopathy and Machiavellianism have been controlled for.

Despite the fact that narcissism is placed within a particular construal of the social environment (e.g., others being inferior) and based on the idea of the social interdependence of narcissists (i.e., because they need an audience to boost their self-esteem), there is relatively little work that tries to systematically disentangle person and situation effects. This work attempts to lay the foundation for such research.

1.3 The Person-Situation Debate in Personality Psychology

The beginning of the person-situation debate in psychology is often dated back to Kurt Lewin who stated: "In psychology one can begin to describe the whole situation by roughly distinguishing the person (*P*) and his environment (*E*)" (Lewin, 1936/2013, p. 27). Mischel (1968) pointed out that variability in behaviors cannot solely be reduced to stable personality traits but also to the details of the according situation. This triggered a long debate between personality and social psychologists whether personality or situation variables are more important for explaining behavior (see Fleeson & Noftle, 2008, for a review). During the last years, however, researchers have returned to the notion that the person, situation, and behavior are interwoven in complex ways within a personality triad (i.e., person, behavior, and situations; Funder, 2009). Researchers have further studied situations more systematically by defining and conceptualizing them within comprehensive personality theories, categorizing situations and their characteristics, and measuring them as well as their influences (e.g., Cantor, Mischel, & Schwartz, 1982; Fleeson & Jayawickreme, 2015; Rauthmann et al., 2014; Rauthmann & Sherman, 2015; Tett & Burnett, 2003; Ziegler, 2014). For example, Rauthmann, Sherman, and Funder (2015) suggest three components of situations: cues (relatively objective stimuli), characteristics (the way how stimuli are processed), and classes (how stimuli are categorized). Although, this work is not explicitly based on this distinction, these components are also addressed throughout three studies (e.g., cues and characteristics will be examined in Study 1 and 2; see Sections 4 and 5).

Because NARCIS tries to disentangle situation-varying from situation-invariant variables and effects which might be relevant to the understanding of narcissistic expressions, it is important to consider relevant approaches to the person-situation-interactionism. Three approaches are presented in the following: The cognitive-affective processing systems model (CAPS; Mischel & Shoda, 1995), trait activation theory (TAT; Tett & Burnett, 2003), and whole trait theory (WTT; Fleeson, 2012; Fleeson & Jayawickreme, 2015). Basing their models on the idea that people differ in the way they perceive and interpret situations, they emphasize the importance of social-cognitive processes (i.e., motivation, expectation, aims, affect, self-regulation, etc.) as the bridge between persons, situations, and behaviors.

1.3.1 The Cognitive-Affective Processing Systems Model (CAPS)

The cognitive-affective processing systems model (CAPS; Mischel & Shoda, 1995) focuses on personality as a system that consists of different cognitive-affective units. Situational stimuli activate these units and manifest in relatively stable if-then situation-behavior patterns (if A then X but if B than Y; cf. also the ideas of Morf & Rhodewalt, 2001, to the CAPS). Mischel and Shoda differentiated between five main cognitive-affective units: 1) Encodings for the self, others, events and situations, 2) expectancies and beliefs about the social world and self-efficacy, 3) affects, 4) goals and values, and 5) competencies and self-regulatory plans to implement the own behavior and affect internal states. These units are organized in a dynamic network that is representative for each person. These ideas laid the foundation for the development of the NARCIS framework that is proposed in this dissertation (see Section 2).

1.3.2 Trait Activation Theory (TAT)

Trait activation theory (Tett & Burnett, 2003) – a theory that originally focused on the work context – build the theoretical basis for Study 1 in this dissertation. It expects an interaction between personality and situations that influences behavior at a particular moment. More precisely, “trait activation is the process by which individuals express their traits when presented with trait-relevant situational cues” (p. 502). For example, the task to describe oneself might be a trait relevant situation for the expression of narcissism (see Study 1). High mean narcissism levels would manifest in an increased self-promotion whereas lower mean trait levels would lead to a reduced self-promotion. Furthermore, the theory expects that the individual differences are greatest when situations include weak cues for the appropriateness of a certain behavior. In contrast, these differences should reduce when cues are strong (e.g., in the presence of extrinsic rewards). Hence, trait activation theory views situations (i.e., the perception and interpretation of these) as a moderator of personality expression.

1.3.3 Whole Trait Theory (WTT)

Whole trait theory (Fleeson, 2012; Fleeson & Jayawickreme, 2015) differentiates between a descriptive and an explanatory side of traits. The descriptive side can be captured by a density distribution of trait-relevant actions, cognitions, and emotions. In such a distribution, the mean enactment represents the average trait expression a person shows across different time points (e.g., situations). For example, someone who behaves in a narcissistic manner (i.e., brags and is arrogant) in most situations has a high mean level of trait narcissism. However, the width of this distribution (i.e., its standard deviation) can vary from person to person: Some people might display a range of behaviors varying from not narcissistic at all to extremely narcissistic, while others may behave relatively narcissistic most of the time. Situations are understood as an input

that is interpreted differently between persons due to different social-cognitive processes (e.g., motivation to get admiration). These processes refer to the explanatory side of traits because they are supposed to cause their descriptive parts. The behavioral reaction to this situational input (e.g., praise others competencies as ones own) is labeled trait manifestation (states). The second study of this dissertation is based on ideas from whole trait theory and the trait-state associations.

To summarize, the idea of these person-situation interaction approaches is that actual behavior, for example grandiosely talking about oneself at a party, can but does not have to reflect the general level of the according trait (e.g., high narcissism). Rather, some kinds of situations may "activate" or trigger certain trait-relevant behaviors. There is strong agreement regarding the assumption that situations only impact behavior when individuals perceive and judge them as meaningful (e.g., Fleeson & Jayawickreme, 2015; Hogan, 2009; Mischel & Shoda, 1995; Rauthmann, 2012; Reis, 2008; Ziegler, 2014; Ziegler & Horstmann, 2015). The interesting questions for this work thus are when and why narcissistic patterns appear and when they do not. The next section illustrates in what ways the current dissertation addresses these questions. Therefore, I propose a framework (NARCIS) that distinguishes between situation and person effects. At first, I describe this framework in more detail. Then, I present the three studies of this dissertation.

2. NARCIS: THE NARCISSISM IN SITUATIONS FRAMEWORK

The NARCIS framework proposed here, aims at connecting the main ideas of the above-mentioned approaches into one framework. It brings structures (i.e., situation-invariant variables such as trait narcissism) and underlying social-cognitive processes (i.e., situation-varying variables such as the evaluation of a social interaction as positive) together. Furthermore, NARCIS extends current narcissism models in three ways. First, it describes processes that are not limited to people scoring high on trait narcissism, but includes contextual processes which make non-narcissists behave more narcissistically. This illustrates the idea of dimensional personality traits. Second, NARCIS explicitly distinguishes between situation-varying and situation-invariant variables that contribute to the prediction of narcissistic behavior. Lastly, it systematically considers certain control variables (e.g., the other two Dark Triad traits or trait self-esteem).

Figure 1 shows an exemplary visualization of the NARCIS framework. The narcissistic behavior of interest, for example self-promotion, is positioned in the middle and placed on a continuum with higher and lower levels of trait manifestations. The main idea is that the expression of such narcissistic behavior is influenced by factors that are stable across several situations (i.e., situation-invariant variables on the left side of Figure 1 such as the individual's trait narcissism level, and factors that specifically occur in a particular situation (i.e., the situation-varying variables on the right side of Figure 1**Fehler! Verweisquelle konnte nicht gefunden werden.**) such as the reception of feedback. As reported above, this idea itself is not new to personality research. NARCIS, however, applies it to the field of narcissism and makes predictions about why certain variables have an effect on narcissistic behavior. More precisely, it describes the connection between typical narcissistic thoughts (e.g., thinking of oneself as superior), feelings (e.g., little anxiety), and motivations (e.g., receiving admiration) with inter- and intrapersonal regulation mechanisms (e.g., ego protection). By considering situational influences within NARCIS, it might be possible to obtain information about the circumstances under which a certain motivation is triggered more than the other (e.g., agentic vs. communal goals).

The framework is subdivided into seven parts: (1) situation-invariant variables, (2) situation-varying variables, (3) moderation effects, (4) underlying attributes, (5) goal activation, (6) self-regulation mechanisms, and (7) interplay between the variables.

2.1 Situation-Invariant Variables

The situation-invariant part is displayed on the left side of Figure 1. It focuses on the main effects of variables that are relatively stable across situations. The main trait variable of interest is trait narcissism (controlled for the other two Dark Triad traits). Based on findings from Fleeson's

whole trait theory, NARCIS expects that people with higher narcissism scores behave more narcissistically on average (e.g., Fleeson & Gallagher, 2009). It is imaginable that - besides trait narcissism - other situation-invariant features contribute to the expression of narcissism across situations. Narcissism is often studied with respect to self-esteem and gender differences (see for reviews Bosson et al., 2008; Grijalva et al., 2014). Hence, additional variables within this work were trait self-esteem and gender.

The PERSOC framework (Back et al., 2011) suggests that dispositions can refer to characteristics for individuals and their interaction partners. Over time, such relationship dispositions influence individual dispositions. For example, experiencing many social interactions with friends over a certain period of time might influence individual narcissistic manifestations. Thus, the present work includes two additional relationship variables: the personalities of two best friends and their similarity, and the number of social interactions with or feedback from others.

However, not all variables must have main effects on narcissistic behavior (main effects are represented by the dashed arrows in Figure 1). To give an example, high trait self-esteem is based on approach motivation that focuses on self-enhancement and attention to the self (Baumeister, Tice, & Hutton, 1989). Nonetheless, within the narcissism literature, the associations between trait self-esteem and narcissistic behavior are not always unambiguous (Bosson & Weaver, 2011). Hence, in this case NARCIS makes no clear postulations through which concrete mechanism(s) trait self-esteem explains narcissistic behavior. The effects of the other situation-invariant variables will be described in more detail within the three studies that are presented following the introduction.

2.2 Situation-Varying Variables

The situation-varying part of NARCIS is displayed on the right side of Figure 1 and focuses on factors that increase or decrease the likelihood for narcissistic behavior, independent of situation-invariant variables (i.e., their main effects). Such situation-specific variables might contain events or external circumstances (cf. cues and classes in Rauthmann et al., 2015). However, they can also represent subjective interpretations of situations (cf. characteristics Rauthmann et al., 2015), thereby following knowledge from the person-situation debate regarding social-cognitive mechanisms (i.e., WTT and CAPS). Within the current work, the focus lies on the subjective valence of feedback and social interactions with others, situational levels of self-esteem, and the strength of cues for self-promotion (see the chapters for detailed descriptions).

2.3 Moderation Effects

TAT poses the idea that situations moderate trait expressions (Tett & Burnett, 2003). Similarly, NARCIS expects moderation effects apart from main effects of situation-varying

variables but also situation-invariant ones. These moderator effects can be examined between variables within one side (represented by the small-pointed line "moderation-within" in Figure 1) as well as between both sides (represented by the small-pointed line "moderation-between" in Figure 1). For example, the association between feedback and narcissistic attitudes might be stronger for women than for men (i.e., moderation-between). Furthermore, state self-esteem levels might moderate the association between a negative social interaction and the expression of narcissistic behavior (i.e., moderation-within): People, who do not feel satisfied with themselves in a particular situation and who also have a negative social interaction might react even more narcissistically in turn. The current work will empirically test these exciting possibilities.

2.4 Underlying Attributes of Situation-Invariant Variables

The boxes on the left edge of Figure 1 describe attributes that might underlie the according situation-invariant variable (e.g., trait narcissism) that is assessed in NARCIS. These attributes contribute to the expression of narcissistic behavior. Following ideas from CAPS, WTT, and the self-regulation processing model (Fleeson & Jayawickreme, 2015; Mischel & Shoda, 1995; Morf, Torchetti, et al., 2011), these attributes can include (a) basic beliefs about oneself and (b) motivations that seem to be typical for higher levels of the according personality construct. For example, people scoring high on trait narcissism instruments believe in their grandiosity and are motivated by agentic goals (Back et al., 2013). Individuals high on self-esteem, in contrast, believe that their relational value to others is quite high and are motivated to maintain or even enhance this value (Leary, Tambor, Terdal, & Downs, 1995). For other variables, such as gender, typical underlying attributes might be (c) of biological nature (Torgersen et al., 2000) or (d) refer to a certain learning history and socialization (e.g., Horton, Bleau, & Drwecki, 2006; Otway & Vignoles, 2006). For example, while men are raised to act out more stereotypical behaviors (e.g., dominance), women are raised to behave less dominant within most Western societies (Morf & Rhodewalt, 2001).

2.5 Goal Activation

According to CAPS, individuals differ in their level of organization, availability, activation pattern, and strength of cognitive-affective units. The boxes on the right edge of Figure 1 refer to this idea. They represent automatic (or subconscious) thoughts, interpretations, and feelings that are triggered by situational events (see also Beck, Rush, Shaw, & Emery, 1979) and activate certain goals. For example, positive feedback might evoke the thought "If I continue to do that, I'll be admired". In turn, the cognition might increase a feeling of pride and activate the motivation to continue pursuing agentic goals. Ultimately this results in increased narcissistic behavior. In contrast, an extremely positive interaction with someone might lead to the conviction

"That went well. I know how to deal with people." This might reduce agentic goals because it triggers feelings of satisfaction and thus lowers levels of narcissistic behavior – at least in the short term.

2.6 Self-Regulation Mechanisms

The terms around the dashed arrows represent mechanisms that serve self-regulation (i.e., to attain and uphold positive self-views) and thereby activate narcissistic behavior. For example, this might involve the pleasure to express one's own personality (e.g., Emmons, Diener, & Larsen, 1986; Gebauer et al., 2014). The admiration and rivalry model (Back et al., 2013) proposes two main mechanisms that are important for the study of narcissism, namely, ego boosting and ego protection. While ego boosting means that self-views rise in their positivity, ego protection aims at preventing declines in this positivity (Sedikides, 2012). Within the current work, these mechanisms are also addressed. Furthermore, WTT refers to trait manifestation as the current enactment of one's trait level. Such trait manifestation is another mechanism in NARCIS. The addiction model of narcissism (Baumeister & Vohs, 2001) states that successful strivings for esteem satisfies the narcissist. "Repeated administrations of the same dose however yield diminishing levels of satisfaction" (p. 206). For this reason, NARCIS suggests two further mechanisms that mediate the association between situation-varying variables and narcissistic behavior: Successful need satisfaction and habituation (i.e., the process when the response to a repeatedly presented stimulus reduces).

2.7 Interplay Between the Variables

Like other person-situation models (e.g., CAPS, TAT), NARCIS assumes that situation-invariant and situation-varying variables influence each other. For example, individual's basic expectancies bias automatically triggered cognitions in a certain situation: Someone who is absolutely convinced about his or hers grandiosity might be more likely to automatically interpret positive feedback from one person as admiration from everyone. This can activate the agentic motive faster and therefore, results in typical narcissistic behavior. Supporting this idea on the one hand, previous researchers found that such impulsive processes are associated to situation perceptions and guide behavior (Back, Schmukle, & Egloff, 2009; Strack & Deutsch, 2004). On the other hand, recurring events can influence persons over time as well. For example, someone who received a lot of feedback throughout his or her course of life is more likely to form the basic belief of his or her grandiosity (cf. PERSOC, Back et al., 2011). Similar processes can be assumed for the interaction between person features and biological or social learning mechanisms.

Summarizing, the present dissertation examined narcissism in social interactions. NARCIS served as a conceptual framework to derive particular hypotheses. However, I did not

assess all parts of NARCIS directly. Instead, I focused on particular aspects: Using different methodological designs (i.e., laboratory experiment, experience sampling, and analysis of dyads), I collected data for the study of situation-invariant and varying variables, self-regulation mechanisms, and moderation effects. I present suggestions for the other parts of the framework (i.e., goal activation and underlying attributes for the variables) and discuss implications for the future use of NARCIS.

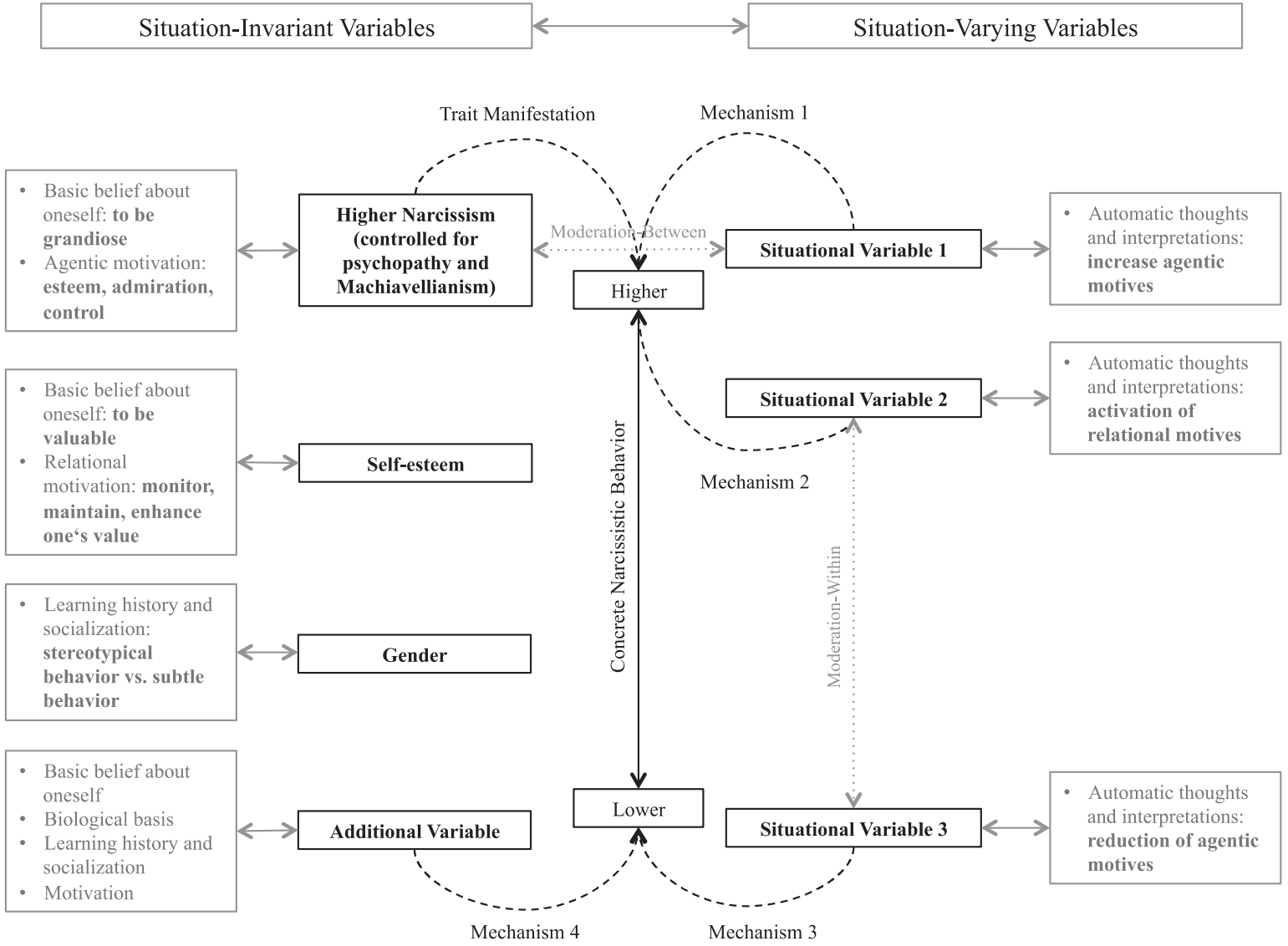

Figure 1. Schematic Narcissism in Situations Framework (NARCIS).

3. RESEARCH QUESTIONS

The main interest was to study narcissistic behaviors in social interactions with respect to inter- and intrapersonal mechanisms within NARCIS (Figure 1). To do so, three studies were conducted that can be seen as different steps along a time line for the course of a social interaction (see Figure 2). An interaction with others begins with the process of becoming acquainted. Study 1 was set within this phase and dealt with narcissistic self-promotion towards a potential new friend. The research question was: Do narcissists promote themselves irrespective of the strength of situational cues? As the social contact progresses, individuals interact more and more with each other so that strangers become, for example, friends or colleagues. Referring to social interactions in this phase, Study 2 delved more deeply into the micro-level of social interactions and investigated possible influences on state narcissism in everyday life. The research question was: Are social events associated with fluctuations in state narcissism? Lastly, a long-term friendship may grow and this friendship has to be maintained. Study 3 analyzed who might be willing to be friends with a narcissist in the long term. The research question was: Which role do personality similarities play within friendships of narcissists? Furthermore, the study suggested possible situational advantages and disadvantages that friends with similar personalities might offer to narcissists.

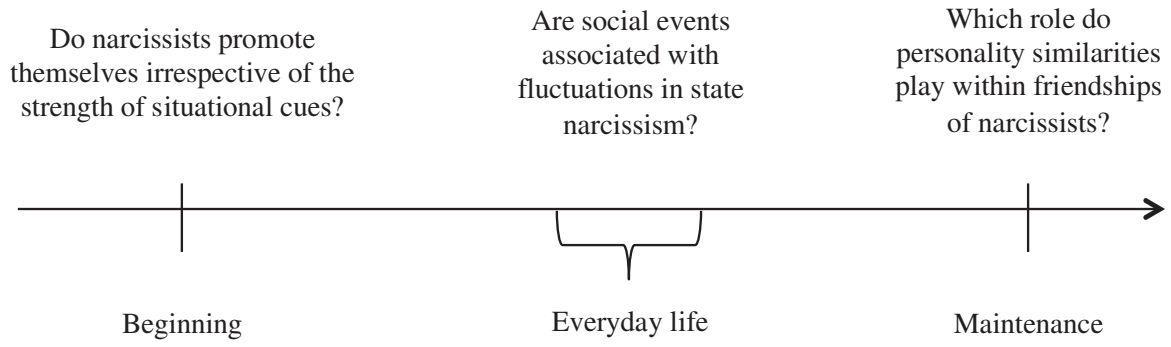

Figure 2. The main research questions of the dissertation. The according studies are placed at different steps along a timeline of social interactions.

4. SUMMARY OF THE ARTICLES

4.1 Narcissistic Self-promotion is not Moderated by the Strength of Situational Cues (Study 1)

Narcissists know how to positively promote themselves in the beginning of a social interaction. In fact, it is often concluded that narcissism incorporates a self-enhancer personality (e.g., Morf, Horvath, & Torchetti, 2011). However, according to presumptions from TAT (Tett & Burnett, 2003), the association between a certain trait and the according behavior can be reduced in trait-relevant situations that include strong cues for the appropriateness of the behavior (e.g., in the presence of extrinsic rewards). Thus, individual differences in narcissism should reduce in situations that are relevant for self-promotion and include extrinsic rewards for it. Nonetheless, Study 1 expected that – contradicting hypotheses from TAT - higher levels of trait narcissism would remain a positive predictor of self-promotion, independent of the strength of situational cues.

To test this expectation, 219 participants with different educational backgrounds were asked to write self-descriptions to an imagined acquaintance. This situation provided a trait-relevant situation for narcissistic self-promotion and the intrinsic reward to talk about oneself. Prior to this task, they were randomly assigned to one out of four experimental groups. Using different primes, these groups differed in the presence of extrinsic rewards for self-promotion (following the procedure described in Tyler, 2012). The groups either received no prime (no reward), neutral primes (no reward), subconsciously presented impression-related primes (subtle extrinsic reward), or an explicit request to describe oneself positively (direct extrinsic reward). Afterwards, independent raters evaluated the writings in terms of how favorable and narcissistic (in agentic and communal ways) the participants seemed.

Figure 3 displays the idea of narcissism as a situation invariant predictor within the NARCIS framework. On the one hand, trait narcissism was supposed to be positively associated with narcissistic self-promotion (main effect of situation-invariant variables). However, we did not assume that self-esteem had main effects once the shared variance with narcissism was controlled for. Similarly, a main effect for gender was not expected but it was included as a moderator: The male and female symbols represent the possibility that the manifestation of narcissism in narcissistic self-promotion could differ between men and women (i.e., moderation-within). On the other hand, one hypothesis from NARCIS was that there would be main effects for situation-varying variables. It was expected that strong situational cues for positive self-promotion would activate agentic motives and ego boosting mechanisms that lead to higher levels

of narcissistic self-promotion. In contrast, weak cues for positive self-promotion would reduce agentic motives. This would result in lower levels of narcissistic self-promotion. Nonetheless, it was expected that the strength of cues would not moderate associations between narcissism and self-promotion (i.e., no moderation-between).

Results indicated that only explicit instructions activated more narcissistic and favorable self-descriptions in all participants. Nevertheless, narcissists always promoted themselves more favorably and narcissistically in situations with both strong and weak cues. However, this effect only held when controlling for the overlap with self-esteem. Hence, it was the grandiose core of narcissism that was resistant against socially desirable affordances. This contradicted ideas from TAT and pointed to a weak situational influence of narcissistic expression at the beginning of social interactions (i.e., when self-promotion is required).

To summarize, Study 1 discussed explicitly and implicitly processed situational influences on narcissistic behavior within social interactions, in terms of weak and strong cues for the appropriateness for self-promotion. Study 2 separated person and situation effects on the expression of narcissism in more detail. The focus was not lying on the beginning of social interactions, but on their daily occurrence.

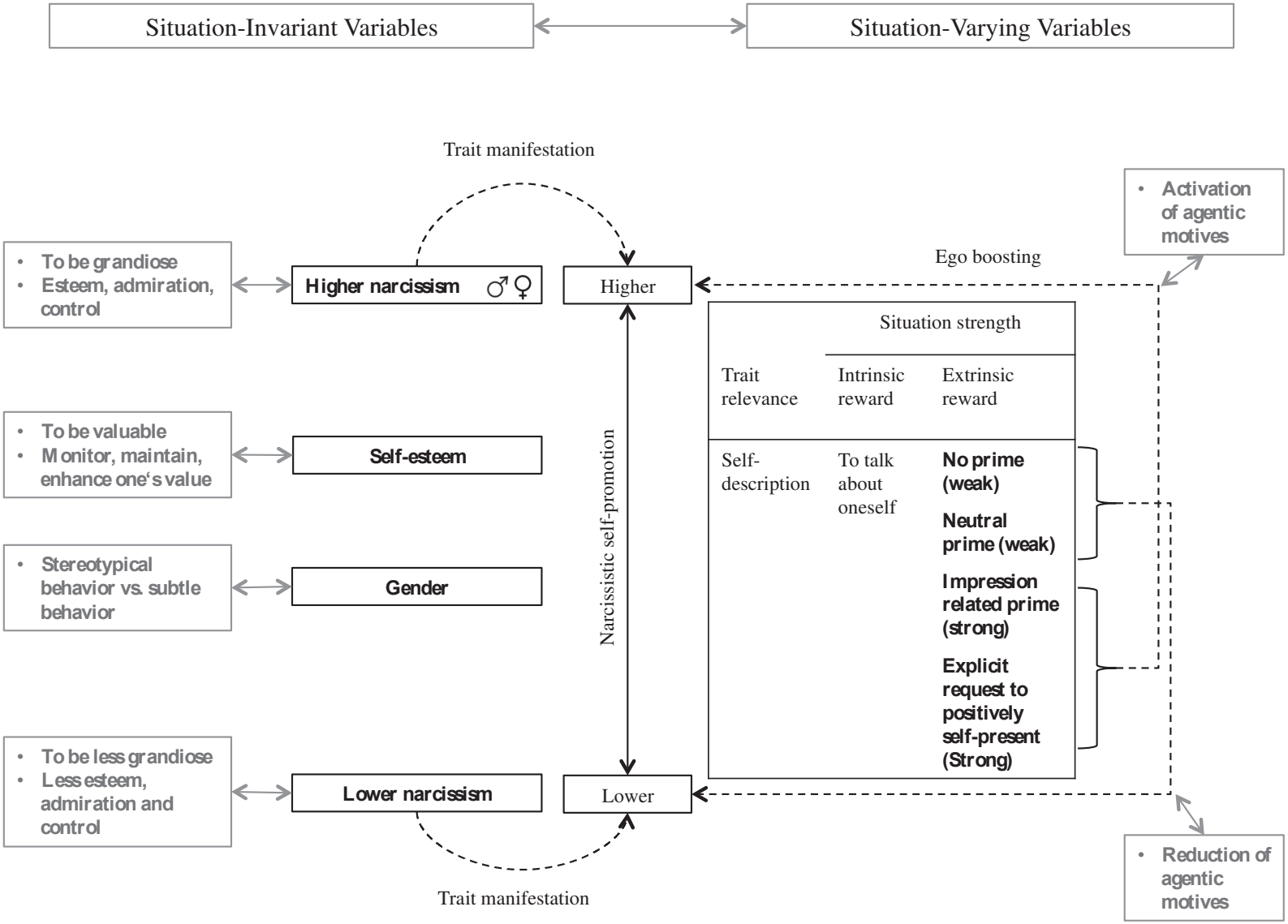

Figure 3. NARCIS for the research questions in Study 1.

4.2 The Narcissism in Situations Framework: Person and Situation Effects on State Narcissism (Study 2)

Study 1 showed that narcissists are relatively unresponsive to situational aspects in the beginning of social interactions. To expand the time point and setting of Study 1, the second study explored the situational influence on the manifestation of narcissism in social interactions on a day-to-day basis. Study 2 thus considered situation-invariant and situation-varying variables as determinants of fluctuation in narcissism states in everyday life. For this reason, the authors of Study 2 conducted three consecutive substudies using experience-sampling designs. In total, 243 participants (Substudy 1: homogenous sample that consisted of Psychology students; Substudies 2 and 3: heterogeneous samples that were recruited from across Germany) answered several questions to assess state levels of their traits and provide information about their social activities several times per day over a period of at least five days (using their mobile phones, PCs, or tablets).

Figure 4 displays the NARCIS framework for Study 2. Fluctuations in state narcissism are placed in the middle of the framework. On the one hand, Study 2 examined whether situation-invariant variables (i.e., trait narcissism, trait self-esteem, gender and the amount of social interactions or feedback) influenced changes in state narcissism. On the other hand, this study focused on whether situation-varying variables (i.e., the valence of interactions or feedback, state self-esteem) predicted change in state narcissism as well. In the third substudy, feedback was further divided into skills-, appeal-, or behavior-related feedback; and social interactions were divided into activities, contacting others, and disagreements. Study 2 considered moderation-within effects with state self-esteem (represented by the vertical dashed arrow). Thus, state self-esteem levels could influence the association between social interactions or feedback and state narcissism. Similarly, the male and female symbols and the superscript “N” in Figure 4 point to the possibility of moderation-between effects for gender (e.g., females might express different levels of state narcissism than men in response to social interactions) and trait narcissism (e.g., the effects for situational-varying variables on state narcissism might be stronger for higher levels of trait narcissism).

In fact, all three substudies found variability in the expression of narcissism over time (i.e., the intraclass correlations ranged from .24 to .70). Furthermore, the results suggested a strong situational influence on this expression. For example, state narcissism increased when participants received negative feedback in that situation or had negative social interactions (see Figure 4). This effect was also found for positive feedback. However, the underlying mechanisms were different: While the first effect was most likely due to ego protection strategies, the second

effect can be ascribed to ego boosting. Women and high narcissists in particular, responded stronger to positive feedback. Furthermore, satisfaction with oneself in a particular situation (i.e., high self-esteem level) could buffer from the effect of negative social interactions. In contrast, positively perceived social interactions reduced state narcissism due to successful need satisfaction. The third substudy showed that it was useful to differentiate between several types of feedbacks and interactions. For example, skill-related feedback increased state narcissism when it was evaluated as extremely positive or extremely negative. This association was found for appeal- and behavior-related feedback only when state self-esteem was low. Interestingly, trait narcissism, but not trait self-esteem, enhanced state narcissism as one form of trait manifestation. Last but not least, people who generally received much feedback (i.e., over the time of study attendance), especially from familiar others (i.e., friends or romantic partners), were less likely to express higher scores of narcissism in a certain situation. It was assumed that habituation and successful need satisfaction mechanisms were responsible for that.

Unlike Study 1, the second study showed that there is a strong situational influence on the expression of narcissism within daily social interactions. In the last study of this dissertation, I turn to the long-term phase of social interactions, namely, friendships.

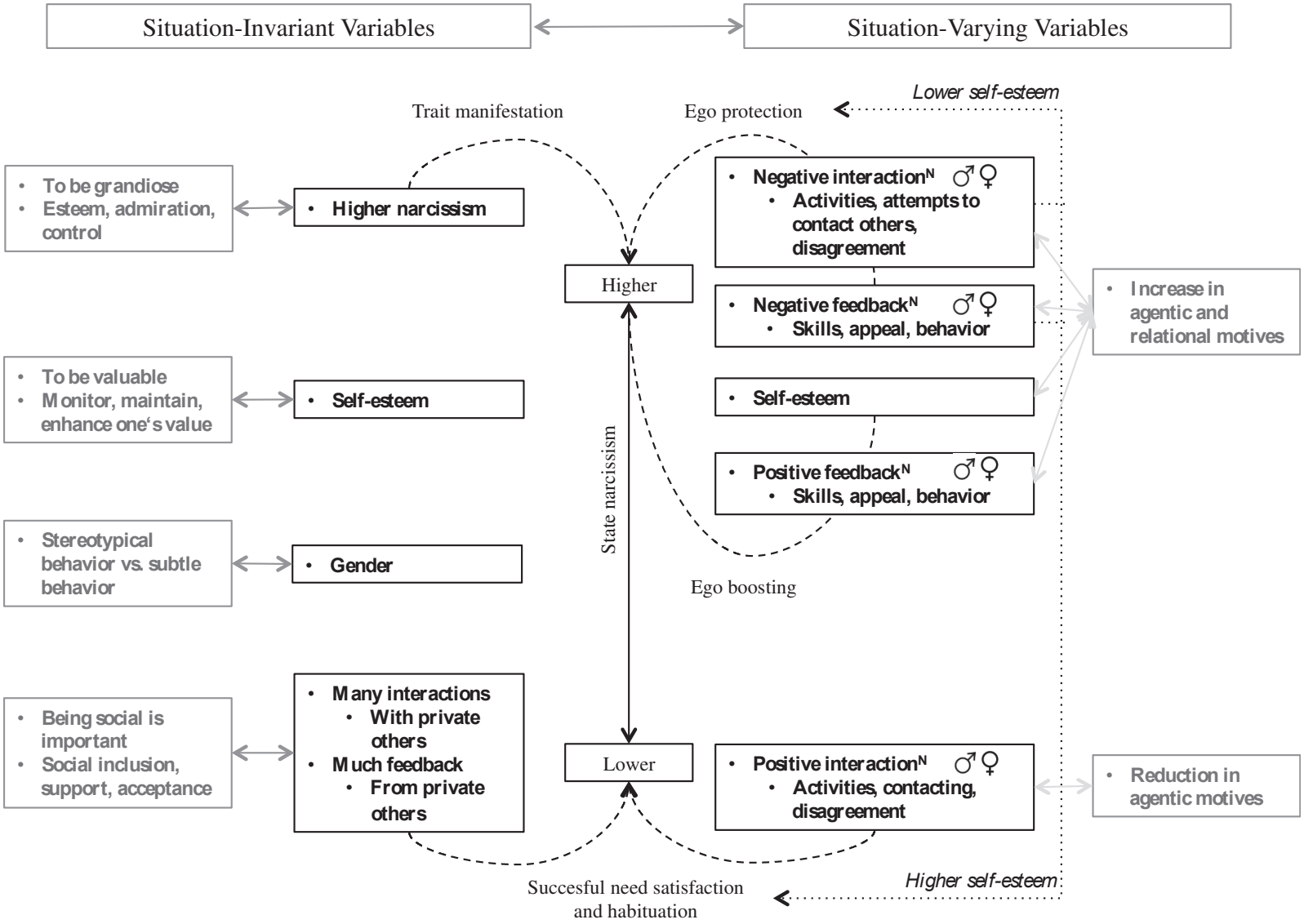

Figure 4. NARCIS for the research questions in Study 2.

4.3 Narcissists of a Feather Flock Together: Narcissisn and the Similarity of Friends (Study 3)

The first two studies revealed that narcissists always make very good first impressions (Study 1) and that social events cause fluctuations in individual's narcissism manifestations (Study 2). However, sooner or later, social interaction partners will get angry about the manipulative, aggressive (Bushman & Baumeister, 1998), and controlling behavior expressed by narcissists (Campbell et al., 2002). For this reason, the third study asked: Who is willing to expose him- or herself to narcissists on a long-term basis? Based on existing theory and empirical findings (e.g., Fehr, 2012; Foster, Misra, & Reidy, 2009; Jonason & Schmitt, 2012; Selfhout, Denissen, Branje, & Meeus, 2009), two hypotheses seemed plausible: Similarity in narcissism is versus it is not associated with the similarity of two friends' Big Five profiles. To investigate this issue, a total of 290 dyads of best friends filled out measurements of the whole Dark Triad as well as the Big Five. For each personality domain, profile similarity and its dependence on the similarity in the Dark Triad were determined.

Figure 5 displays both hypotheses regarding personality similarity within the NARCIS framework. The focus in this study lied primarily on the main effects of situation-invariant variables. However, implications for the future study of the situation-varying variables were discussed. The similarities in the general Big Five profile and all of its domains are placed in the middle of Figure 5. A positive association between similarity in narcissism and similarity in the Big Five would have important advantages within several situations (i.e., situations-varying variables), which are displayed on the right edge of Figure 5 for each of the Big Five traits. For example, friends who are similarly narcissistic might also be similarly disagreeable. This, in turn, might reduce interactional problems of narcissism, as both friends would tend to accept a selfish life strategy and would rather focus on benefits than on avoiding losses within their relationship. In contrast, it seems plausible that dissimilarity would have some benefits, as well. For example, Friend B might be more forgiving of dominant behaviors when he is more agreeable than Friend A. Further, the male and female symbols in Figure 5 point to possible moderation-within effects.

Results showed that the distinctive similarity (i.e., the similarity in unusually high or low trait scores) in narcissism increased the two friends' distinctive similarity in the Big Five and in all of its domains (marginally for neuroticism). There was no main effect for the gender composition of the dyad but it moderated the impact of similarity in narcissism on similarity in the general Big Five and extraversion profiles: Male friends were less similar at low levels of narcissism similarity but more similar at high levels of narcissism similarity than females or mixed friendships.

All in all, Study 3 suggested that narcissists could have long-term friendships. However, these friendships may only be maintained because the narcissistic friends are generally quite alike. Such a similarity offers many advantages in several situations that require the same view on benefits, preference of competition, avoidance of intimacy, and acceptance of selfishness.

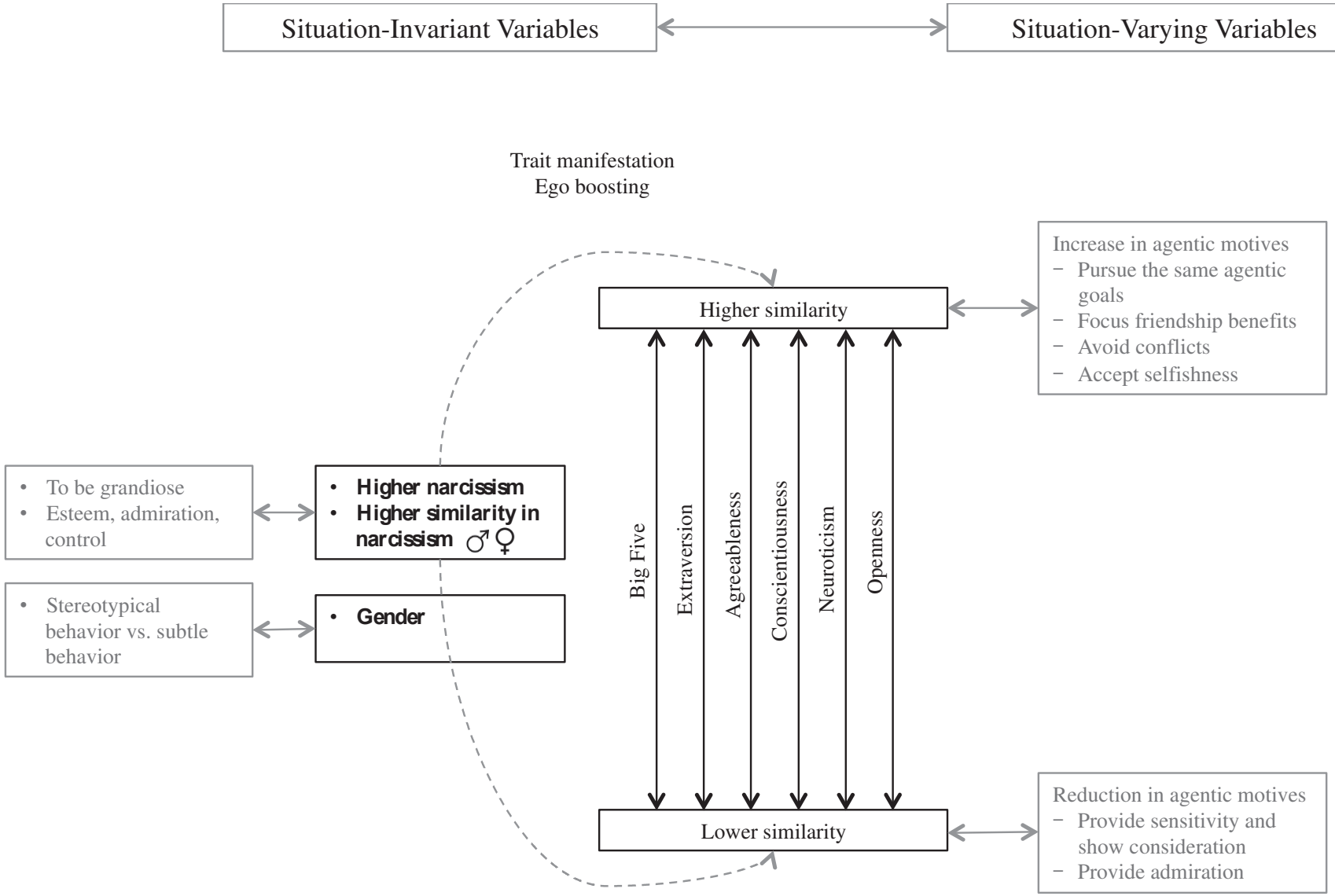

Figure 5. NARCIS for the research questions in Study 3.

5. GENERAL DISCUSSION

The motivation for the present work was based on the observation that situational influences on the expression of narcissism within social interactions have not yet been entirely understood. Consequently, the work tried to shed light on this issue by using a conceptual framework (NARCIS). This framework distinguishes variables that are invariant across several situations from those that can vary from moment to moment.

5.1 Summary of the Findings

In the introduction, I asked what roles differences in narcissism and situational aspects play within social interactions. I also pointed to the possibility that there might be situations that make people behave more, or less narcissistic independent of their trait narcissism level. In the following section, I summarize the findings from Study 1 to 3 with respect to these questions.

5.1.1 What is the role of individual differences in narcissism within social interactions in general and dyads in particular?

Study 1 used an experimental priming design and provided further support for previous findings that narcissists promote themselves whenever they can (e.g., Morf, Horvath, et al., 2011). The results contradicted assumptions from TAT (Tett & Burnett, 2003) because individual differences in narcissism manifested themselves in trait-relevant situations irrespective of the strength of cues for enhanced self-promotion. Importantly, narcissism was an invariant predictor (i.e., across four groups) for the judgment of written self-descriptions (i.e., favorable impression, agentic-narcissistic style) only when the mutually shared variance with self-esteem was controlled. Hence, it was the grandiose core – that went beyond ordinary better-than-average beliefs of high a self-esteem – that drove the effects for narcissism.

The multilevel analyses from Study 2 revealed that people differed in their expression of their state narcissism levels on a day-to-day basis. This is in line with assumptions from previous person-situation theories (e.g., WTT; Fleeson & Jayawickreme, 2015). These manifestations, on the one hand, appeared due to differences in situation-invariant variables (i.e., trait narcissism but not trait self-esteem) and, on the other hand, due to situation-varying influences (described below). For example, people with higher trait narcissism levels were more likely to express higher levels of state narcissism. In contrast, people who generally received much feedback from partners and friends (but not colleagues) were less likely to show higher state narcissism levels. Furthermore, individual differences in trait narcissism were shown to moderate the influence of positive feedbacks on the expression of narcissistic attitudes: Narcissists responded especially narcissistically when they received positive feedback. In contrast, narcissists in particular reacted

less narcissistic when they perceived attempts to contact others as more positive (successful need satisfaction).

Study 3 also pointed to the importance of individual differences in narcissism in social interactions. In fact, the famous saying “birds of a feather flock together” can also be applied to long-term friendships of narcissists. It was the distinctive similarity in the friends’ narcissism scores (i.e., the degree to which two personality profiles similarly deviate from the norm) that predicted the distinctive similarities in the Big Five profile (e.g., similarly narcissistic friends were also similarly extraverted).

5.1.2 What role do situational aspects play in the manifestation of narcissism in social interactions?

As mentioned above, situational cues were relatively unimportant for narcissistic self-promotion (Study 1). In contrast, the findings from Study 2 showed that situational events elicit the expression of more narcissistic attitudes – at least in the short term – and that this effect was independent of how narcissistic individuals generally are. For example, positive but also negative feedback increased the likelihood for higher state narcissism levels. Also, when individuals did not feel satisfied with themselves and experienced unpleasant social interactions, their state narcissism level increased. Lastly, Study 3 conveyed an outlook into what way similarity in narcissism might be advantageous for narcissistic behavior in specific situations (e.g., pursuit of same goals, mating, conflict avoidance).

All in all, results from the three studies contribute to the narcissism literature in that they stress the interplay between person and situation effects within the context of social interactions. This approach was new for the study of narcissism because it systematically differentiated between both effects. The dissertation demonstrated that narcissism does not manifest itself to the same extent in every situation that might seem relevant for the expression of higher narcissism levels. While the individual trait standing plays an important role at the beginning of the socializing process or the maintenance of friendships (Study 1 and 3), situational aspects are at least as important within daily interactions (Study 2). One key feature for the manifestation of higher trait narcissism levels might be the extent to which a situation activates the narcissism core. For example, Study 1 showed that situations requiring self-promotion activate the narcissistic grandiosity that is beyond concerns for social desirable behavior. Similarly, Study 3 pointed to the idea that the agentic goal pursuit of narcissists makes them chose similar long-term friends because dissimilarity would result in high costs within many social situations (e.g., cause conflicts). However, as Study 2 showed, several factors determine the manifestation of narcissism in real-life situations. Daily social interactions or feedback situations are very complex and do not necessarily trigger the narcissistic core. Other factors (i.e., the state self-esteem level or the

valence of the interaction) also influence to what extent the trait manifests itself. Thus, also non-narcissists respond to such situations with enhanced narcissistic attitudes. The dissertation illustrated the need for more studies examining narcissism in everyday life. Studies with laboratory settings might create rather isolated or more extreme situations that might activate the narcissistic core more directly. However, most situations include several situational aspects that seem to be important to consider. For these reason, I believe that this dissertation is a good starting point to gain more knowledge about when (i.e., under which situational circumstances) and why (e.g., when the core of narcissism is activated) people behave narcissistically.

5.2 Theoretical and Practical Implications

The results of the current dissertation have several implications for (a) the study of narcissism in the progress of social interactions (b) the narcissism-self-esteem relationship, and (c) gender differences in narcissism outcomes.

5.2.1 Narcissism in the Progress of Social Interactions

Previous research shows that narcissists impress other people at first (Back et al., 2010; Oltmanns et al., 2004; Paulhus, 1998). However, interaction partners turn away from narcissists in the long term due to narcissists' observable antagonistic behaviors and perceptions of their untrustworthiness (e.g., Leckelt et al., 2015; Paulhus, 1998). Leckelt and colleagues conclude that an increasing level of intimacy between the interaction partners, and thereby different social demands, might be responsible for that. However, these studies were restricted to a period of a few weeks. How does the impression of narcissists change over longer time periods? If narcissists became more and more unpopular, they would either be alone someday or would, constantly, have to get to know new people. Indeed, Campbell and Campbell (2009), in their contextual reinforcement model, propose the idea that narcissists cyclically return from the enduring to the emerging zone of social interactions because benefits are greater at lower intimacy levels (e.g., game playing, admiration; see also Back et al., 2010). However, it remains unclear how long this enduring zone can last. Studies examining narcissists in romantic relationships found reduced commitment even in longer relations (i.e., 15.5 months on average; Campbell & Foster, 2002). Because commitment is not what narcissists strive for, Study 3 points to the idea that only interaction partners who provide agentic benefits might be worth spending time with, over a longer period of time.

It seems plausible that friends of narcissists are those, who overcame the phase in which narcissists are perceived negatively. As research on forming peer relationships has shown, both selection and socialization effects might contribute to the development of friendships (Kandel, 1978). Narcissists might choose their longer-term interaction partners according to rigorous

demands. They rely on similar friends because they provide advantages in situations that might be difficult for many interaction partners (e.g., acceptance of the selfish life strategy) as soon as the relationships become closer. They might be especially consistent in construing satisfying relationships (i.e., satisfying in an agentic-narcissistic sense). “Social losses” in the intermediate phase might just be a side effect on their way to pursuing agentic benefits. Nonetheless, it is also possible that friends become more similar during their numerous interactions (Back et al., 2011; Brechwald & Prinstein, 2011).

Following ideas from the PERSOC (Back et al., 2011) individual and relationship dispositions interact over time at state level. An interesting question is what the according interaction partner contributes to the expression of socially undesirable behavior of narcissists. Although Study 2 did not examine unacquainted interaction partners in progress (i.e., instead, interactions with colleagues, bosses, partners, and friends were addressed), it did point to a possible cycle in which the behaviors of interaction partners promote narcissistic reactions (i.e., the interpretation of such behaviors as positive or negative). For example, one result was that positive feedback increased state narcissism levels and that this effect was even stronger for people with higher trait narcissism levels. We know that narcissists are perceived as being charming in the beginning. Hence, they are probably idolized and are nurtured with much positive feedback. This in turn activates ego-boosting mechanisms and increases state narcissism manifestations. These responses then are perceived negatively causing people to react differently (i.e., reserved). Narcissists in turn might notice this change in social interactions and evaluate them as negative. This triggers ego protection mechanisms, again, leading to increased narcissistic expressions (cf. the admiration and rivalry paths in Back et al., 2013). Remember that these relationships were not always moderated by the individual’s trait narcissism level, indicating that also low-narcissists show narcissistic behavior in some situations. This might fuel interactional difficulties in the intermediate phase even more.

Nonetheless, Study 2 also revealed that there are some situations that are able to “buffer” against these effects. For example, positive interactions and a general higher number of feedbacks from partners and friends reduced the expression of narcissism. Similarly, a high situational self-esteem inhibited the increase in narcissism. There is evidence showing that an activation of communal orientations (i.e., the feeling of being loved and cared about) increase commitment for romantic relationships in narcissists (Finkel, Campbell, Buffardi, Kumashiro, & Rusbult, 2009). Remember that, according to sociometer theory (Leary et al., 1995), self-esteem monitors the own relational value to others. Hence, the buffer mechanisms in Study 2 might be cautiously related to this communal activation.

To summarize, there is more work needed to understand when and why narcissists form intimate relationships – in the short-, medium-, and long-term. However, to a certain degree the present dissertation questions the hypothesis that narcissists inevitably return to the beginning of social interactions.

5.2.2 Narcissism and Self-esteem

It was especially interesting to see that trait self-esteem had no significant effect on narcissistic behavior (Study 1 and 2). This is in line with previous findings from Brown and Zeigler-Hill (2004) that the self-esteem narcissism relation is rather small. The authors proposed to measure agentic and communal aspects of self-esteem when dealing with narcissisms because dominance-related self-esteem is stronger associated with narcissism. The present dissertation expands upon this suggestion by finding that it was state self-esteem that profoundly contributed to narcissistic manifestations (Study 2). Hence, it would be exciting to include measurements that capture the momentary self-esteem level of participants rather than the overall satisfaction with oneself. The according items could be adjusted by the term “at the moment”. Furthermore, the effects from Study 1 point to the usefulness of controlling for the effects of self-esteem to get information about the incremental prediction of the narcissism core, nonetheless.

5.2.3 Gender Differences in Narcissism

Grijalva and colleagues (2014) meta-analytically reviewed gender differences and confirmed that men score higher than women on narcissism inventories. The magnitude of this effect (d = .26) was comparable to gender differences in other personality outcomes (e.g., risk-taking, self-esteem, and neuroticism). The authors state: “Most gender stereotypes can be categorized into the following two dimensions: agentic characteristics, which include competitiveness, dominance, assertiveness, and need for achievement or high achievement goals; and communal characteristics, which include friendliness, nurturance, tenderness, and selflessness” (p. 263). However, more work is needed to gain an understanding about which narcissistic outcomes are related to gender. As could be seen in this work, the results of all three studies do not reveal a completely consistent picture. While Study 1 found no interaction effect with gender, Study 2 and 3 did. Women reacted more narcissistic in situations where they received positive feedback (Study 2). Also, men were more likely to have similar friends (in terms of the general Big Five profile and extraversion). These differences might not solely be explained by the agentic-communal orientation. Thus, a more comprehensive model for gender effects in narcissism outcomes is needed (see also the ideas of Eagly & Wood, 1999).

5.3 Future Directions: NARCIS as a Framework for The Studies of Narcissism

In a special issue on "Social Consequences of Personality" of the *European Journal of Personality*, Back and Vazire (2015) describe an increased interest in the study of social relations in personality psychology that likely developed from the person-situation debate. The authors suggest six points that future studies could take into consideration when they aim at contributing to the social outcomes literature. In the following, I take up these points[3]. Thereby, I briefly describe in what ways this dissertation was limited and provide ideas in what sense the use of NARCIS might be helpful for future studies of narcissism within social interactions, exemplified by narcissism and friendships.

5.3.1 Examine a range of personality variables (e.g. goals and values) and integrate findings across domains[3]

Back and Vazire (2015) state that only by examining several personality domains at the same time, shared and unique effects of these can be disentangled. NARCIS offers this possibility within the situation-invariant variables part.

In this work, the entire Dark Triad, self-esteem, and gender were mostly assessed together (i.e., as situation-invariant variables). Furthermore, Study 1 explicitly looked at the unique contribution of trait narcissism on narcissistic self-promotion by including these variables step-by-step. Other approaches to narcissism that concentrate on the description of personality traits (e.g., "disagreeable extraverts": Paulhus, 2001) can use NARCIS to examine additional main effects of extraversion and agreeableness on concrete narcissistic behavior (e.g., conflict avoidance) within a certain situation (e.g., when a friend needs someone to talk to). These effects could be analyzed parallel to trait narcissism or in interaction with it (i.e., moderation-within) as well as in interaction with other situational-varying variables (e.g., the friend cries versus does not cry).

Additionally, NARCIS incorporates underlying attributes of situation-invariant variables that could be studied more intensively than it was done within this work (i.e., basic beliefs about oneself and others, goals, biological factors, and social learning history). The framework suggests an agentic goal pursuit for narcissists (based on previous research). Does this hold true at the beginning and maintenance of friendships? One motivation for building peer relationships is the need for relatedness (Deci & Ryan, 2000). Hence, the influences of agentic versus communal goals for the formation of friendships with a narcissist might be of special interest. These motives could be measured more directly and in relation with communal narcissism (Gebauer et al., 2012). For example, how do agentic and communal narcissists react when their short- or long-term friends ask for emotional support or physical care? In a study with adolescents, Kauten and Barry

[3] The headings 7.3.1 to 7.3.6 are quotations from Back and Vazire's article (2015). To ease reading, I waived the correct in-text citations. The quotations can be found in the article on page 296.

(2014) found that participants scoring high on pathological narcissism reported they would behave prosocially whereas their peers did not confirm this self-view. In the case that a friend needs help, would narcissists talk about themselves, instruct others to take care, or would they show increased empathy? All these questions are ripe for future research.

5.3.2 Take a broader and more integrative view on social outcomes, including different relationship types, phases and transitions[3]

Back and Vazire (2015) observed that only few researchers study social outcomes with respect to non-student or non-sexual relationships. The present work demonstrated the usefulness to apply NARCIS to such samples. For example, Study 3 explicitly concentrated on long-term friends, and Study 2 examined, amongst other things, daily interactions with privately known (i.e., friends and sexual partners) as well as work-related others (i.e., colleagues and supervisors). Future studies could also sample other social interactions, for example, to study narcissism within friendships between colleagues, in groups, or older adults.

Further, Back and Vazire (2015) suggest concentrating more on the relational transitions within social interactions over time. Although the current work tried to approach this goal (Study 1 at the beginning of a potential friendship, Study 2 within the daily intercourse, and Study 3 with long-term friendships), more work is needed to fully understand when and why narcissists engage in relationships with others. For example, we now know that long-term friends are more similar to each other when their narcissism levels match (Study 3). Does that mean, conversely, that narcissists end these friendships, the moment they identify important personality differences? Are they even aware of such personality similarities in the first place? Furthermore, it was argued in Study 3 that narcissists would prefer similarly disagreeable long-term friends. However, how does it play out when two disagreeable narcissists come into conflict or one of them needs support – in the beginning of a friendship versus in the maintenance and ending phase? These are interesting questions that may be addressed in future research.

5.3.3 Analyze personality effects on social outcomes from different social perspectives (e.g. self, other and dyad)[3]

Another proposition for future studies of social relations in personality psychology is to include self-perspectives (e.g., “I am the best friend Tom could have”), other-perspectives (e.g., “Tom is the best friend I could have”), as well as meta-perspectives (e.g., “Tom knows that I am the best friend he could have”) on the same topic. Within the current work, one limitation was the reliance on self-perspectives only. However, the dyadic approach in Study 3 was fruitful and could easily be expanded to other- and meta-perspectives. Several further research questions are imaginable. For example: Which situation-varying variables do perceptions of narcissists depend

on (e.g., refusal of support in case of a crisis)? Furthermore, the perspectives of friends might help to find more direct evidence, as to why they are willing to be exposed to narcissists on the long term.

5.3.4 Search for processes that explain the associations between personality and social outcomes[3]

Future studies are supposed to focus more on intra- and interpersonal mechanisms that drive the associations between personality and social outcomes (Back & Vazire, 2015). As this work shows, NARCIS is useful to specify such mechanisms in several ways (i.e., by specifying automatic thoughts, emotions, and motivations in response to situational events and by self-regulation mechanisms such as ego protection). It, however, made some predictions that have to be empirically tested more intensively. For example, following the addiction model (Baumeister & Vohs, 2001), NARCIS assumed need satisfactory mechanisms. However, to my knowledge, there is not sufficient research on the question of whether the narcissists' strive for admiration can be satisfied at all. Furthermore, following methods from cognitive behavioral therapy (Ellis, 1977; Kanfer, Reinecker, & Schmelzer, 2012), more concentration might be put on the identification of typical narcissistic thoughts and interpretations that are activated in certain situations (e.g., when asking for help or being asked for help). Using diary designs combined with interviews, the predictions of ego boosting and ego protection mechanisms could be validated more directly. For example, the NARC (Back et al., 2013) considers different routes for self-maintenance (i.e., striving for uniqueness vs. superiority). These routes are characterized by fictitious self-instructions that embodied the principles of "Let others admire you!" and "Don't let them tear you down!" (p. 1016). The authors describe that one route can be activated more than the other depending on the particular social context. NARCIS can help specifying those social contexts and the according interpretations. It might also be combined with current classification systems of situation characteristics (DIAMONDS: Rauthmann et al., 2014; B5PS: Ziegler, 2014).

5.3.5 Collect rich, multi-method, longitudinal, behavioral datasets with large samples[3]

Back and Vazire (2015) state that in an ideal case, researchers would collect data that is longitudinal, include self- and other reports, and had several methods to assess behavioral, cognitive, emotional, and motivational variables in real-life settings. While these standards cannot always be met, NARCIS would provide the possibility to consider such a design. This work tried to approach this goal by collecting data from dyads (Study 3), self-reports (Studies 1-3), experimental designs (Study 1), longitudinal assessments (Study 2), as well as real-life (Study 2) and laboratory settings (Study 3). Nonetheless, the research question of each study could have

been examined with several data collections to illuminate each aspect of the according NARCIS in more detail.

5.3.6 Carefully evaluate the implications of personality effects on social outcomes[3]

The last suggestion of Back and Vazire (2015) refers to the risk of interpreting statistically significant results as being practically significant. Further, they suggest to consider possible moderator effects and therefore, not "endorsing one path/outcome as better for all" (p. 304). The three studies sought to incorporate this suggestion.

5.4 Conclusion

This work suggests a conceptual framework for the study of narcissism in situations (NARCIS). I used it to derive hypotheses about narcissistic behavior along the timeline of social interactions. Additionally, it specified how situation-invariant and situation-varying variables jointly contribute to the manifestation of intra-individually varying levels of narcissism in everyday life and narcissism's effects on social relationships. Hopefully this framework is useful for future studies to examine dynamic person-situation transactions for narcissism and its intra- and interpersonal consequences.

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7. ORIGINAL ARTICLES

Article 1:

Maaß, U., & Ziegler, M. (submitted). Narcissistic self-promotion is not moderated by the strength of situational cues. *European Journal of Social Psychology*.

Article 2:

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Article 3:

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7.1 Narcissistic Self-promotion is not Moderated by the Strength of Situational Cues

Narcissistic self-promotion is not moderated by the strength of situational cues

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Abstract

The present study examined whether individual differences in narcissistic self-promotion were diminished in trait-relevant situations that included strong cues for self-promotion, as trait activation theory (Tett & Burnett, 2003) would assume. Therefore, written self-descriptions of 219 participants were rated regarding the degree of a favorable and narcissistic impression (in an agentic or communal way). Participants were either exposed to no primes, subliminal primes, or an explicit request to self-present prior to the task. Results showed that all participants promoted themselves more favorably and narcissistically in situations with an explicit request only. The impact of narcissism on self-promotion varied across groups at first. Controlling for differences in self-esteem, however, yielded an invariant influence of narcissism. Hence, it was the grandiose core of narcissism in particular that led to enhanced self-promotion irrespective of situational cues.

Keywords: Narcissism, Dark Triad, Situation, Self-promotion, Trait activation theory

Narcissistic self-promotion is not moderated by the strength of situational cues

People scoring high on narcissism scales are expected to permanently self-promote (Campbell, Reeder, Sedikides, & Elliot, 2000; Collins & Stukas, 2008; Grijalva & Zhang, 2015; Morf, Horvath, & Torchetti, 2011; Wallace & Baumeister, 2002) so that self-elevations seem to be their "default-mode". The term self-promotion describes any behavior that is intended to "impress an audience with one's competence. It includes self-enhancement and specific self-praise" (Paulhus, Westlake, Calvez, & Harms, 2013, p. 2042). This creation of an either preferred or correct impression helps to achieve certain goals like making friends, to improve well-being and health, or to be self-consistent (Schlenker, 2003). Although there is evidence that narcissists[1] promote themselves more strongly (see Grijalva & Zhang, 2015 for a review), it is also a fact that almost all people use self-promotional tactics. Generally speaking, one of the most influential motives for people is that others should see them in the positive way they see themselves (Alicke & Sedikides, 2009; M. R. Leary & Baumeister, 2000). Different strategies are used to convey certain self-images of being likeable, dangerous, competent, moral or vulnerable (E. E. Jones & Pittman, 1982). On that score, except for the last attribute, it might be honest to say that everyone seems a little narcissistic when self-presenting. The current study asks whether there are certain situations, in which non-narcissists[1] promote themselves in the same way narcissists would do, or whether narcissists indeed always promote themselves more strongly.

Modern frameworks of personality assume that both situation and personality influence human behavior (e.g., Fleeson & Jayawickreme, 2015; Mischel & Shoda, 1995; Tett & Burnett, 2003; Ziegler, 2014). For example, trait activation theory (Tett & Burnett, 2003) postulates that personality expressions depend on two situational aspects: trait relevance and situation strength.

Trait relevance is given when the situation matches a certain trait in that its expression is more likely than any other. For example, trait-relevant situations for narcissistic self-promotion would offer the opportunity to talk about oneself because this would match the narcissists' motive for admiration (Wallace & Baumeister, 2002).

Situation strength, in contrast, refers to the presence of intrinsic and extrinsic rewards (i.e., the basic joy of personality expression vs. the external confirmation for personality expression) that can influence to what degree people express their trait in trait-relevant situations. Tett and Burnett (2003) state that strong situations include extrinsic rewards that have the potential to diminish individual differences in trait expression, which would be intrinsically rewarding. That means that people would behave in the same way when there are strong rewards for such behavior (i.e., the influence of personality in strong trait-relevant situations is relatively low). In contrast, weak situations include weak or unclear extrinsic rewards so that there is much variance in personality expression. For example, an explicit request to self-promote in order to find new friends might act as a strong reward for particularly positive self-promotions. Ziegler and colleagues (2014) found that different situational contexts can even influence the predictive validity of traits and point to "the need for a clearer understanding of which situational features actually act as constraints or activators of traits" (p. 6). Hence, it seems important to consider situation effects for the study of narcissistic behavior, as well.

The present study therefore aims at examining the impact of Narcissism on self-promotion across different situations. All focused situations are relevant to the trait of Narcissism as they require talking about oneself and offer the chance for self-promotion. The situations differ in the extent to which self-promotion is explicitly requested and thus externally rewarded. Opposing the assumptions based on trait activation theory, we predict that despite differing

situational strengths, higher narcissism still manifests in the form of increased self-promotion in strong and weak situations.

The Influence of the Situation on Self-promotion

There are many situations that bring most people to use certain self-promotional strategies (e.g., self-promotion, ingratiation or self-handicapping). Such situations might either include an explicit request to present oneself or contain other signals that trigger self-promotion without people's conscious awareness (Schlenker, 2003). For example, Tyler (2012) found that people describe themselves more positively after being subconsciously primed. The found effect sizes were large (up to $d = 3.79$) for the differences in positive impressions between a subliminal priming condition (impression-related words were used as primes) and a condition with neutral primes. Furthermore, the self-promotions in the prime condition did not significantly differ from the condition with an explicit instruction to present oneself more favorably. The author concluded "subconsciously and consciously activated goals may control behavior in much the same way" (p. 6).

Explicit requests to self-promote. Research has largely agreed on the notion that people are able to distort their personality traits when asked to do so (Pauls & Crost, 2005; Ziegler & Bühner, 2009; Ziegler, Schmidt-Atzert, Bühner, & Krumm, 2007). They also self-promote more in high-stakes situations, for example, when applying for a desired job as compared to when they already have the job (Rosse, Stecher, Miller, & Levin, 1998).

Other cues that trigger self-promotion. In general, self-promotion can be triggered by cues that are associated with public audiences, with routine processes, ~~with~~ time pressure, or with information overload (Bargh, 1996; Baumeister & Showers, 1986). For example, people automatically describe their abilities and career success more positively when they socialize with

strangers, whereas they automatically engage in modesty when interacting with familiar persons (Tice, Butler, Muraven, & Stillwell, 1995). Likewise, the expectation to date an attractive (vs. not appealing) partner leads to more desired self-descriptions, especially for people high in self-monitoring (Rowatt, Cunninghan, & Druen, 1998). Last but not least, situations, which include much potential for agentic but not communal behavior (i.e., getting ahead vs. getting along), make people boast and stress their own competence, courage, and cleverness more (Paulhus & Trapnell, 2008).

Summarizing, there is a strong situational influence on the degree to which people promote themselves: Leary (1957) stated that most people can display themselves flexibly but return to their default mode in stress situations, which is generally positive (Paulhus, Graf, & Van Selst, 1989). Nonetheless there are individual differences in self-promotions that partly can be traced back to personality differences. Narcissism and self-esteem seem to be most relevant to self-promotion.

The Influence of Personality on Self-promotion

Narcissism. Narcissism is supposed to incorporate the "self-enhancer personality" (Morf et al., 2011, p. 399) and to be associated with more concerns for self-promotion than other personality traits (Campbell et al., 2000; John & Robins, 1994). Narcissists are more interested in impressing others than being liked (e.g., Campbell, Rudich, & Sedikides, 2002; Morf & Rhodewalt, 2001; Paulhus, 2001). Indeed, they make very positive impressions at zero-acquaintances (Back, Schmuckle, & Egloff, 2010) and promote characteristics from agentic areas such as dominance, intelligence, or competitiveness (Bosson et al., 2008; Campbell et al., 2002; Paulhus, 1998). Thereby, they claim to be more intelligent and attractive than they objectively are (Gabriel, Critelli, & Ee, 1994). Grijalva and Zhang (2015) meta-analytically confirmed the

general enhancement of agentic but not communal characteristics. Furthermore, narcissism is linked to acquisitive self-monitoring (Rauthmann, 2011), which, in turn, is associated with the pleasure of self-promotion (Arkin, 1981).

So far, their self-promotion does not seem to differ much from that of non-narcissists. The main difference, however, might be that narcissism facilitates an increased promotion in every situation. For example, narcissists use more self-promotion tactics (i.e., stressing or exaggerating own competencies) within situations that demand a certain degree of self-presentation (e.g., a job interview; Paulhus et al., 2013) but also in situations that demand modesty (e.g., after receiving negative feedback; Morf, Ansara & Shia, 2001 as cited in Morf & Rhodewalt, 2001; Robins & John, 1997). Hence, narcissism might have a more positive and situation-independent default mode for self-promotion than others.

Self-esteem. Like narcissists, people with high self-esteem think of themselves to be better than the average (J. D. Brown, 1986) and have an acquisitive self-promotional style. In contrast, people with lower levels of self-esteem rather apply protective self-promotional tactics (e.g., avoidance of damages to social acceptance; Tice, 1991; Wolfe, Lennox, & Cutler, 1986). In general, self-promotion overlaps with self-esteem (Johnson, Vincent, & Ross, 1997; Raskin, Novacek, & Hogan, 1991), as does narcissism with self-esteem (e.g., R. P. Brown & Zeigler-Hill, 2004). Narcissism is especially associated with self-esteem regarding agentic but not communal traits (R. P. Brown & Zeigler-Hill, 2004; Campbell, Bosson, Goheen, Lakey, & Kernis, 2007). High self-esteemers, in turn, describe themselves more positive even on communal features (Campbell et al., 2002). Furthermore, only narcissists but not high self-esteemers improve their performance when there is the chance to impress others (Wallace & Baumeister, 2002).

Hence, the difference between narcissists and high self-esteemers might also lie in the width of self-promotion: Narcissists stress agentic traits universally but high self-esteemers emphasize agentic as well as communal traits flexibly.

Gender differences. There is mixed evidence for gender differences in self-promotional strategies. While some authors found differences in self-handicapping between men and women (e.g., Berglas & Jones, 1978; Harris & Snyder, 1986), others did not (Tice, 1991; Tice & Baumeister, 1990). With respect to the self-enhancement bias, there seems to be no gender effect (e.g., Robins & Beer, 2001). In contrast, there are studies showing that men use intimidation, supplication, and blasting more than women, whereas women apply more apologies and promotion tactics (Forsythe, Drake, & Cox, 1985; Hodgins & Liebeskind, 2003; Lewis & Neighbors, 2005). Despite these mixed findings, we included gender as a moderator between narcissism and self-promotion into our analyses because it might be important to narcissism and its expression (Morf & Rhodewalt, 2001).

Person-Situation-Interaction

There is cumulative evidence that, depending on the features of a specific situation, all people engage in positive self-promotion – consciously as well as subconsciously. Individual differences in self-promotion can especially be found regarding self-esteem or narcissism. Trait activation theory assumes an interaction between situation and personality traits, which influences the actual behavior. For example, the effect of narcissism should not be that strong in situations that make almost everyone use self-promotion (i.e., trait-relevant situations that include unambiguous or rewarding cues for the trait expression). Empirical evidence regarding narcissism, however, suggests that narcissists self-promote even in situations without request to do so because they simply self-aggrandize constantly. The above mentioned studies (Morf,

Ansara & Shia, 2001 as cited in Morf & Rhodewalt, 2001; Paulhus et al., 2013) tested narcissists under accountability conditions. The findings support the default mode idea because narcissists do not adjust their self-promotional style to the requirements of the situation (e.g., to be modest as it would be socially expected). So, when it comes to self-promotion, there seems to be no strong interaction between the situational demands and narcissism. Instead, high narcissism may manifest in increased self-promotion independent of the strength of self-promotional cues. Nonetheless, for people scoring low on narcissism, there might be a stronger interaction in that they behave more narcissistic only in situations that include strong cues for self-promotion (i.e., clear cues or an extrinsic reward).

The Current Study

With the current study, we followed the general approach of Tyler (2012) and examined the influence of narcissism on self-promotion in situations that were trait-relevant but that varied in the strength of the cues for narcissistic behavior. More precisely, trait-relevance (i.e., cues that are relevant for the expression of narcissistic self-promotion) was ensured by a task to self-describe. The strength of this situation (i.e., the extrinsic reward) for self-promotion differed in terms of the existence of certain primes: Participants either received subliminally presented primes, no primes, or an explicit request for positive self-presentations. We predicted that only situations that included unambiguous cues (primes and request) and thus, external rewards by behaving according to the situational demands, would trigger self-promotion in general. Nonetheless, we assumed that higher levels of narcissism would result in more favorable and narcissistic self-descriptions independent of the situational strength.

Because the concept of agency and communion plays an important role for self-promotion as well as for narcissism (e.g., Grijalva & Zhang, 2015), we differentiated possible

narcissistic impressions on others between a communal and an agentic orientation. We tested the following hypotheses:

H1: Situations that include either an explicit instruction or a subconscious prime to promote oneself (i.e., extrinsic reward) increase levels of a) favorable b) agentic-narcissistic, and c) communal-narcissistic self-promotions in all participants.

H2: Higher levels of narcissism increase levels of a) favorable, b) agentic-narcissistic but not c) communal-narcissistic self-promotions in the presence of all cues (i.e., strong and weak extrinsic rewards).

Given the promising results in Tyler's (2012) study, we expected the subliminal primes to have a similar effect like the instruction in terms of extrinsic reward. Furthermore, we examined the question whether the associations between narcissism and self-promotion would be moderated by gender. In addition, the study assessed the influence of narcissism while controlling for similarities in psychopathy and Machiavellianism. Only when controlling for the overlap with one of the other two Dark Triad traits the specific effect of narcissism can be interpreted distinctively (D. N. Jones & Paulhus, 2014). As mentioned above, when dealing with narcissism it is recommended to also control for the influence of self-esteem because both constructs correlate positively (e.g., Campbell et al., 2002; Emmons, 1984).

Method

Sample and Procedure

The sample consisted of 219 subjects (141 women, 69 men, nine participants did not report their demographics) with different educational backgrounds (one student, three persons with secondary modern school degree, 16 German middle school degree, 76 high school degree, 75 university degree, 33 finished apprenticeship, five with another school degree), which have been recruited through the experimental server of Humboldt-Universität zu Berlin. On average,

subjects were 37.52 (*SD* = 16.93) years old. All participants rated their own personality with respect to self-esteem and the Dark Triad during an online survey. Afterwards, they were invited to the laboratory and randomly assigned to one of four experimental groups: priming group, neutral group, instruction group and control group. The procedure, which is described in more detail in the next sections, was derived from the approach of Tyler (e.g., 2012). The priming and instruction group were seen as including strong external rewards for narcissistic self-promotion because they received (sub)consciously presented signals to describe oneself particularly positive to a potential new friend. The neutral and control groups, however, are considered to incorporate weak external rewards because they were not primed into a certain direction. All groups have been matched according to the subjects' narcissism scores and gender. Consequently, groups did not differ due to their levels of narcissism or gender, $F(3, 206) = .18$, $p = .91$, $\eta^2 = .003$ and $\chi^2(3) = .03$, $p = 1.00$, $\Phi = .01$, respectively. All subjects received the cover story to take part in an experiment that deals with vocabulary and personality. Using PCs, each participant had to complete a lexical decision task and a personal written self-description.

Lexical decision task. Subjects were provided with single words on a screen that had to be evaluated as an "existing word" (e.g., camel, water, protagonist) versus "non-existing word" (e.g., veragteh, buzme, campter).

Four conditions. Prior to the self-description task, the priming group was subliminally primed with 15 impression-related words (e.g., impression, appearance, role, presentation, face, identity, image) and 15 neutral words (e.g., book, window, dog, house, trip, jump). These words were the same that Tyler (2012) used. Following his procedure primes had been masked by a row of "xxx" (225ms) and stayed on the screen for 17ms, followed by the lexical decision task. After a pause of 1,500 ms, the next round began (30 rounds in total). In the neutral group, the

same neutral primes were used twice. The control and instruction group were not primed.

Self-description. After finishing the lexical decision task, subjects received the following assignment, which differed slightly from the one used by Tyler (2012): "Imagine yourself to be new in town. Someone from your sports class, whom you have been rarely in touch with, wants to get to know you better. How would you describe yourself?" It was assumed that trait-relevance for narcissistic self-promotion was activated by that task because narcissistic impressions are associated with self-introductions (Back et al., 2010; Küfner, Nestler, & Back, 2013). According to trait activation theory, trait-relevant situations in combination with intrinsic rewards should foster the manifestation of individual differences. Hence, the scenario intrinsically rewarded positive self-promotions through the pleasure of talking about oneself. These individual differences in narcissistic self-promotion, however, should be washed out in the presence of strong extrinsic rewards. The prospect to find new acquaintances within an unknown city or at least to get positive feedback from a stranger might be subjectively interpreted and thus, provide a rather weak incentive. Instead, the strength of extrinsic rewards for positive self-promotion was manipulated by the application of primes. Following Tyler (2012) the subliminal primes were impression-related words; and following Ziegler and Bühner (2009), the instruction group got the request to "present yourself in a positive light by stressing your favorable characteristics without exaggerating or lying."

After finishing the self-description, participants answered the manipulation check question "How committed did you feel to the goal of making a special impression?" rated on a scale from 1 (*not at all*) to 7 (*completely*). This question was used to inspect whether participants from the priming group were aware of the primes. We expected that only people from the instruction group would be sensitive for their goal to convey a special image.

Variables and Instruments

Narcissism and the Dark Triad. The German version of the Short Dark Triad Scale (D. N. Jones & Paulhus, 2014)[2] was used to measure subclinical narcissism, Machiavellianism, and psychopathy. This instrument consisted of 28[2] items (9 for narcissism, $\alpha = .70$; 10 items for Machiavellianism, $\alpha = .78$; 9 items for psychopathy $\alpha = .70$) with a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Self-esteem. To assess self-esteem the widely used Rosenberg Self-esteem Scale in its German version (Collani & Herzberg, 2003) was used. Test takers indicated their confirmation on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). The internal consistency coefficient was $\alpha = .92$.

Self-description. Two trained raters evaluated the personality that participants evoked by their written self-descriptions. More precisely, the coders judged how agentic-narcissistic and communal-narcissistic the self-descriptions were. Also, they assessed the favorability of the participants' writings.

The general favorable impression was formed by aggregating the scores on the following attributes: positive, likeable, respectable, special, sympathetic, hardly boring, self-confident, friendly, little dominant, humorous and original. All attributes were evaluated on a scale ranging from 1 to 3. The score 1 was given when the item could not be judged based on the given information, or the person described that he or she did not have the characteristic (e.g., "others often have a negative impression of me because of my cynicism" was judged as not being sympathetic). The score 2 resembled the case when the characteristic was mentioned or could be evaluated based on sentences, lists, or the text as a whole (e.g., "I think positive" was evaluated as a sign that positivity existed). Number 3 was given when the characteristic was particularly

emphasized by several synonyms and sentences, or the person compared him- or herself with others in terms of that feature. The impression had to appear that the person was the "embodiment" of the characteristic of interest (e.g., one very self-confident participant wrote "I am emancipated, motivated, strong, independent, and not unstable").

The degree of agentic narcissism was created by the mean of the narcissistic responses from the forced-choice items out of the NPI-16 (Ames, Rose, & Anderson, 2006). This 16-items questionnaire assesses the belief of being more grandiose than others (e.g., being a special person, manipulating people, insisting on respect, being the center of attention). The items for the evaluation of communal narcissism were based on the Communal Narcissism Inventory (Gebauer, Sedikides, Verplanken, & Maio, 2012), which assesses the belief of being more other-oriented than others with 16 items (e.g., being helpful, bringing peace and justice, doing good deeds, being the most caring person). The same rating procedure as for the general favorable impression was used to judge the participant's agentic and communal narcissism level based on the self-description. The inter-rater-reliability per participant across each attribute ranged from ICC = .69 to 1.00. The aggregated indices (i.e., favorable impression, agentic and communal narcissism) were then used for the statistical analysis.

Statistical Analysis

Manipulation check. In a first step, a one-way ANOVA with post hoc tests were examined in order to check whether the groups (impression group vs. neutral group vs. instruction group vs. control group) differed in their awareness of the goal to provide a special image. It was expected that only the instruction group would pursue the goal to convey a special image of themselves compared with all other groups.

ANOVA. In order to test for general differences in self-promotion between the

experimental groups (H1), one-way ANOVAs with post hoc tests for each dependent variable were calculated. The favorable impression as well as the agentic and communal narcissistic impressions served as dependent variables.

Path modeling. For Hypothesis 2, we specified path models that tested the invariance of the effect of narcissism across all experimental groups. The dependent variables were the general favorable impression (Models A), agentic narcissism (Models B), and communal narcissism (Models C; see Figure 1). The main idea was to specify basic models that had no restrictions (Models A1-C1) and that were tested for invariance of narcissism afterwards (Model A2-C2). Thus, it was examined whether narcissism was an invariant predictor across the four groups. Thereby, the basic models will show perfect fit with zero degrees of freedom because they represent multiple regression analysis. The invariance models will gain three degrees of freedom by fixing the regression weight of narcissism to be equal across groups.

Basic Models. In order to shed light on the specific effect of narcissism, the path modeling followed a stepwise procedure. At first, narcissism was included as the only predictor (Models A1.1 to C1.1). Then, psychopathy and Machiavellianism were added (Models A1.2 to C1.2) followed by self-esteem (Models A1.3 to C1.3). Next, word count and gender were included (Models A1.4 to C1.4). Word count was included because the self-descriptions differed strongly in their length. In a last step, the interaction term between gender and narcissism was formed to test for moderating effects of gender (Models A1.5 to C1.5). These models will also have perfect fit with zero degrees of freedom.

Invariance Models. The invariance models (Models A2.1 to C2.4) differed from the basic models (Models A1.1 to C1.4) only in that we restricted the path from narcissism to the outcome to be equal across groups. In the models with interaction terms for gender (Models A2.5

to C2.5), the paths from the interaction term (Narcissism x Gender) to the dependent variables were set to be equal across groups. Thereby, the models gained another seven degrees of freedom. All in all, ten different models were tested for each dependent variable (five basic Models and five models assuming invariance).

Model comparisons. The basic models (Models A1 to C1) were compared to the invariant models (Models A2 to C2) by examining changes in the model fit indices CFI, RMSEA, and SRMR. A decline in model fit is demonstrated by an increase in RMSEA of at least .010, or an increase in SRMR of at least .025 together with a decrease in CFI of at least .005 (Chen, 2007). In case the invariance models will reveal worse fit than the basic models, the assumption can be rejected that the effect of narcissism would be the same in every situation – and thereby, that narcissists would use self-promotion as default mode (H2). Furthermore, when the interaction variable turns out to be non-invariant across groups the influence of narcissism would not be the same for men and women in every situation.

Results

Manipulation Check

The results for the one-way ANOVAs with post-hoc tests can be obtained from Table 1. Initial analysis revealed that there was a small main effect ($\eta^2 = .04$) of group membership for the desire to convey a special image. Post-hoc tests showed that participants in the prime, neutral and control group did not differ significantly in this desire: prime versus neutral, $t(106) = -.52$, $p = .30$, $d = .10$; prime versus control, $t(102) = .33$, $p = .37$, $d = .06$; neutral versus control, $t(106) = -.17$, $p = .57$, $d = .03$. However, as expected, subjects in the instruction group expressed significantly higher agreement with the question whether they had presented themselves to be

special (*d*s > .37, see Table 1). Hence, it can be assumed that participants in the prime group were not aware of the activation and the following application of the primed goal.

General Group Differences

There were main effects of group membership for all impression indices: Participants in the instruction group were evaluated as more favorable (marginally significant), and more agentically and communally narcissistic than the other groups. Thus, Hypothesis 1 could be partly confirmed. Strong situations with subconsciously presented primes, however, did not cause an increase in favorable or narcissistic self-promotions, which was not expected (H1).

Path Models

Table 2 presents means, standard deviations and Pearson correlations for all variables that were included in the analyses. Model fits for all tested models can be found in Table 3.

Models without interaction terms. The invariance tests for favorable impression revealed that the fits for Models A2.1 and A2.2 (narcissism alone and controlled for the other two Dark Triad traits) increased in the SRMR of .05 and .04, respectively. These changes did not match the criteria proposed by Chen (2007). Hence, narcissism was no invariant predictor across the four experimental groups in these models. However, the model controlling for self-esteem (Model A2.3) was (SRMR increased less than .025). This shows that narcissism was only an invariant predictor of a favorable written self-description when the shared variances with the Dark Triad and self-esteem were controlled for.

A similar picture emerged for the judgments of agentic narcissism. Model fits worsened until self-esteem was considered (Model B2.3; SRMR increased of less than .025). In contrast, the fits for all models predicting communal narcissism (Models C2.1-4) decreased in all three

criteria (i.e., RMSEA of at least .06 or SRMR of at least .025). Thus, narcissism was not an invariant predictor of a narcissistic impression in a communal-oriented way.

Models with interaction terms. Referring to the basic models with interaction terms (Models A1.5, B1.5, and C1.5), Table 3 shows perfect fit indices. The invariance tests revealed that the interaction between gender and narcissism was not invariant across groups because model fits decreased for the invariance models (Models A2.5, B2.5, and C2.5) compared to the basic models in all experimental groups (i.e., RMSEA of at least .07).

Table 4 displays the unstandardized regression coefficients in the models including all predictors (Models A2.4, B2.4, and C2.4). Narcissism positively predicted a favorable impression as well as an agentic narcissism. However, narcissism failed to significantly predict a communal-narcissistic self-promotion. Thus, Hypothesis 2 could be confirmed (see Figure 2). There were no significant coefficients for the interaction between narcissism and gender in either group. Because this result might be due to a weak power given the sample size no clear statement about the moderating effect of narcissism and gender can be made.

Self-esteem and Machiavellianism were not significantly associated with either of the impression indices (except for the association between self-esteem and agentic narcissism in the instruction group). Psychopathy was negatively associated with communal narcissism in all groups but the prime group. Word count was a significant predictor for the impression indices in most groups but the prime group.

Discussion

Throughout literature, researchers conclude that higher scores in narcissism result in more self-promotion in all kinds of situations (Campbell et al., 2000; Collins & Stukas, 2008; Morf et al., 2011; Wallace & Baumeister, 2002). Trait activation theory (Tett & Burnett, 2003), however,

assumes that the effect of individual differences in personality traits, such as narcissistic self-promotion, should diminish in trait-relevant situations that contain strong cues for a certain behavior (e.g., self-promotion is extrinsically rewarded). People with higher as well as lower levels of narcissism should promote themselves equally in such situations. The current study tried to dissolve this discrepancy using an experimental design. Results suggest that narcissistic self-promotion is not moderated by the strength of cues within a trait-relevant situation – however, only when controlled for the shared variance with the Dark Triad and self-esteem.

Narcissism, Self-esteem and Self-promotion

Participants from the instruction group promoted themselves as more favorable and narcissistic (i.e., in an agentic as well as communal way). Narcissism, however, was associated with the highest levels in self-promotion. Remember that narcissists promoted themselves more agentically but not communally narcissistic. Most importantly, the effect of narcissism was not the same across all groups until the mutually shared agentic parts with self-esteem was controlled.

Acquisitive self-promotion is often found to be associated with higher levels of self-esteem (Baumeister, Tice, & Hutton, 1989). People with high self-esteem usually rate themselves as having a lot of desirable agentic as well as communal traits (Campbell et al., 2002), whereas narcissism promotes only agentic traits (Grijalva & Zhang, 2015). In our study, however, there were no associations between self-esteem and the self-promotion indices when controlling for the Dark Triad traits as well. Although narcissism and self-esteem share some variance (r = .42 in our sample), the unique features of narcissism (that are not shared with self-esteem or the Dark Triad) seem to be more important for the prediction of agentic narcissism and favorable impressions than those of self-esteem. What do these unique features represent? On the one

hand, narcissism and the other Dark Triad traits share variance in terms of being callous, little empathetic, and disagreeable (Paulhus & Williams, 2002). On the other hand, both narcissists and high self-esteemers believe to be better than average and enhance agentic traits (J. D. Brown, 1986; Campbell et al., 2002). Consequently, it is this overlapping area (i.e., being better on agentic traits) that varies in dependence of situational cues. The expression of the unique narcissism core, instead, does not respond to the strength of extrinsic rewards because narcissism was an invariant predictor across all groups when controlled for self-esteem. This core might probably be best described with the feeling of grandiosity that is beyond high self-esteem levels ("I am the best!" vs. "I am better than others"). These results are especially interesting against the background that other researchers found an increase in narcissistic self-promotion under accountability conditions (Paulhus et al., 2013; Wallace & Baumeister, 2002). It would be interesting to repeat those studies and control step-by-step for the overlaps with self-esteem (and the other Dark Triad traits) to see which part of narcissism drives this increase. Nonetheless, it is worth noting that these studies focused on competence-related settings (i.e., increased engagement in a performance task and enhanced claim of knowledge in a job interview), whereas the task in our study concentrated on personality aspects alone. Talking about oneself might activate the ingrained belief of narcissists to be grandiose. And this core is not sensitive to situational cues whereas demonstrating it in a competitive setting might still be.

Self-esteem did not predict agentic narcissism. This is no surprise given that the mutual variance with narcissism (i.e., being better on agentic traits) was controlled. The grandiose narcissistic esteem, which is more pride-related (see Campbell, Brunell, & Finkel, 2006 for a more detailed description), seems to be a more striking predictor for that. In general, the current

results point to the usefulness of controlling for the influences of self-esteem when dealing with narcissism and vice versa.

Why Is Grandiose Narcissism Invariant Across Extrinsic Rewards?

The results show that the manifestation of grandiose narcissism remains independent of the strength of cues. This finding is in line with the narcissism and literature but contradicts expectations based on trait activation theory (Tett & Burnett, 2003). Although behavior is determined by characteristics of the person and the situation, Sherman and colleagues (2015) provide evidence that person-situation interactions are rather seldom compared to independent main effects of both. Hence, narcissistic self-promotion seems to be another example for behavior that is influenced mainly by the trait. Put another way, as soon as there is a situation that is relevant for narcissistic self-promotion, individual differences in grandiose narcissism will manifest. The strength of situational cues, which might reduce this effect, does not seem to alter this manifestation. Nonetheless, other narcissistic engagements, for example, claiming respect or expressing high self-esteem, might be stronger influenced by situational features (e.g., Maaß, Lüdtke, & Ziegler, in prep.; Rhodewalt, Madrian, & Cheney, 1998).

Why do individual differences in narcissistic self-promotion still appear in strong situations? First, actual strong situations for self-promotion might include other cues that induce narcissistic behavior much more than the cues used here. Second, people scoring lower on narcissism might act more socially desirable and hesitate to promote themselves intensively, even in situations that would request increased self-promotion.

Stronger rewards. The idea that other cues might have been more effective might be true for the strength of cues used in the priming group but not for the instruction group. Contrary to our predictions and previous findings (Tyler, 2012), the priming group did not convey the

same amount of favorable or narcissistic impressions as the instruction group. It was somewhat surprising that people from this group did not even present themselves better than the neutral or control group given the encouraging effect sizes from Tyler's studies. Thus, the subliminal primings cannot be seen as extrinsic reward for self-promotion. One explanation might be that small variations in design or sample could have influenced the effect. For example, the instruction in our task differed slightly from Tyler's suggestion in that it provided a certain situational, that is, a sports-related scenario. That might have turned the self-descriptions into a more narrowed and biased direction. Also, our sample was more heterogeneous compared to Tyler's in that this author only used undergraduate students while our sample varied in terms of educational backgrounds and was also age heterogeneous. These variations could have led to the different results, which may indicate that context (e.g., setting, participants) also influences whether it is possible to trigger self-presentations subconsciously. There is more research needed to clarify this effect.

In comparison to subliminal primes, an explicit request to present oneself positively seems to be a strong reward for self-promotion. Consequently, it is difficult to imagine more salient cues than an instruction. Instead, it might be a question of social desirability.

Social desirability. Even though there are situations that explicitly afford narcissistic self-promotion it might be socially desirable to restrict this behavior most of the time. Narcissists might be either unable or unwilling to limit their self-promotion. On the one hand, narcissists might be unable to adjust because of a lack in self-regulation (Vohs, Baumeister, & Ciarocco, 2005). Such a deficit reduces the concern for making socially desired impressions but raises the probability to express narcissistic behaviors. Similarly, narcissists show a lack of emotional empathy (i.e., the adequate response to others emotions; Ritter et al., 2011; Wai & Tiliopoulos,

2012), which could make them less sensitive for socially desirable behavior. On the other hand, the same authors found that they do not show impairments in cognitive empathy (i.e., to understand the emotions of others). For this reason, narcissists might just not be motivated enough to self-promote in a socially desirable way. The idea of restraining their grandiose expressions might seem unattractive because they are not interested in being liked in the first place (Morf & Rhodewalt, 2001, p. 183). Also, restraining these expressions may also be an act against the trait level itself. Instead, the expression of their grandiosity is intrinsically rewarding so that individual differences in narcissism still manifest in trait-relevant situations. This deep conviction of the own grandiosity is what differentiates people scoring with higher narcissism levels from people with lower levels. One could speculate whether punishments would increase narcissistic self-promotion in non-narcissists so that they have to overcome social desirability concerns. However, narcissists show a tendency to accept self-harm (Lämmle, Oedl, & Ziegler, 2014), which could lead to increased self-promotions nonetheless. Adding to that, even faking can be considered as an individual difference variable that interacts with the situational demands (see Ziegler, Maaß, Griffith, & Gammon, 2015 for a more detailed description).

Summarizing, the current work shows that the expression of the grandiose aspects of narcissism through self-promotion is not moderated by the strength of a situation. This could be because people with lower narcissism levels restrain the extent of self-promotion even if the context would reward it. Narcissists, on the other hand, might be unable or unwilling to do the same. At this point it should be noted that the current findings need to be replicated with larger samples, varying situational cues. Otherwise it cannot be ruled out that power issues or design specifics caused the findings.

No Unambiguous Gender Differences.

Our path models revealed that the effect of narcissism on the written self-descriptions slightly differed between men and women across all four groups. However, none of the interactions between narcissism and gender were significant given the current sample size. Hence, no clear statements about gender differences can be made.

Psychopathy and Machiavellianism.

Interestingly, narcissists seem to be the best "impression makers" of all of the Dark Triad traits. As other authors already showed, people with higher psychopathy levels are not motivated enough to convey positive images of themselves because of their disinterest in other people and lack of empathy (Paulhus & Williams, 2002). People scoring high in Machiavellianism instruments are highly manipulative and plan their behavior strategically (Rauthmann & Will, 2011). It might have no benefit for them to make a favorable impression during a rather "unimportant" experiment.

Limitations and Future Directions

First, a replication of the priming effects is needed because, here, we found different results than Tyler (2012). Given the positive relationship between sample size and power (Cohen, 1988), it might be possible that the present study could not detect the moderating effects of gender and situations. It might also be the reason why some of the ANOVA-results were only marginally significant. We were quite confident in replicating the priming effects with our number of participants because the sample sizes in Tyler's study were even less (58 to 78 participants in total). However, future studies should address this issue recruiting more participants. Also, researchers should use the same as well as differing study designs with alternative methods for subliminal priming in order to better understand the mechanisms of subconsciously activated self-promotion. Second, although we used word count as a control

variable, it seems valuable to conduct a more profound linguistic analysis of the written self-descriptions. Previous research, for example, found that narcissists do not use more I-words than others (Carey et al., 2015) but engage in a more sexual and angry language (Holtzman, Vazire, & Mehl, 2010). It might be possible to detect markers of narcissistic language, which might mediate the associations between narcissism and a narcissistic or favorable impression. Last but not least, the study did not find associations between narcissism and a communal-narcissistic self-description. This might be due to the fact that narcissism was not measured with the communal narcissism inventory (Gebauer et al., 2012) but with an agentic oriented measurement. Future studies should examine whether effects would differ for communal narcissism.

Conclusion

The purpose of this study was to examine whether narcissism was an invariant predictor of narcissistic self-promotion across weak and strong situations. Whereas only strong situations activated more narcissistic and favorable self-descriptions in all participants, narcissists always promoted themselves more favorably and narcissistically in both strong and weak situations. However, this was only true when controlling for the overlap with self-esteem. Hence, it is the grandiose core of narcissism that seems to be resistant against socially desirable affordances. The findings of this study were especially interesting with respect to trait activation theory (Tett & Burnett, 2003) because trait influences should decrease in the presence of strong cues (in trait relevant situations). Instead, grandiose narcissism remains an influential trait that manifests itself in self-promotion independent of the strength of the according situation.

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Footnotes

[1]The terms “narcissism” or “narcissist” are used from now on as an abbreviation for people with higher scores on methods assessing subclinical narcissism. Furthermore, we refer to grandiose with its assertive orientation rather than vulnerable forms of narcissism.

[2]The current version consists of 27 items rather than the 28 we used here. Nonetheless, the items for the narcissism scale did not differ between the two versions. For more details see Jones and Paulhus (2014).

Table 1

One-way ANOVA and Post-hoc Tests to Examine Group Differences

Variable	*Prime Group* *M (SD)*	*Neutral Group* *M (SD)*	*Instruction Group* *M (SD)*	*Control Group* *M (SD)*	SS	*F*	η^2	*Prime vs. Instruction* *t (d)*	*Neutral vs. Instruction* *t (d)*	*Control vs. Instruction* *t (d)*	*Prime vs. Neutral* *t (d)*	*Prime vs. Control* *t (d)*
Aim	3.63 (1.63)	3.46 (1.69)	4.25 (1.56)	3.52 (1.72)	20.63	2.53†	.04	-2.00* (.38)	-2.49** (.47)	-2.25* (.44)	.52 (.10)	.33 (.06)
Favorable Impression	1.59 (.27)	1.64 (.23)	1.73 (.27)	1.63 (.30)	.56	2.58†	.03	-2.67** (.50)	-1.99* (.38)	-1.76* (.34)	-.87 (.16)	.69 (.13)
Agentic Narcissism	1.39 (.28)	1.44 (.28)	1.53 (.28)	1.42 (.28)	.64	2.70*	.04	-2.72** (.51)	-1.81* (.34)	-2.06* (.40)	-.92 (.17)	.55 (.11)
Communal Narcissism	1.21 (.21)	1.22 (.25)	1.40 (.33)	1.24 (.31)	1.37	5.93***	.08	-3.67*** (.69)	-3.35*** (.63)	-2.61** (.51)	-.20 (.04)	.56 (.11)

Note. There were three degrees of freedom in all models.
$^{\dagger}p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$, one-tailed.

Table 2

Means, Standard Deviations and Correlations for all Variables Used in the Path Models, Separated per Experimental Group.

	Variables	*M*	*SD*	1	2	3	4	5	6	7	8
Complete Sample ($N = 219$)											
1	Narcissism	2.74	.57	—							
2	Psychopathy	1.93	.53	.38***	—						
3	Machiavellianism	2.66	.60	.25***	.56***	—					
4	Self-esteem	3.08	.59	.42***	-.06	-.17*	—				
5	Women	—	—	-.10	-.26***	-.23**	.05	—			
6	Favorable Impression	1.65	.27	.34***	.10	-.02	.13†	.01	—		
7	Agentic Narcissism	1.44	.28	.32***	.09	-.04	.17*	-.03	.48***	—	
8	Communal Narcissism	1.27	.29	-.05	-.21**	-.12†	.06	.11	.31***	.31***	—
9	Word Count	154.87	76.84	.06	.07	-.01	-.17*	.20**	.22**	.33***	.16*
Prime Group ($n = 57$)											
1	Narcissism	2.70	.60	—							
2	Psychopathy	1.93	.53	.38**	—						
3	Machiavellianism	2.62	.61	.32*	.42**	—					
4	Self-esteem	2.94	.63	.53***	.03	-.21	—				
5	Women	—	—	-.03	-.19	-.27*	.07	—			
6	Favorable Impression	1.59	.27	.45***	.19	.08	.26†	-.01	—		
7	Agentic Narcissism	1.39	.28	.34*	.34*	.07	.28*	.11	.41**	—	
8	Communal Narcissism	1.21	.21	-.12	-.01	-.01	-.06	.02	.16	.24†	—
9	Word Count	149.74	73.45	.08	.15	.05	-.08	.40**	.00	.26†	.03
Neutral Group ($n = 57$)											
1	Narcissism	2.72	.60	—							
2	Psychopathy	1.99	.57	.42**	—						
3	Machiavellianism	2.69	.59	.30*	.66***	—					
4	Self-esteem	2.97	.56	.29*	.05	-.09	—				
5	Women			-.13	-.29*	-.30*	-.06	—			
6	Favorable Impression	1.64	.23	.30*	.19	.05	-.03	.01	—		

(continued)

	Variables	*M*	*SD*	1	2	3	4	5	6	7	8
7	Agentic Narcissism	1.44	.28	.33*	-.07	-.11	.14	-.18	48***	—	
8	Communal Narcissism	1.22	.25	-.22	-.33*	-.21	.12	.16	.16	.18	—
9	Word Count	177.89	83.84	.18	-.03	.14	-.12	.05	.34*	.42**	.07
Instruction Group (n = 55)											
1	Narcissism	2.77	.53	—							
2	Psychopathy	1.96	.57	.41**	—						
3	Machiavellianism	2.66	.62	.24†	.56***	—					
4	Self-esteem	3.21	.55	.36**	-.10	-.15	—				
5	Women			-.13	-.31*	-.10	.09	—			
6	Favorable Impression	1.73	.27	.35**	-.06	-.11	.14	-.07	—		
7	Agentic Narcissism	1.53	.28	.33*	-.09	-.16	.33*	-.12	.44***	—	
8	Communal Narcissism	1.40	.33	.05	-.25†	-.02	-.09	.13	.48***	.37**	—
9	Word Count	145.38	70.65	-.02	-.01	-.03	-.22	.05	.21	.28*	.38**
Control Group (n = 50)											
1	Narcissism	2.77	.54	—							
2	Psychopathy	1.81	.46	.29*	—						
3	Machiavellianism	2.65	.60	.10	.62***	—					
4	Self-esteem	3.23	.59	.50**	-.22	-.25†	—				
5	Women			-.10	-.25†	-.23	-.02	—			
6	Favorable Impression	1.63	.30	.25†	.10	-.12	.05	.13	—		
7	Agentic Narcissism	1.42	.29	.25†	.18	.04	-.13	.06	.52***	—	
8	Communal Narcissism	1.24	.31	.04	-.31*	-.31*	.13	.13	.24†	.28*	—
9	Word Count	144.90	75.65	-.03	.06	-.18	-.23	.33*	.39**	.42**	.25†

$^{\dagger}p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 3

Model Fits for all Tested Path Models.

Variable	Model	Models without Interaction Term $\chi^2(df)$	*p*	CFI	RMSEA (90% CI)	SRMR	Model	Models with Interaction Term $\chi^2(df)$	*p*	CFI	RMSEA (90% CI)	SRMR
Favorable Impression												
Narcissism	A1.1	.00 (0)	<.001	1	.00 (.00-.00)	.00						
	A2.1	1.49 (3)	.69	1	.00 (.00-.18)	.05						
Dark Triad	A1.2	.00 (0)	<.001	1	.00 (.00-.00)	.00						
	A2.2	2.91 (3)	.41	1	.00 (.00-.23)	.04						
Self-esteem	A1.3	.00 (0)	<.001	1	.00 (.00-.00)	.00						
	A2.3	1.95 (3)	.59	1	.00 (.00-.20)	.02						
All predictors	A1.4	.00 (0)	<.001	1	.00 (.00-.00)	.00	A1.5	.00 (0)	<.001	1	.00 (.00-.00)	.00
	A2.4	2.81 (3)	.42	1	.00 (.00-.23)	.02	A2.5	12.95 (7)	.07	.99	.13 (.00-.23)	.02
Agentic Narcissism												
Narcissism	B1.1	.00 (0)	<.001	1	.00 (.00-.00)	.00						
	B2.1	.20 (3)	.98	1	.00 (.00-.00)	.02						
Dark Triad	B1.2	.00 (0)	<.001	1	.00 (.00-.00)	.00						
	B2.2	2.24 (3)	.53	1	.00 (.00-.21)	.03						
Self-esteem	B1.3	.00 (0)	<.001	1	.00 (.00-.00)	.00						
	B2.3	2.06 (3)	.56	1	.00 (.00-.20)	.02						

(continued)

Variable	Model	Models without Interaction Term					Model	Models with Interaction Term				
		$\chi^2(df)$	*p*	CFI	RMSEA (90% CI)	SRMR		$\chi^2(df)$	*p*	CFI	RMSEA (90% CI)	SRMR
All predictors	B1.4	.00 (0)	<.001	1	.00 (.00-.00)	.00	B1.5	.00 (0)	<.001	1	.00 (.00-.00)	.00
	B2.4	1.81 (3)	.61	1	.00 (.00-.19)	.01	B2.5	7.83 (7)	.34	1	.05 (.00-.18)	.01
Communal Narcissism												
Narcissism	C1.1	.00 (0)	<.001	1	.00 (.00-.00)	.00						
	C2.1	2.11 (3)	.55	1	.00 (.00-.20)	.05						
Dark Triad	C1.2	.00 (0)	<.001	1	.00 (.00-.00)	.00						
	C2.2	3.60 (3)	.31	1	.06 (.00-.25)	.04						
Self-esteem	C1.3	.00 (0)	<.001	1	.00 (.00-.00)	.00						
	C2.3	5.85 (3)	.12	.99	.13 (.00-.30)	.03						
All predictors	C1.4	.00 (0)	<.001	1	.00 (.00-.00)	.00	C1.5	.00 (0)	<.001	1	.00 (.00-.00)	.00
	C2.4	5.42 (3)	.14	.99	.12 (.00-.29)	.02	C2.5	9.14 (7)	.24	1	.07 (.00-.20)	.02

Note. Models 1.1-5 = basic models; Models 2.1-5 = invariance models.

Table 4

Unstandardized Regression Coefficients and R^2 for the Models Including All Predictors

Impression	Models without interaction term				Models with Interaction Term			
	Priming Group	Neutral Group	Instruction Group	Control Group	Priming Group	Neutral Group	Instruction Group	Control Group
Favorable								
Psychopathy	-.05	.08	-.08	.04	.04	.07	-.12	.06
Machiavellianism	-.02	-.10	-.04	-.06	-.03	-.07	-.02	-.07
Narcissism	**.16*** **	**.16*** **	**.16*** **	**.16*** **	.29**	.19†	.39**	.21
Self-esteem	.02	-.06	.03	-.01	.01	-.04	.01	.01
Word Count	-.01	.06*	.07†	.12**	-.01	.05	.07†	.12**
Gender	.01	.01	-.06	.01	.38	.37	.49	.25
Narcissism x Gender	—	—	—	—	-.14	-.13	-.20	-.08
R^2	.168	.268	.173	.261	.226	.237	.261	.256
Agentic								
Psychopathy	.13†	-.07	-.08	.01	.16	-.08	-.09	.02
Machiavellianism	-.05	-.12†	-.04	.01	-.01	-.11	-.04	-.02
Narcissism	**.15*** **	**.15*** **	**.15*** **	**.15*** **	.11	.18†	.19	.40*
Self-esteem	.04	.05	.16*	-.08	.11	.05	.15*	-.09
Word Count	.06	.11***	.11**	.11**	.06	.10**	.11**	.11**
Gender	.03	-.17*	-.11	-.02	.30	-.07	.01	.71
Narcissism x Gender	—	—	—	—	-.10	-.04	-.04	-.26
R^2	.382	.376	.243	.244	.268	.384	.352	.300

(continued)

Impression	Models without interaction term				Models with Interaction Term			
	Priming Group	Neutral Group	Instruction Group	Control Group	Priming Group	Neutral Group	Instruction Group	Control Group
Communal								
Psychopathy	.01	-.13	-.25**	-.22	.01	-.17*	-.25**	-.22†
Machiavellianism	.02	.02	.09	-.02	.01	.06	.10	-.02
Narcissism	-.06	-.08	.15	.06	-.10	.08	.20	.05
Self-esteem	.01	.09	-.07	.03	.01	.10†	-.07	.03
Word Count	.01	.03	.14**	.10*	.01	-.01	.14**	.10*
Gender	.01	.02	.03	-.04	-.14	.67†	.23	-.08
Narcissism x Gender	—	—	—	—	.06	-.23†	-.07	.02
R^2	.019	.165	.291	.220	.024	.215	.293	.220

Note. Coefficients that are invariant across the experimental groups, are printed in bold. Narc = narcissism.
$^{\dagger}p < .10$. $*p < .05$. $**p < .01$. $***p < .001$.

Figure Captions

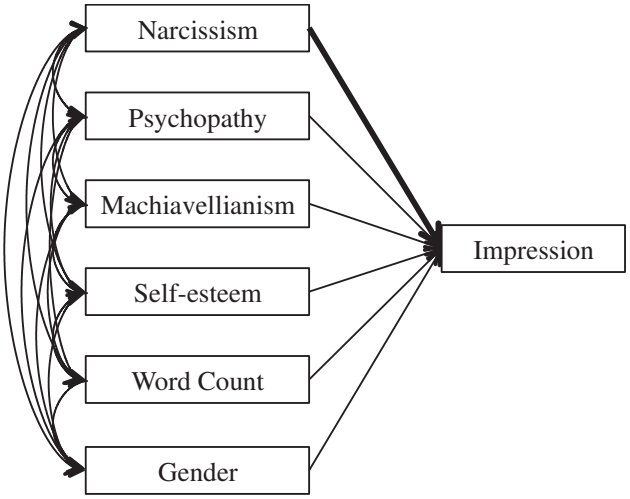

Figure 1. A schematic path model (including all predictors) that was tested. The bold path from narcissism to impression was fixed to be equal across all experimental groups (prime, neutral prime, instruction, control), thereby testing for invariance. This path model was calculated for the following dependent variables: favorable impression, agentic-narcissistic impression, and communal-narcissistic impression.

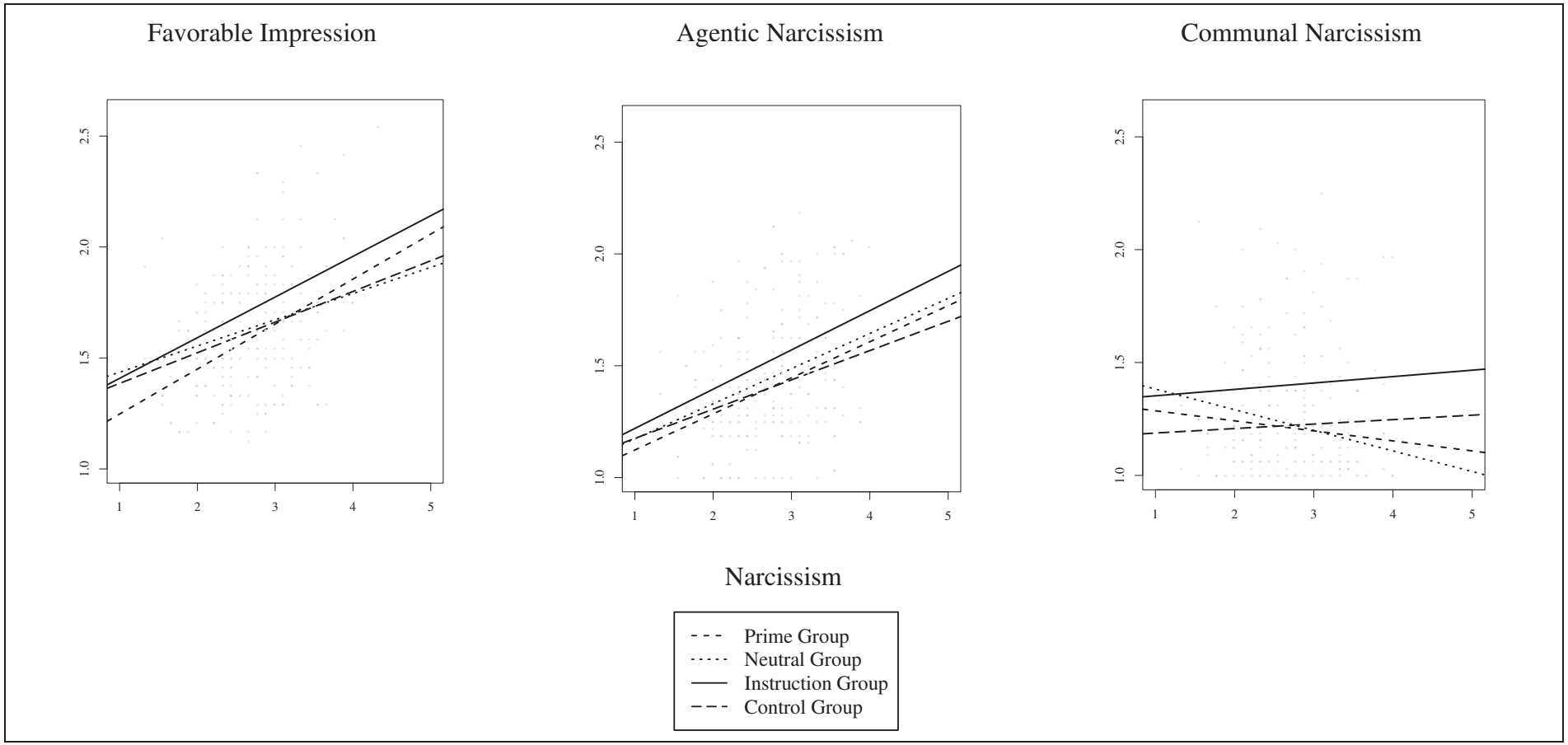

Figure 2. Regression plots for the effect of narcissism on the three impression indices (favorable, agentic- and communal-narcissistic) in all four experimental groups.

7.2 The Narcissism in Situations Framework: Person and Situation Effects on State Narcissism

The Narcissism in Situations Framework:
Person and Situation Effects on State Narcissism

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Abstract

This paper presents a conceptual NARCissism In Situations (NARCIS) framework, which considers situationally triggered processes and person variables as determinants of fluctuations in narcissism. We derived several hypotheses from the framework and tested them in three consecutive studies that followed an experience-sampling design. Results suggest a strong situational influence on the expression of state narcissism. For example, negative feedback tended to trigger ego-protection strategies and increased state narcissism levels. Positive feedback increased state narcissism scores due to ego-boosting mechanisms—especially for women and narcissists. Furthermore, negative interactions enhanced state narcissism, especially when people had low state self-esteem (ego-protection strategy). By contrast, positively perceived interactions reduced state narcissism due to successful need satisfaction. Skill-related feedback increased state narcissism when it was evaluated as extremely positive or extremely negative. This association was found for appeal- and behavior-related feedback only when state self-esteem was low. At the trait level, narcissism but not self-esteem was found to enhance state narcissism as one form of trait manifestation. Furthermore, people who generally received a lot of feedback, especially from familiar others, were less likely to express higher scores on state narcissism due to habituation and successful need satisfaction mechanisms. Implications for the study of narcissism with respect to person-situation interactions are discussed.

Keywords: Narcissism, Dark Triad, situation, personality, social events

The Narcissism in Situations Framework:

Person and Situation Effects on State Narcissism

Although the construct of narcissism has been explored broadly in recent decades, researchers have yet to completely determine how this trait manifests on a day-to-day basis. So far, there is accumulating evidence that there are intraindividual differences in the expression of narcissism (e.g., self-esteem variability, aggression, agentic and communal behaviors) that depend on two broad factors that enhance or decrease narcissistic outcomes: the person and the situation. Examples of person variables that increase the expression of narcissism are enhanced impulsivity and disrupted emotion regulation (Jones & Paulhus, 2011; Ritchie, Walker, Marsh, Hart, & Skowronski, 2015). Examples of situational influences on narcissistic responses consist of receiving feedback or experiencing a social or achievement-related event (Rhodewalt, Madrian, & Cheney, 1998; Roche, Pincus, Conroy, Hyde, & Ram, 2013; Zeigler-Hill, Myers, & Clark, 2010). However, there is little knowledge about the fluctuation of narcissism itself across situations and time. In fact, the studies mentioned above have primarily distinguished between narcissists[1] and non-narcissists[1] with respect to several outcomes such as self-esteem, behavior, or affect. To our knowledge, only one study has directly examined whether an individual's narcissism score varies in daily life and which factors influence such variation. Giacomin and Jordan (2015) asked undergraduate students to answer a series of questions regarding their actions and narcissism levels within the last 24-hr period for a total of at least 5 consecutive days. They found that 24% of the variability in narcissism was comprised of significant within-subject variance and concluded that "grandiose narcissism has a meaningful process or state component" (p. 1). Furthermore, the authors revealed that this variability was negatively associated with perceived stress and positively associated with communal as well as agentic

events (e.g., to aid others vs. to have power). The study provided the first hints about the usefulness of continuing to explore narcissism as a state. Nonetheless, the researchers assessed quite specific and rare events (e.g., volunteering, gift giving, donating, or having power), which were aggregated into an agentic or communal index. They did not take into account the participants' subjective perception of the valence of the activities. However, it might be crucial to consider social-cognitive mechanisms and, thereby, to differentiate between events that are perceived as pleasant or unpleasant by the participant.

For these reasons, the current work was aimed at conducting a comprehensive exploration of state narcissism and its relations to situation (e.g., daily events) and person (e.g., trait narcissism) effects within a theoretical framework. This framework (see Figure 1) was used to examine state narcissism and to build the foundation for three consecutive studies that used experience-sampling designs. The main research questions were: (a) Is there variability in individual narcissism levels over time? (b) Do situation-varying variables (i.e., positive/negative interactions/feedback, state self-esteem) predict change in situational narcissism? (c) Do situation-invariant variables (i.e., trait narcissism, trait self-esteem, gender, and the number of social interactions and feedback) predict change in situational narcissism?

The Narcissism in Situations (NARCIS) Framework

We suggest a conceptual narcissism in situations (NARCIS; see Figure 1) framework that was designed to explain which variables and processes influence whether a person expresses higher or lower narcissistic attitudes in a particular situation. The main idea is: Whether or not a person will express narcissistic attitudes in a particular situation depends on situation-invariant as well as situation-varying variables (left and right sides of Figure 1). The two kinds of variables interact with each other (represented by the double-headed arrows at the top of Figure 1).

NARCIS captures theoretical assumptions from existing and well-validated models of narcissism (e.g., the Model of Admiration and Rivalry, Back et al., 2013; the Addiction Model, Baumeister & Vohs, 2001; the Agency Model, Campbell, Brunell, & Finkel, 2006; the Dynamic Self-Regulation Processing Model, Morf & Rhodewalt, 2001). These models include three core ideas. First, narcissists are characterized by feelings of grandiosity and strive for admiration and attention. Second, this striving causes them to pursue agentic goals (e.g., narcissistic esteem, competency, assertiveness). Third, narcissists implement certain inter- and intrapersonal strategies that are directed at reinforcing or protecting the grandiose self.

On the other hand, NARCIS extends these models by providing three considerations: First, it tries to explain the effects of narcissism not only at the trait level but also at the state level. Second, it describes effects that are not limited to people who score high on trait narcissism. Third, NARCIS explicitly distinguishes between situation-varying and situation-invariant variables that contribute to the prediction of state narcissism.

State Narcissism

The center of NARCIS represents the state narcissism continuum (see Figure 1), which contains the same components as trait narcissism (i.e., a relatively enduring characteristic of individuals) but is presented for a shorter period of time (Fleeson & Gallagher, 2009). State narcissism mirrors trait narcissism in that state narcissism provides information about the extent to which a person is expressing his or her narcissistic trait in a particular moment (Fleeson & Jayawickreme, 2015). Variables that vary across situations or that are invariant across situations influence whether a person expresses higher or lower levels of state narcissism.

Situation-Varying Variables that Influence State Narcissism

On the basis of the idea that both situations and personality influence behavior (Lucas & Donnellan, 2009) and ideas from whole trait theory (Fleeson & Jayawickreme, 2015), NARCIS suggests that situations trigger certain social-cognitive processes. For example, feedback can activate agentic or relational motives and is evaluated as positive or negative (see the boxes on the right side of Figure 1). These evaluations in turn can influence trait expressions (states) within an individual. In NARCIS, such situation-varying variables are related to the subjectively evaluated valence of the corresponding instance of social interaction or a person's self-esteem level in a particular situation. Because several factors play a role in the expression of higher or lower state narcissism, it is not only people who score high on trait narcissism who might be "at risk" of showing narcissistic behaviors when these factors come together.

Results from diary designs have confirmed that social features lead narcissists to exhibit certain behaviors with respect to negative achievement events (e.g., criticism of abilities; Zeigler-Hill et al., 2010), agentic cues (Roche et al., 2013), or social comparisons (Bogart, Benotsch, & Pavlovic, 2004). Other researchers found strong responses to negative feedback (Bushman & Baumeister, 1998; Smalley & Stake, 1996a). However, these studies did not examine the direct influence of the events on narcissism itself. Therefore, NARCIS suggests three basic mechanisms that are responsible for more or less pronounced narcissistic reactions on a state level: ego boosting, ego protection, and successful need satisfaction (see the dashed lines in Figure 1).

Ego boosting through positive social feedback. NARCIS suggests that receiving positive feedback would increase narcissistic attitudes in that particular moment. According to the addiction model of narcissism (Baumeister & Vohs, 2001), the narcissist craves the

admiration of others, which offers immense gratification and reward. Consequently, he or she might receive confirmation of the belief that narcissistic cognitions and behaviors are effective for achieving narcissistic esteem (Back et al., 2013; Campbell et al., 2006) and might thus pursue this positive state even more in the future. Furthermore, in Giacomin and Jordan's (2015) study, receiving recognition was subsumed under agentic events and resulted in significantly elevated state narcissism. The corresponding path is labeled "ego boosting" in the NARCIS framework.

Ego protection against negative social feedback. Narcissists also act in egocentric, aggressive, and conceited ways (Bushman & Baumeister, 1998), all of which increase the potential for receiving negative feedback from others. As other authors have already suggested (Back et al., 2013; 1998; John & Robins, 1994; Morf, Ansara, & Shia, 2001; Paulhus, 1998), the NARCIS framework suggests that negative feedback will threaten the ego and might lead to increases in narcissistic behavior as a form of self-protection. For example, narcissists regard people who give them negative feedback as incompetent and unlikeable (Kernis & Sun, 1994). Consequently, NARCIS hypothesizes that people have a higher chance of responding to negative feedback with stronger narcissistic beliefs because criticism activates feelings of shame and the impulse to protect oneself (Back et al., 2013). This mechanism is represented by the "ego protection" path in NARCIS.

Need satisfaction through positive social interactions. As can be seen in Figure 1, NARCIS suggests that positive social interactions are likely to fulfill people's need for social inclusion. This in turn might lead to lower narcissistic compensation. Rhodewalt and Madrian (1998) showed that the self-esteem of narcissists remains quite stable when interpersonally uplifting events occur but not when hassles occur. Hence, a positive social interaction might not require additional resources in order to maintain a grandiose self-view. It might not provide

enough substance to result in a strong ego boost either. Supporting this idea, Twenge and Campbell (2003) showed that narcissists expressed less arousal when they felt acknowledged than when they felt rejected. On the basis of this idea, NARCIS proposes that positive interactions will lead to lower state narcissism scores because the need for social inclusion is satisfied for a short period of time. However, trait narcissism might still increase in the long term as suggested by other authors (Back et al., 2013). This might be comparable to an addiction that increases the consumption of an addictive substance in the long term although one was satisfied in the short term (see also Baumeister & Vohs, 2001).

Ego protection against negative social interactions. NARCIS predicts that negative social interactions increase state narcissism in a manner similar to negative feedback. Rhodewalt et al. (1998) showed that narcissists report more negative interactions than non-narcissists. These authors as well as others (Back et al., 2013) suggest that negative interactions threaten the narcissist's self-view. Hence, the same logic that applies for negative feedback might apply here as well: Negative interactions interfere with a grandiose self-view—although in a rather indirect way as opposed to negative feedback—and effort is required to maintain this view. Accordingly, we hypothesize that individuals will react to actual negative interactions with more narcissistic attitudes. We call such higher state narcissism scores after experiencing a negative social interaction an "ego protection" strategy in NARCIS.

Ego boosting through high state self-esteem. In general, the associations between grandiose narcissism and explicit self-esteem are small to moderate but positive (Brown & Zeigler-Hill, 2004; Emmons, 1987). Hence, we expect that there will be a positive association between these constructs even at the microlevel, as was also found in the diary study by Giacomin and Jordan (2015). High state self-esteem might be a risk factor for expressing

narcissistic attitudes. In NARCIS, this effect is captured by the "ego boosting" path because both narcissists and high "self-esteemers" are supposed to love themselves (Campbell, Rudich, & Sedikides, 2002). Furthermore, there is evidence of a positive association between the use of self-enhancement and self-protection strategies especially for people who feel unsatisfied with their competency, social connectivity, or esteem (Deci & Ryan, 2000; Dutton & Brown, 1997; 2003; Kling, Hyde, Showers, & Buswell, 1999; Leary, Tambor, Terdal, & Downs, 1995; Sedikides, 2012). From this perspective, we believe that situational narcissistic reactions might function as such strategies. Consequently, NARCIS suggests that state self-esteem—in addition to its main effect—moderates the effect of negatively evaluated situations on state narcissism. A vertical dotted line in Figure 1 highlights the moderating path from state self-esteem through negative events to high state narcissism.

Situation-Invariant Variables that Influence State Narcissism

In NARCIS, features that are relatively invariant across situations are trait narcissism, trait self-esteem, gender, and the general number of social interactions and feedback (i.e., with/from friends, romantic partners, colleagues, or bosses). On this side of NARCIS, four basic mechanisms are suggested to influence state narcissism: trait manifestations, successful need satisfaction, and habituation.

Trait manifestations of narcissism. With respect to the previous findings that traits and their manifestations are moderately strongly correlated (e.g., Fleeson & Gallagher, 2009), NARCIS expects that trait narcissism manifests itself in a particular moment as state narcissism: People scoring high on trait narcissism more likely to express higher levels of state narcissism. In NARCIS, we represent this path as a "trait manifestation."

Narcissists are known for their agentic goal pursuit (e.g., striving for narcissistic esteem, admiration, control and competence; Campbell et al., 2006), and one can assume that these goals are sought in a particular situation as well (e.g., by reacting aggressively when receiving negative feedback; see the boxes on the right and left edges of Figure 1). Furthermore, maintaining and protecting their grandiose self is of existential importance for people with high levels of trait narcissism. Hence, NARCIS suggests that some of the situational effects (i.e., the influence of the valence of a certain situation) on state narcissism might be stronger for people scoring high on trait narcissism. Accordingly, the moderating effect of trait narcissism is indicated by a superscripted "N" in Figure 1.

Trait self-esteem. According to sociometer theory (Leary & Baumeister, 2000), self-esteem serves the goal of monitoring a person's relational value (see the box on the left edge of Figure 1). Diary-design research, however, has not been conclusive about narcissists' self-esteem reactivity. On the one hand, there is evidence that narcissists show greater variability in their self-esteem than non-narcissists when they experience many negative interactions (e.g., with respect to the realms of extraversion, openness to experience, intelligence, social dominance, competition; Brown & Zeigler-Hill, 2004; Campbell et al., 2002; Morf & Rhodewalt, 1993; Zeigler-Hill, Clark, & Pickard, 2008). On the other hand, Bosson and colleagues (2008) found no significant relation between self-esteem variability and narcissism in their meta-analysis (although they did not include the study by Rhodewalt et al., 1998). Even if narcissists experience larger ups and downs in their self-esteem, they still report higher general levels of self-esteem than non-narcissists (Rhodewalt, Tragakis, & Finley, 2002). Given these mixed results, the idea from the perspective of NARCIS is that there is no significant influence of trait self-esteem on state narcissism. Instead, we believe that state self-esteem is more important for

predicting state narcissism. Therefore, we included trait self-esteem as a control variable in the statistical models.

Habituation to many social interactions. As described above, NARCIS expects differentiated effects of social situations, or more precisely, different valences of these situations. Nonetheless, we believe that beyond this situational perspective, an individual's general tendency to engage in social interactions plays an important role as well. The idea here is that people who rarely engage in social interactions or who rarely receive direct feedback from others most likely strive for these things—a motivation that is also typical of narcissists. Such "deprived" people might have more potential to express narcissistic attitudes in a particular situation. This might appear counterintuitive at first glance given the consistent finding that narcissists are more extraverted (Vazire, Naumann, Rentfrow, & Gosling, 2008). However, narcissists engage in social interactions to the same extent as less narcissistic people (Emmons, 1987; Paulhus & Williams, 2002; Raskin & Hall, 1981) but are quickly evaluated as arrogant and hostile (Paulhus, 1998). This reduces narcissists' chances of consistently engaging in interactions with others who will stick around long enough to gather enough information to provide feedback. Furthermore, people experiencing many social interactions may believe that being social is important, and thus, they are likely to feel socially accepted and included (see box on left side of Figure 1). However, they might get used to both positive and negative interactions. Such people might not show much of a response in their narcissism scores anymore and thus, this "habituation" might lead to less fluctuation in state narcissism scores. Hence, sociality and much direct recognition from others may prevent the expression of state narcissism in the long term. The path from frequent feedback and social interactions to state narcissism is termed "successful need satisfaction and habituation" in NARCIS.

Need satisfaction through many interactions with familiar partners. Not only does NARCIS suggest that certain situations should be considered, but it also suggests that different interaction partners be considered as well. The assumption is that only familiar people will be successful at satisfying a target person's need to feel accepted, acknowledged, and included. Thereby, many interactions with familiar people might reduce a target person's chances of developing narcissistic expressions in a particular moment. People behave differently in the presence of strangers versus familiar persons. For example, people instinctively use self-enhancement more when they interact with the former, whereas they engage automatically in modesty when interacting with the latter. Narcissists in particular respond to the composition of the audiences, for example, with increased performance and self-enhancement in the company of a judging audience (Paulhus, Westlake, Calvez, & Harms, 2013; Wallace & Baumeister, 2002). Consequently, NARCIS suggests that typical narcissistic reactions are more likely to occur when people interact with less intimate others (e.g., colleagues or boss) than with more intimate ones (e.g., friends or romantic partners). Therefore, we included individuals' ratings of their social interactions with work-related and privately known others in NARCIS.

Gender effects. Morf and Rhodewalt (2001) stated that "narcissistic concerns might manifest differently in each gender due to gender differences in development and socialization" (p. 191). Such differences in socialization might manifest in different reactions to feedback or social interactions. For example, some studies have found that men act out more stereotypical narcissistic behaviors and manifest traits of exploitation and entitlement more strongly than women (Tschanz, Morf, & Turner, 1998). Narcissistic women have to affirm their self within the boundaries of their more subtle social role (Morf & Rhodewalt, 2001). Furthermore, men score higher than women on narcissism inventories (see for a review Grijalva et al., 2014). For this

reason, NARCIS suggests that potential gender effects be analyzed when possible in studies that deal with narcissism. The male and female symbols in Figure 1 represent potential moderator effects of the association between state narcissism and situation-varying variables.

The Current Research Project

We conducted three consecutive studies that examined the above-mentioned broad research questions using an experience-sampling design. Our main interest was to better understand the mechanisms that influence whether a person varies in his or her expression of state narcissism scores. Therefore, participants answered several questions at least two times per day for at least 5 days. With the data we obtained, we were able to test specific hypotheses generated from the NARCIS framework. Study 1 aimed to examine the general influence of situation-invariant and situation-varying variables on state narcissism. More precisely, it considered trait narcissism, state self-esteem, and the valence of social situations (positive and negative feedback and interactions). Study 2 continued this procedure but added trait self-esteem and gender as predictors. Last but not least, Study 3 delved more deeply into the state level by differentiating between certain social interactions (e.g., activities, disagreements, and attempts to contact others) and social feedback (e.g., skill-related, behavior-related, and appeal-related). Furthermore, we used the number of positive and negative social interactions and positive and negative feedback during the survey period as additional predictors. Moreover, we considered the possible influence of the specific interaction partner (e.g., a privately known vs. work-related person).

Study 1

Overview and Hypotheses

The first study concentrated on the four main research questions presented in the Introduction. This study can be viewed as a general empirical test of the core ideas presented in NARCIS. To examine these, undergraduate students used iPads to answer questions about their current levels of narcissism and self-esteem and to report on their positive and negative social interactions and feedback during the preceding 4-hr period. We addressed the following research questions and tested the following hypotheses, which were derived from NARCIS:

Research Question 1: Is there intraindividual variability in narcissism over time?

Research Question 2: Do situation-varying variables predict change in state narcissism?

H2a: Higher ratings of positive social feedback will increase state narcissism.

H2b: Higher ratings of negative social feedback will increase state narcissism.

H2c: Higher ratings of positive social interactions will reduce state narcissism.

H2d: Higher ratings of negative social interactions will increase state narcissism.

H2e: Higher levels of state self-esteem will increase levels of state narcissism.

H2f: State self-esteem will moderate the association between the valence of an event and state narcissism.

Research Question 3: Do situation-invariant variables predict change in state narcissism?

H3a: Higher levels of trait narcissism will increase levels of state narcissism.

H3b: Trait narcissism will moderate the association between the valence of an event and state narcissism.

In addition, the individual trait scores on the Dark Triad, which were assessed in an online questionnaire prior to the experience-sampling phase, were included in the current study. Jones and Paulhus (2014) suggested that the overlap between narcissism and the other two Dark

Triad traits (i.e., psychopathy and Machiavellianism) always be controlled for so that the specific effect of narcissism can be interpreted.

Method

Sample and procedure. The first sample consisted of 53 undergraduate psychology students who received school credit for their participation. On average, they were 23.09 (*SD* = 5.27) years old, and there were only three men (50 women) in the sample. All participants first had to fill out an online survey to provide trait scores on the Dark Triad. Then they were given an iPad for a period of approximately three weeks. During that time, they had to answer a short questionnaire (approximately five minutes) three times a day (at 11.00 a.m., 3.00 p.m., and 7.00 p.m.) to provide state scores on several variables. The participants provided *M* = 67.85 (*SD* = 14.01, Range: 27 to 103) measurement points on average. The data set consisted of 3,300 observations.

Variables and instruments. ***Trait level: Dark Triad.*** On the online survey that was administered first, we used a German translation of the early version of the Short Dark Triad Scale (SD3; Jones & Paulhus, 2014).[2] This instrument consisted of 28 items[2] with Cronbach's alphas of α = .70 for narcissism (9 items), α = .73 for psychopathy (9 items), and α = .79 for Machiavellianism (10 items). Test takers indicated their level of agreement on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*).

State level: narcissism. We assessed state narcissism three times per day with the following question: "At the moment, I insist on getting the respect I deserve." We took this item from the SD3[3] and selected it on the basis of the factor loadings of all items and the best theory-based representation of the construct. We stressed the situational aspects of the statement with the qualifier "at the moment." Test takers indicated their level of agreement on a 5-point Likert

scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The summary statistics across participants and time points were $M = 2.93$ and $SD = 0.36$.

State level: Positive and negative interactions in a leisure-time-oriented context. Participants completed two single items representing their experiences of positive and negative interactions during the day. The questions were "Within the last four hours, I had an especially positive [negative] interaction with friends/potential sexual partners." Test takers indicated their confirmation on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Summary statistics for the ratings of negative and positive interactions across participants and time were $M_{negative} = 1.80$, $SD_{negative} = 0.94$, and $M_{positive} = 3.20$, $SD_{positive} = 1.13$.

State level: Positive and negative feedback in an achievement-oriented context. The daily receipt of feedback was assessed with the item "Within the last four hours, I received positive [negative] feedback from a colleague, supervisor, or teacher." We used the same Likert scale as described above. Summary statistics for negative and positive feedback across participants and time were $M_{negative} = 1.85$, $SD_{negative} = 0.88$, and $M_{positive} = 2.76$, $SD_{positive} = 1.10$. Thus, participants received more positive feedback on average than negative feedback.

State level: Self-esteem. The item "At the moment, I am satisfied with myself" was taken from a German version of the Rosenberg Self-Esteem scale (Jones & Paulhus, 2014) on the basis of the same theoretical and statistical reasons that were applied to narcissism. Again, the wording was changed slightly in order to indicate a situational perspective. The aggregated mean was $M = 3.47$, $SD = 0.97$. Thus, in sum, participants were quite satisfied with themselves across situations.

Statistical analyses. ***Within-person variability of state narcissism.*** In a first exploratory step, we determined the individual mean level of state narcissism and its standard deviation, where the latter represents the within-person variability of a state variable (Fleeson, 2004). Next,

we calculated the correlations between both estimates and all other variables in the analyses. This procedure was aimed at determining which factors were related to the variability in narcissism across situations. For example, people who express rather different narcissism levels across situations might also differ a lot in their positive feedback scores. Nonetheless, such people could still show higher mean levels of state narcissism, which, in turn, might be due to trait influences (Fleeson & Law, 2015).

Multilevel modeling. We tested our hypotheses by specifying several multilevel models in order to account for the nested structure of the data. Thereby, measurement points (Level 1) were nested within participants (Level 2). We used the lme4 package (Bates, Maechler, Bolker, & Walker, 2015) from the statistics program R (R Core Team, 2012) to analyze the data.

Specified models. In all models (except the empty model, as described below), the variability in state narcissism was predicted by the situation-invariant variables on Level 2 (trait Dark Triad, "Trait manifestation" in NARCIS). The models varied with respect to the situation-varying predictors on Level 1 (i.e., the valence of social events and state self-esteem, "Ego boosting," "Ego protection," or "Successful need satisfaction" in NARCIS) and the interactions with situation-invariant predictors (i.e., Valence x Trait Narcissism and Valence x State Self-Esteem). All predictor variables were person-mean-centered.

The analyses involved two main parts: First, we specified models that included all four variations of a situation (i.e., positive and negative feedback and positive and negative interactions) in one equation. In the second part, we examined models that included only one situational variation (e.g., positive feedback). The procedure used to compute the analyses for both parts is outlined next.

In a first step, we addressed Research Question 1. Therefore, we specified an empty

model (Model 0) that tested for interindividual differences in state narcissism and the amount of intraindividual variability in state narcissism. The equation was:

$$Y_{ij} = \gamma_{00} + u_{0j} + r_{ij} \quad (1)$$

where Y_{ij} represents the state narcissism score of the *j*th measurement point for the *i*th participant, γ_{00} displays the common fixed intercept for the population, u_{0j} represents the individual deviations from the grand mean, and r_{ij} the deviation of each score from the individual mean. We calculated the intraclass correlation (ICC) from the empty model. If this ICC turned out to be close to 0, we would conclude that there was no substantial intraindividual variability in state narcissism because, in that case, participants would not differ from one another in their average levels of state narcissism (Bolger & Laurenceau, 2013).

The second step addressed Research Questions 2 and 3. We examined the model fits of three models that all included the independent variables. Thereby, we tested whether the assumptions of random intercepts and random slopes would be empirically justified. More precisely, we first tested a random intercept model (Model 1) that allowed the individual intercepts to vary across participants. Second, we built a random intercept random slopes model (Model 2) that allowed additional variations in the individual slopes. Keep in mind that there were five separate analyses for Models 1 and 2: (a) all kinds of feedback and social interactions in one equation, (b) positive feedback, (c) negative feedback, (d) positive interactions, and (e) negative interactions. Equation 2 displays an example of Model 2a.

$$Y_{ij} = \gamma_{00} + \gamma_{01} \times Narcissism_j + \gamma_{02} \times Psychopathy_j + \gamma_{03} \times Machiavellianism_j + \gamma_{10} \times Selfesteem_{ij} + \gamma_{20} \times positive\ Feedback_{ij} + \gamma_{30} \times negative\ Feedback_{ij} + \gamma_{40} \times positive\ Interactions_{ij} + \gamma_{50} \times negative\ Interactions_{ij} + u_{0j} + u_{ij}X_{ij} + r_{ij} \quad (2)$$

In this equation, Y_{ij} represents the state narcissism score of the *j*th measurement point for the *i*th participant, γ_{00} displays the mean intercept for narcissism, γ_{0j} is the fixed slope for the Level-2 predictors, γ_{i0} is the slope for the Level-1 variables, u_{0j} represents the individual deviations from the predicted intercept, $u_{ij}X_{ij}$ is the deviation of the individual slopes from the overall slope for each Level-2 predictor, and r_{ij} is the deviation of each score from the individual predicted value.

The last step referred to Hypotheses 2f and 3b. Therefore, the interaction terms State Self-Esteem x Valence and Trait Narcissism x Valence were included in these models (Models 3b-e), which showed the best model fits from Step 2 (the criteria for model selection are described in the next section). The first interaction term refers to the Level-1 predictors, and the second term represents a cross-level interaction. Equation 3 represents an example of Model 3b (positive feedback), which allowed for random intercepts and slopes.

$$Y_{ij} = \gamma_{00} + \gamma_{01} \times Narcissism_j + \gamma_{02} \times Psychopathy_j + \gamma_{03} \times Machiavellianism_j + \gamma_{10} \times positive\ Feedback_{ij} + \gamma_{20} \times Selfesteem_{ij} + \gamma_{30} \times positive\ Feedback_{ij} \times Selfesteem_{ij} + \gamma_{11} \times positive\ Feedback_{ij} \times Narcissism_j + u_{0j} + u_{ij}X_{ij} + r_{ij} \quad (3)$$

Model selection. Out of all these models, we chose the best fitting model for interpreting

the results according to two strategies: First, the predictors were included step by step. Models with predictors that made significant contributions were preferred. Second, models with the lowest deviance indices were preferred. The deviance score provides information about the degree to which the assumed model differs from the data (i.e., to test the values of fixed or random effects that are added). It cannot be interpreted directly but can be interpreted in relation to other specified models that were tested with the same data. The deviance follows a chi-square distribution with $m_0 - m_1$ degrees of freedom (where m_0 represents the number of parameters from the first model and m_1 from the second one). Larger chi-square statistics indicate a better representation of the data for the model with a larger number of estimated parameters (Snijders & Bosker, 2012).

Results

Research Question 1: Is there intraindividual variability in narcissism over time?

The intraclass correlation (ICC), which was obtained from Model 0, was .24 (Insert [Table 1 here]). This indicates that the variability in narcissism over time was greater within than between subjects.

Within-person variability in state narcissism. The individual aggregated mean of state narcissism (M = 2.93, SD = 0.36) was positively correlated with the mean of state self-esteem (r = .73, $p < .001$) and the mean of positive feedback (r = .54, $p < .001$). It was negatively associated with the trait level of Machiavellianism (r = -.36, $p < .01$) and the mean level and variability of positive interactions (r = -.37, $p < .01$ and r = -.32, $p < .05$, respectively). The individual standard deviations of state narcissism (M = .61, SD = .15) were positively correlated with the variability in state self-esteem (r = .54, $p < .001$), the variability in positive feedback (r = .57, $p < .001$), and the variability in negative interactions (r = .51, $p < .001$). The variability in

state narcissism was negatively associated with the mean level of positive feedback, $r = -.43$, $p < .01$ (see Appendix A1 for more details).

Research Question 2: Do situation-varying variables predict change in narcissism? The results for the first part of the multilevel analyses (i.e., the complete model) are displayed in Insert [Table 1 here] and those for the second part (i.e., the four separate models) are shown in Insert [Table 2 here].

Complete model. The first part of the analyses involved a model that included all situational variations. Here, the random intercept random slopes model (Model 2a) showed the best fit with a significant reduction in the deviance score in comparison with Model 1a, deviance = 5,726, $\chi^2(20) = 74.23$, $p < .001$. The coefficients showed that participants who received more positive feedback reported higher levels of state narcissism ($B = .15$, $z = 8.94$). There was a negative relation between positive interactions and state narcissism ($B = -.08$, $z = -3.83$). Furthermore, experiencing more negative interactions led to higher state narcissism scores ($B = .04$, $z = 2.10$). There was no significant effect of negative social feedback ($B = -.04$, $z = -1.31$). Thus, Hypotheses 2a and 2c-d were confirmed but not Hypothesis 2b.

Separate model analyses. The second part of the analyses focused on the separate effects of each situational variation (Insert [Table 2 here]). All models fit better when a random intercept random slopes model was employed than when a random intercept model was employed, $\chi^2(5) = 48.75$ for Model 2b, $\chi^2(5) = 44.83$ for Model 2c, $\chi^2(5) = 40.16$ for Model 2d, and $\chi^2(5) = 48.14$ for Model 2e, $ps < .001$. Furthermore, the model with negative interactions showed the best fit indices when additional interaction terms were used (Model 3e). The results from these analyses were in line with the results from the complete model: Again, more positive feedback ($B = .17$, $z = 9.93$) and more negative interactions ($B = .08$, $z = 3.76$) significantly increased state narcissism.

Also, there was no significant effect of negative social feedback (B = -.06, z = -1.81). However, there was a significant negative relation between positive interactions and state narcissism (B = -.10, z = -4.55).

In all models, changes in state self-esteem predicted higher state narcissism, indicating that people who were very satisfied with themselves in a particular situation also reacted more narcissistically, Bs > .29, zs > 10.60 (H2e). With respect to the predicted moderation effects (H2f), there was only one significant interaction, namely, between state self-esteem and negative interactions, B = -.07, z = -2.71 (Model 3e): The influence of negative interactions on state narcissism was reduced when state self-esteem was high, indicating that high state self-esteem decreased narcissistic reactions to the threatening influence of negative interactions.

Research Question 3: Do situation-invariant variables predict change in narcissism?

Complete model. Trait narcissism significantly predicted changes in state narcissism (B =.71, z = 4.24). All other Level-2 variables did not significantly contribute to the prediction (Bs < .13, zs < .64).

Separate model analyses. When separating the analyses for each situation, the main effect of Machiavellianism was significant in all models (H3a). Whereas higher scores in Machiavellianism reduced state narcissism (Bs < -.28, zs < - 2.43), higher levels of trait narcissism increased state narcissism (Bs > .23, zs > 2.27). Contrary to our predictions, however, trait narcissism did not moderate the relations between the situational predictors and state narcissism in any model (H3b).

All in all, our specified models were able to reduce the intraindividual variance up to 18% as compared with the empty model. Thus, our predictors were able to explain substantial intraindividual change in state narcissism.

Discussion

Study 1 supported some general predictions that were derived from NARCIS. Results suggested that there is intraindividual variability in narcissism scores on a day-to-day basis (Research Question 1). Different from Giacomin and Jordan's (2015) results, participants in our sample who had higher scores on trait narcissism or higher mean levels of state narcissism did not fluctuate more in their narcissism scores over time. This suggests that, given the relative homogeneity of our sample, fluctuation in narcissism might be strongly determined by situation-varying variables. This finding is in line with research that has examined variability in other personality traits across time (e.g., Fleeson, 2007). Furthermore, it points to the importance of social-cognitive mechanisms such as how individuals interpret situations (Fleeson & Law, 2015; Mischel, 2004). In our case, the variation in the valence of a situation represents such a mechanism.

Nonetheless, there are situation-varying as well as situation-invariant variables that are likely to increase or decrease a person's narcissism scores (Research Questions 2 and 3).

Situation-varying variables. A somewhat surprising finding was that negative feedback tended to reduce narcissistic responses, although this effect was nonsignificant (H2b). One reason for the lack of significance might lie in the sample composition (i.e., 94% women), which may point to a gender difference. As suggested by NARCIS, high state self-esteem empirically appears to be a "risk factor" for expressing narcissistic attitudes in one particular situation. NARCIS also proposes that state narcissism could function as a self-protection strategy when an individual's state self-esteem is low. Study 1 confirmed this idea for negatively evaluated social interactions.

Situation-invariant variables. Our results also suggest that people scoring higher on

narcissism tend to react more narcissistically on a day-to-day basis. Contrary to our predictions, however, trait narcissism did not moderate the associations between situation-varying variables and state narcissism. Stated in another way, although people scoring high on trait narcissism report higher state narcissism scores, their reactions to the valence of social events are not necessarily stronger than the reactions of people scoring lower on trait narcissism. This may point to a strong situational influence on state narcissism. It shows that situational features are able to trigger narcissistic responses in everybody and that this response is comparable to the reactions that high narcissists express. We considered this idea further in the next two studies.

In summary, the results of Study 1 show that both person traits and situationally triggered processes influence whether narcissistic attitudes manifest in a particular situation, thus providing the first empirical evidence for the usefulness of the proposed NARCIS framework. However, given the very homogenous sample and some unexpected findings (i.e., lack of influence of negative feedback, nonsignificant moderation by trait narcissism), we initiated a replication of Study 1 in a more heterogeneous sample. Furthermore, we wanted to control for gender-specific effects.

Study 2

Overview and Hypotheses

The second study concentrated on the same hypotheses as presented in Study 1. However, we examined these in a more heterogeneous sample that was not comprised solely of undergraduate psychology students. Furthermore, we included two other situation-invariant variables in our analyses: gender and trait self-esteem.

Gender effects. NARCIS suggests that potential gender effects be analyzed when possible. Therefore, we included gender both as a control and as a moderator variable for the associations between the valence of situations and state narcissism. It might be the case that

women react more narcissistically in feedback situations because they are not as used to it as men. For example, women continuously receive less positive feedback across their life course, for example, by teachers (Dweck & Leggett, 1988; Eccles & Blumenfeld, 1985) and parents (Lewis, Alessandri, & Sullivan, 1992; Lundgren & Rudawsky, 1998). In fact, Giacomin and Jordan (2015) reported that women expressed higher state narcissism levels on days when they experienced agentic events but not on days when they experienced communal events (e.g., receiving recognition from others and caring for others, respectively). For men, this effect was the other way around. However, these results have to be interpreted cautiously given the relatively small male subsample (n = 32).

Trait self-esteem as a predictor. Study 1 showed that self-esteem and narcissism are positively related at the situational level. However, we did not explore whether this effect would hold when controlling for the influence of trait self-esteem. As mentioned in the Introduction, NARCIS predicts that trait self-esteem will not significantly influence an individual's narcissism score in a particular situation. Instead, we believe that the degree to which a person is satisfied with him or herself in a particular moment is more important for his or her narcissism level in that situation. Consequently, we included trait self-esteem as a control variable in our models in order to test this prediction.

Additional research questions and hypotheses. For these reasons, we added the following hypothesis and research questions in Study 2 to further test predictions that were generated from the NARCIS framework:

Research Question 3: Do situation-invariant variables predict change in narcissism?

H3c: Trait self-esteem will have no significant influence on state narcissism.

Research Question 3d: Does gender moderate the associations between situation-varying

variables and state narcissism?

Method

Sample, instruments, and procedure. The sample consisted of 129 participants (88 women, 41 men) who we recruited from mailing lists from universities all over Germany. They completed an online questionnaire and a daily diary (at 1.00 p.m. and 7.00 p.m.) for at least 5 consecutive days using their smartphones, tablets, or PCs. On average, subjects provided 15.13 measurement points (*SD* = 6.18, Range: 3 to 43). This resulted in 1,952 observations.

On average, participants were 24.40 (*SD* = 4.28) years old. At the time of the data collection, 31.8% of all participants (*n* = 41) had completed their studies, 51.9% (*n* = 67) had graduated from high school, 11.6% (*n* = 15) had finished their job training, and 4.7% (*n* = 6) reported other levels of highest education. There was no demographic information for two participants.

The measurement instruments were the same as in Study 1. The rating scale, however, was a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In addition, we assessed trait self-esteem with the German version of the Rosenberg Self-Esteem Scale (RSE; Collani & Herzberg, 2003). The internal consistencies were α = .89 for self-esteem, α = .65 for narcissism, α = .69 for psychopathy, and α = .76 for Machiavellianism.

Statistical analyses. The statistical procedure was the same as in Study 1 in order to examine the paths from the NARCIS model. First, we inspected correlations with the individual mean level of state narcissism and its within-person variability. Afterwards, we used multilevel models with person-mean-centered predictors. Again, the first part contained a complete model with all of the situational variations (i.e., positive and negative interactions and feedback) together in one equation. Next, we separated the analyses by the valence of each event. We used

state narcissism as the dependent variable. We included gender, the trait scores on the Dark Triad, and self-esteem as Level-2 predictors. Thereby we concentrated on the "trait manifestation" path and the moderation by gender (displayed by the male and female symbols in Figure 1) in NARCIS. State self-esteem as well as the valence of an event built the predictors on Level 1. Here, we addressed the paths "ego boosting," "ego protection," and "successful need satisfaction" from the NARCIS framework. Furthermore, we examined two cross-level interactions between Trait Narcissism x Valence and Gender x Valence. On Level 1, we formed the State Self-Esteem x Valence interaction term. We began by specifying an empty model (Model 0) and tested for random intercepts (Models 1a-e) and additionally for random slopes (Models 2a-e). We chose the models that displayed the best fit to the data (i.e., regarding the deviance score) for the inclusion of the interaction terms (Models 3b-e).

Results

Research Question 1: Is there intraindividual variability in narcissism over time?

Results from Study 2 are displayed in Insert [Table 1 here] and Insert [Table 3 here]. With respect to Research Question 1, the ICC in Model 0 was .70, indicating that almost one third of the variance in narcissism was within-subject variance.

Within-person variability in state narcissism. The aggregated mean level of state narcissism (M = 2.98, SD = 0.99) was positively correlated with psychopathy (r = .21, p < .05), Machiavellianism (r = .19, p < .05), and trait narcissism (r = .42, p < .001). The individual-level variability in state narcissism (M = 0.56, SD = 0.35) was positively associated with the mean level of positive interactions (r = .18, p < .05) and the variability in state self-esteem (r = .21, p < .05). More detailed information about the correlations between all variables can be found in Appendix A2.

Research Question 2: Do situation-varying variables predict change in narcissism?

Complete model. The random intercept random slopes model (Model 2a) was the model with the smallest deviance score, deviance = 4,417, $\chi^2(20) = 96.33$, $p < .001$ (Insert [Table 1 here]). Confirming Hypotheses 2a and 2d, people who received more positive feedback and experienced more negative interactions reported higher levels of state narcissism ($B = .05$, $z = 2.60$ and $B = .08$, $z = 3.34$, respectively). Contradicting Hypothesis 2c and the results from Study 1, however, there was a negative but nonsignificant relation between positive interactions and state narcissism ($B = -.02$, $t = -1.22$). Again, there was a positive but nonsignificant association with negative feedback ($B = .03$, $t = 1.27$), which did not support Hypothesis 2b. Participants with higher state self-esteem levels also reported higher state narcissism levels ($B = .07$, $t = 2.64$).

Separate model analyses. Assessing the valence of one event without controlling for the valences of the other three events revealed only a slightly different picture of the associations with state narcissism. Whereas the effects of positive feedback, positive interactions, and negative interactions remained the same, negative feedback significantly increased state narcissism as originally expected (H2c), $B = .05$, $z = 2.26$.

The moderating effect of state self-esteem found in Study 1 was again confirmed by these analyses: In general, negative interactions increased state narcissism levels (Model 2e, $B = .08$, $z = 3.56$). However, as can be seen in Model 3e, this effect became nonsignificant when moderators were considered ($B = .04$, z = .95). More precisely, the positive relation between negative interactions and state narcissism was reduced only for participants with higher levels of state self-esteem ($B = -.06$, $z = -2.68$).

Research Question 3: Do situation-invariant variables predict change in narcissism?

Complete model. As predicted (H3c), trait self-esteem did not significantly predict changes in

state narcissism (B = -.02, z = -.13). Furthermore, trait narcissism was the only significant predictor out of the Dark Triad variables (B =.71, z = 4.24).

Separate model analyses. The positive prediction of state narcissism by trait narcissism from Study 1 was also found here, B > .62, zs > 3.64 (H3a). There was only one model that yielded significant cross-level interactions: The positive interaction coefficient in Model 3b (positive feedback), B =.09, z = 2.91, showed that people scoring higher on trait narcissism reacted even more narcissistically after receiving positive feedback (H3b). Machiavellianism, psychopathy, and trait self-esteem (H3c) failed to predict changes in state narcissism in all models, Bs < .15, zs < 1.80.

Research Question 3d: Does gender moderate the association between situation-varying factors and state narcissism? ***Separate model analyses.*** In all models (Models 2b-e), there was no significant main effect of gender, indicating that men and women did not differ in their change in state narcissism levels. However, including gender as a moderator revealed that the association between positive feedback and state narcissism was stronger for women, B = .08, z = 1.98 (Model 3b). Nonetheless, there were no other significant cross-level interactions.

Discussion

Overall, the results from Study 2 provided further support for the hypotheses that we derived from NARCIS. There was also support for the finding from Study 1 that situational factors influence variability in state narcissism more than trait levels do because there was no significant correlation between trait narcissism and the standard deviation of state narcissism. However, in this sample, the correlation between trait narcissism and the mean level of state narcissism showed that people with higher trait levels of narcissism also had higher mean levels of state narcissism. These differences from Study 1 might stem from the rather heterogeneous

sample in Study 2 and thereby from more heterogeneity in the data. As we can see by the ICCs from both studies, there was much more between-person variability in Study 2 than in Study 1; thus, it is possible that range restriction was responsible for the nonsignificant associations in Study 1.

Situation-varying variables. All hypotheses related to Research Question 2 were again confirmed in Study 2. Notwithstanding, it is worth noting that the effect of negative feedback and positive interactions became nonsignificant when the valences of the other events were controlled for. In Study 1, negative feedback did not significantly predict state narcissism either. It was suspected that gender differences would explain this finding. This idea, however, could be ruled out by the findings of Study 2 because there were no significant cross-level interactions with gender. Previous research has shown that narcissists have strong responses to negative feedback (Bushman & Baumeister, 1998; Kernis & Sun, 1994). However, with respect to state narcissism, there was no significant cross-level interaction with trait narcissism, indicating that people who are high on trait narcissism do not express higher state narcissism levels when they receive negative feedback. Furthermore, how participants subjectively evaluate their feedback appears to be important. Hence, it might be useful to always collect data about the valence of the general social interaction in a particular moment in order to obtain a profound understanding of the specific effect of negative feedback. Another explanation for the reduced impact of negative feedback might be that the kind of negative feedback might be more important. For example, it might make a difference whether someone is criticized for his or her skills than for his or her physical appearance. The same might be true for positive interactions.

In general, the idea that state narcissism serves as one form of ego protection in negative interactions obtained further support from Study 2 (i.e., participants showed higher state

narcissism levels in such situations). Higher state narcissism scores as one form of self-protection might also come about when people feel bad about themselves but have to get through negatively evaluated social interactions as revealed by the Level-1 interaction between negative interactions and state self-esteem.

Furthermore, the significant cross-level interactions showed that positive feedback boosts egos especially for women or people scoring high on narcissism. Whereas positive feedback confirms the grandiose self-view of narcissists, it might also work like a balm for the female soul and might lay the foundation for narcissistic attitudes. This idea corresponds to the addiction model of narcissism (Baumeister & Vohs, 2001), wherein narcissism is understood as an addiction to the admiration of others. By expressing narcissistic attitudes, women—more often than men—seek such positive states and receive confirmation that their cognitions and behaviors were effective in achieving praise.

Situation-invariant variables. Although trait narcissism positively predicted state narcissism, the results that we found herein with the situation-varying variables were not specific to people high on trait narcissism (except the effect of positive feedback); that is, these results were not moderated by trait narcissism. Furthermore, the other Dark Triad traits as well as trait self-esteem failed to significantly predict state narcissism. This indicates that situations can trigger specific subjective evaluations that are very important for the change in state narcissism scores from one moment to the next.

In order to shed more light on the variables that influence state narcissism, we wanted to narrow down the relatively broad categories of interactions and feedback by assessing more concrete situations. Furthermore, whether a colleague or a good friend gave this feedback might play a role in determining people's responses. Consequently, we decided to conduct a third study

that specifically looked at certain kinds of interactions and feedback and took into account different interaction partners.

Study 3

Overview and Hypotheses

The aims of this study were threefold: First, we wanted to provide further empirical evidence for the hypotheses derived from the NARCIS framework and, thus, for its usefulness. As mentioned in the Introduction, one assumption was that people might habituate to interactions with others and to feedback when they are exposed to it more often. For this reason, in Study 3, we were interested in the effect of the number of social interactions and feedback within a specific time period ("habituation" in NARCIS). In addition, we examined the influence of certain interaction partners or feedback providers (i.e., colleague/boss, friend, sexual partner) as well ("successful need satisfaction" in NARCIS). Last but not least, we aimed to explore whether certain kinds of feedback or social interactions would show differential effects on state narcissism ("ego boosting," "ego protection," or "successful need satisfaction" in NARCIS). On the whole, Study 3 was set up to be rather exploratory in that we did not generate specific hypotheses about the effects that the different types of feedback or interactions would have on state narcissism. We were mainly interested in exploring the idea that there might be differences.

Additional research questions and hypotheses. Research Questions 1 to 3 from Studies 1 and 2 were also examined here. However, Study 3 concentrated on the following additional research questions and hypotheses:

Research Question 2: Do situation-varying variables predict change in state narcissism?

Research Question 2g: Do the influences of certain activities or different types of feedback on state narcissism differ?

Research Question 3: Do situation-invariant variables predict change in state narcissism?

H3e: Experiencing many social interactions or receiving a lot of feedback will reduce state narcissism.

H3f: Experiencing many social interactions or receiving a lot of feedback from privately known others (i.e., friends or romantic partners) will reduce state narcissism.

Method

Sample and procedure. This sample consisted of 61 participants who were recruited through several online platforms. On average, they were 23.58 (*SD* = 4.72) years old, and there were 14 men (47 women) in the sample. Because the male subsample was very small, we forewent gender-related analyses. At the time of data collection, 49.2% (*n* = 30) of the participants had graduated from high school, 36.1% (*n* = 22) had graduated from college, 8.2% (*n* = 5) had completed a professional trainee program, and 6.5% (*n* = 4) had other educational backgrounds. On average (across all participants and time points), the mean of state narcissism was 2.56 (*SD* = 0.89).

Variables and instruments. The same instruments for the Dark Triad traits, trait and state self-esteem, and state narcissism were used as in the previous two studies. The internal consistencies were α = .91 for self-esteem, α = .71 for narcissism, α = .73 for psychopathy, and α = .78 for Machiavellianism. We first administered an online survey, and afterwards, we gave participants a web app that they could use on their smartphones, tablets, or PCs.

Interactions and feedback. In order to explore which kinds of interactions and feedback influence an individual's state narcissism, we first distinguished between the following social interactions: (a) social activities (i.e., flirting, having conversations, and doing something like going to the cinema), (b) attempts to contact others (i.e., making contact and getting or providing

support), and (c) having disagreements with others. By no means exhaustive, these interactions were supposed to represent examples of typical ordinary occasions in daily life. Likewise, and included as other aspects of activities, participants were asked to indicate whether they received feedback with respect to the following aspects: (d) skills (i.e., ability, personality), (e) behavior, and (f) appeal (physical appearance, sexual attractiveness). These types of feedback were supposed to cover most areas of feedback encountered in daily life.

Interaction partners. Participants reported on not only the situations they found themselves in but also with whom they experienced the situations. For each rating of event valence (see next section), they could indicate whether it was with a colleague or boss, a friend, or a potential sexual partner. One interaction item was: "Within the last four hours, I had a disagreement with (a) a colleagues/boss, (b) a friend, (c) a potential sexual partner, (e) this does not apply to me."

Valence. In addition, participants evaluated the valence of each interaction or each piece of feedback on a 4-point bipolar rating scale. For the interaction item presented above, the corresponding valence item was: "This interaction was (a) strongly negative, (b) rather negative, (c) rather positive, or (d) strongly positive."

Statistical analyses. ***Within-person variability of state narcissism.*** As we did in the previous studies, we began the analyses by calculating correlations between all of the variables included in Study 3 and the individual averaged score for state narcissism and its standard deviation per participant. Afterwards, we used multilevel modeling to address the hypotheses and research questions.

Multilevel modeling. The statistical procedure that was applied to analyze the nested structure of the data was the same as in the previous studies. State narcissism was the dependent

variable, and the Dark Triad trait scores, self-esteem (Level 2), as well as state self-esteem (Level 1) served as independent variables. However, the other situation-varying predictors differed from the previous studies. In total, we conducted three sets of analyses (see next section). For all sets of analyses, we began by specifying an empty model (Model 0) and tested for random intercepts (Model 1) and additional random slopes (Model 2). We chose the models that showed the best fit to the data (i.e., regarding the deviance score) for the inclusion of cross-level as well as same-level interaction terms (Model 3).

Do the influences of certain activities or types of feedback on state narcissism differ? The first set of analyses concentrated on answering Research Question 2g. Therefore, we used multilevel models to specify models for the valence of each event: (a) activities, (b) attempts to contact, (c) disagreements, (d) skill-related feedback, (e) behavior-related feedback, and (f) appeal-related feedback. Due to the high number of possible predictors, we decided not to specify a complete model that included all types of interactions and feedback together. Instead, we considered six separate models. Because the rating scale was bipolar (i.e., from strongly negative to strongly positive), the feedback models included valence as a linear but also as a quadratic trend. Studies 1 and 2 showed that extremely positive and extremely negative feedback both potentially increased state narcissism. By contrast, the previous studies revealed that negative social interactions increased state narcissism and positive interactions decreased it. Consequently, the valence for the three social interactions was entered into the equation as a linear predictor. We also tested for cross-level and same-level interactions with trait narcissism and state self-esteem (Models 3a-f).

Experiencing many social interactions or receiving a lot of feedback will reduce state narcissism. The second set of analyses addressed Hypothesis 3e. We determined Level-2

variables for the number of interactions and number of times feedback was received for each participant by calculating each person's number of interactions and the number of times each person received feedback while participating in the study. The first analyses contained a complete model with the number of social interactions and feedback in one equation (Model g). The second analyses included separate models for interactions (Model h) and feedback (Model i). Here, we included additional interaction terms in the best-fitting models (Model 3).

Experiencing many social interactions or receiving a lot of feedback from friends will reduce state narcissism. The third set of analyses addressed Hypothesis 3f. We calculated the number of interactions with and the number of times each person received feedback from either their colleagues or bosses (i.e., work-related others) and their friends or romantic partners (i.e., privately known others). These indices were used as Level-2 predictors. Here, the complete model included the number of interactions with as well as the number of times feedback was received from privately known and work-related others in one equation (Model j). In separate analyses, four models incorporated social interactions with work-related or privately known others (Models k-l) and feedback from work-related or privately known others (Models m-n). Again, using the best-fitting models, we tested for significant interactions with trait narcissism and state self-esteem (Model 3).

Results

Within-person variability in state narcissism. We are reporting significant correlations for only the individual mean level of state narcissism and its variability (see Appendix A3 for the complete correlation table). The mean level of state narcissism was positively correlated with narcissism at the trait level ($r = .31$, $p < .05$), the trait level as well as the mean state level of self-esteem ($r = .32$, $p < .01$ and $r = .61$, $p < .001$, respectively), the mean level of positive activities ($r = .48$, $p < .001$), and attempts to contact ($r = .37$, $p < .01$). It was negatively correlated with the variability in narcissism ($r = -.35$, $p < .01$), the variability in state self-esteem ($r = -.40$, $p < .001$), the variability in activities and attempts to contact ($r = -.44$, $p < .001$ and $r = -.37$, $p < .01$), the number of social interactions ($r = -.34$, $p < .01$), and the number of times feedback was received from privately known others ($r = -.34$, $p < .05$). The within-person variability in narcissism was positively associated with the within-person variability in state self-esteem ($r = .66$, $p < .001$), the variability in activities ($r = .42$, $p < .001$), attempts to contact ($r = .44$, $p < .001$), and the number of social interactions with others ($r = .28$, $p < .05$). It was negatively correlated with the mean level of state self-esteem ($r = -.44$, $p < .001$) and the mean level of positive activities and attempts to contact ($r = -.31$, $r = -.25$, respectively, ps $< .05$). Again, these coefficients generally showed that the variability in narcissism was related more to situation-varying influences than situation-invariant or trait influences.

Situation-varying variables. Results from Study 3 are displayed in (Insert [Tables 4 to 7 here]). The ICC from the empty model was .56, indicating that variability in narcissism was due to differences between persons just as much as within them (Research Question 1). Across all models, state self-esteem significantly predicted state narcissism, $Bs > .12$, $z > 2.13$ (H2e).

Do the influences of certain interactions or types of feedback on state narcissism differ? Insert [Tables 4 and 5 here] display the results for different kinds of social interactions and feedback. Regarding activities and attempts to contact, the models with random intercepts and random slopes showed the best fit (Models 2a-b), $\chi^2(5) = 69.93$ for activities and $\chi^2(5) = 83.27$, ps $< .001$ for attempts to contact. The best-fitting model for disagreements, however, included only random intercepts (Model 1c), $\chi^2(6) = 1353.75$, $p < .001$. The same was true for all models that addressed different kinds of feedback (Models 1d-f), $\chi^2(6) = 1099.27$ for skills, $\chi^2(7) = 1269.88$ for appeal, and $\chi^2(7) = 1236.31$ for behavior, ps $< .001$. In two cases, including same- or cross-level interactions further improved model fit (i.e., Models 3e-f), $\chi^2(2) = 11.91$ for appeal and $\chi^2(2) = 9.23$ for behavior, ps $< .01$.

As can be seen in Insert [Table 4 here], the effects of the valences of different social interactions were marginally significant only for having a disagreement with others, indicating that participants who evaluated disagreements with others more positively showed lower state narcissism levels, $B = -.25$, $z = -1.71$ (Model 1c). Pleasant attempts to get in touch with others, however, reduced a person's state narcissism only when his or her level of trait narcissism was high, as shown by the significant coefficient for the cross-level interaction, $B = -.21$, $z = -2.06$ (Model 3b). Instead, the level of state narcissism was not significantly influenced by the valences of the activities that participants engaged in with others, $B = -.10$, $z = -1.59$ (Model 2a).

Similar to the results concerning social interactions, not all kinds of feedback influenced state narcissism. The coefficient for the quadratic trend of skill-related feedback increased state narcissism, $B = .19$, $z = 2.01$ (Model 1d). This means that extremely positive but also extremely negative feedback that was directed toward a person's skills increased that person's state narcissism levels. However, there was no significant main effect of appearance- and behavior-

related feedback in either the linear or quadratic term, *Bs* < .08, *z*s < 0.64 (Models 1e-f). However, it is interesting to note that such feedback had an influence when state self-esteem was considered because there were significant Level-1 interactions with state self-esteem (Models 3e-f): The relation between extremely negative or positive appearance- or behavior-related feedback with state narcissism was reduced when participants were quite satisfied with themselves in that particular moment (*B* = -.42, *z* = -3.43 and *B* = -.25, *z* = -3.00, respectively).

Situation-invariant variables. Overall, trait narcissism positively predicted state narcissism in most models (H3a), *Bs* > .14, *z*s > 1.95. However, the coefficients were not significant in the models that included the valences of all kinds of feedback (Models d-f) and the model regarding the valence of disagreements (Model 1c), *Bs* < .33, *z*s < 1.31. The other Dark Triad traits did not significantly influence state narcissism, *Bs* < .48, *z*s < 1.55. In contrast to the results from the previous studies and counter to Hypothesis 3c, trait self-esteem had a positive influence on state narcissism in the models for skill-related feedback and activities, *Bs* > .26, *z*s > 1.76.

Experiencing many social interactions or receiving a lot of feedback will reduce state narcissism. All models that included the number of social interactions and the number of times feedback was received showed the best fit when the intercepts and slopes were allowed to vary (Models 2g-n). Results from the complete model (Model 2g) showed that only the number of times positive feedback was received significantly reduced state narcissism, *B* = -.02, *z* = -1.67 (Insert [Table 6 here]). When interactions and feedback were examined separately, the number of social interactions negatively predicted state narcissism as well, *B* = -.01, *z* = -2.36 (Model 2h). Thus, Hypothesis 3e was clearly confirmed for feedback only.

Experiencing many social interactions or receiving a lot of feedback from privately known others will reduce state narcissism. A similar picture arose when we differentiated between privately known and work-related others. Whereas the separate analyses (Models 2k-n, Insert [Table 7 here]) revealed that interactions with (B = -.02, z = -3.20) and feedback from privately known others (B = -.05, z = -3.79) reduced state narcissism, the complete model (Model 2j, Insert [Table 6 here]) showed that the effect of interactions with privately known others became nonsignificant (B = -.01, z = -.64) when the influence of feedback was controlled for, B = -.04, z = -2.09. Thus, Hypothesis 3f was confirmed only for feedback from privately known others.

Discussion

The results from the first two studies suggested that the valences of social events influenced state narcissism in general. In addition, Study 3 was set up in an exploratory fashion in order to examine whether it might be valuable to differentiate between different kinds of interactions, feedback, and interaction partners. Our findings confirmed this idea.

Situation-varying variables. Situations that included attempts to contact and having disagreements with others impacted state narcissism more than situations that involved activities with others. Situations involving attempts to contact and having disagreements might represent the typical focus on agentic rather than communal features, and it is such agentic features that are related to narcissism (e.g., Campbell et al., 2006; Paulhus, 2001). Although the main effect of positively evaluated situations in which others are contacted did not reach significance, the interaction with trait narcissism did: When narcissists pursue the aim to get ahead, successfully attempts to contact others might satisfy their needs in the short term. Thereby, their state narcissism levels would decrease. By contrast, unpleasant attempts to contact others such as

fruitless networking might increase an individual's narcissism score, most likely due to self-protection mechanisms (Wolff & Moser, 2009).

Similar to social interactions, there were differential findings for the effects of feedback on state narcissism. For example, feedback increased state narcissism only when it was specifically directed at an individual's skills. Such feedback might be related to feelings of grandiosity in narcissists. Again, the two strategies of self-protection and reinforcement of the self-view might explain the elevated influence of both extremely positive and negative skill-related feedback on state narcissism. Specific feedback that was directed at a person's appeal (i.e., physical appearance and sexual attractiveness), however, increased state narcissism only when his or her self-esteem was low in a particular situation, a finding that could be seen in the significant interaction coefficient. Because narcissists are supposed to be concerned about their looks and clothes (Campbell et al., 2002; John & Robins, 1994) as well as their behavior (Back, Schmuckle, & Egloff, 2010), it might not be surprising that such feedback in particular is related to state narcissism and state self-esteem. However, at this point, it has to be stated that these effects have to be interpreted cautiously. The sizes of the subsamples for these analyses have been small (*n*'s = 41 to 48) given the recommendations of including at least 50 Level 2 units (Maas & Hox, 2005).

Situation-invariant variables. Contrary to Studies 1 and 2, trait narcissism failed to significantly predict state narcissism in some models (i.e., in the analyses with disagreements or feedback as a predictor). Nonetheless, what can be concluded from all three studies is that state narcissism generally depends on trait narcissism. However, there is also a strong situational influence on state narcissism that is not always different for high or low trait narcissists. Another finding from Study 3 that was not found in the previous studies was the positive effect of trait

self-esteem. However, this influence was not significant in all models, and therefore, the associations between state narcissism and trait self-esteem have to be interpreted cautiously. Instead, state self-esteem played an important role in all models.

Specific to Study 3 was furthermore the idea that people might get used to pleasant and unpleasant situations when exposed to them more often. In fact, one striking result was that people who less frequently received feedback from privately known others (i.e., friends and romantic partners) were more likely to have higher state narcissism, probably because their motivation for social acknowledgment was still activated because it had not been satisfied.

In summary, Study 3 extended the approach used in the first two studies. It differentiated between specific social interactions and specific types of feedback that influence state narcissism.

General Discussion

The current study was based on a framework that describes how narcissism might manifest on a day-to-day basis within each individual. The findings from three consecutive studies provide supporting empirical evidence for the NARCIS framework and show that situation-invariant but also situation-varying variables have the potential to increase or decrease a person's narcissism score in a particular situation as well as across situations.

Situation-Varying Variables that Influence State Narcissism

We were able to largely confirm the predictions of the NARCIS framework concerning the effects of social interactions and feedback on state narcissism (i.e., its valence). Results from all studies provided evidence that negative social interactions as well as positive feedback in particular increase narcissistic reactions in individuals. The results for negative feedback were less straightforward because the effect was reduced when controlling for other situation-varying

variables (Studies 1 and 2). The same occurred for positive interactions in Study 2. However, the tendency across most analyses was in the expected direction. With respect to previous studies that showed strong evidence that narcissists responded to negative feedback with enhanced aggression and anger (e.g., Bushman & Baumeister, 1998; Smalley & Stake, 1996b), the current results show that the expressed narcissism level itself was influenced more by other situational aspects (e.g., positive feedback or negative interactions). Furthermore, our results underscore the usefulness of considering a person's subjective evaluation of given feedback rather than assuming that a certain kind of feedback would be judged as unpleasant.

Ego protection and ego boosting might be the two main mechanisms that are responsible for the changes in state narcissism. We inferred this from the literature (Back et al., 2013) and the present findings: On the one hand, people reacted more narcissistically in order to protect their lower self-esteem when they evaluated an interaction with others as unpleasant. However, their needs for inclusion were often quite satisfied when they liked the interaction, thus resulting in lower state narcissism scores. Flattering feedback, on the other hand, might act as an ego booster—especially for people scoring higher on trait narcissism and women (Study 2).

Women's stronger narcissistic responsiveness to positive feedback might be grounded in a combination of an early deprivation of praise and the addictive nature of positive feedback. It is well known that men tend to report higher self-esteem than women (Kling et al., 1999). Furthermore, women receive continuously less positive feedback across their life course (e.g., Dweck & Leggett, 1988; Lundgren & Rudawsky, 1998). Against this background, women might be less "used" to positive feedback. The pleasant surprise of positive feedback might set the foundation for narcissistic attitudes. This idea corresponds to the addiction model of narcissism (Baumeister & Vohs, 2001), wherein narcissism is understood as an addiction to the admiration

of others. By expressing narcissistic attitudes, women as well as narcissists might seek such positive states. It might also provide confirmation that their cognitions and behaviors were effective at achieving admiration. At this point, however, it has to be stated that, besides the fact that other authors found similar results for the gender effect of positive feedback or recognitions (Giacomin & Jordan, 2015), the results need to be replicated in larger samples.

Results from Study 3 suggest that people react differently to several types of social interactions or feedback. For example, participants from Study 3 responded more narcissistically to skill-related feedback and too little feedback from friends and romantic partners over time. People with higher trait narcissism levels reacted even more narcissistically in negative situations in which they attempted to contact someone. There might be several explanations that refer to the agentic nature of narcissism for those specific responses. Attempting to contact people expands a person's social network, which is positively associated with income, happiness in one's job, occupational accomplishments, and more effective strategies for finding new professions (Hill & Roberts, 2011). When narcissists engage in getting to know others in order to pursue agentic goals, the achievement of such goals might reduce their motivation for socializing and thereby reduce their narcissistic attitudes.

In addition, appeal-related and behavior-related feedback play roles only when an individual's self-esteem is rather low. Such feedback might activate both the ego-protection and ego boosting paths when a person is not satisfied with him- or herself at that particular moment: On the one hand, positive feedback might elevate vulnerable self-esteem (ego boosting) by increasing state narcissism levels. On the other hand, negative feedback might increase state narcissism because of the need to further protect the self (ego protection) when people already feel dissatisfied with themselves.

The role of state self-esteem. A person's self-esteem can also fluctuate over time. NARCIS expects that someone who feels quite good about him or herself in a certain situation is at higher risk for feeling grandiose and expressing higher levels of state narcissism. This expectation was confirmed across all three studies. It is interesting that state self-esteem also functioned as a moderator of negative interactions: People who experienced a negative interaction but who were quite satisfied with themselves in that moment reacted less narcissistically than people who had low state self-esteem. According to sociometer theory (Leary & Baumeister, 2000), lower levels of self-esteem can be equated to drops in one's value to others. Thus, narcissistic attitudes as one form of self-protection strategy might provide one possible explanation for this moderator effect. However, such narcissistic protection might not be necessary when state self-esteem is high. This idea might also be cautiously linked to findings from social investment theory: Narcissism can be adaptive when people are confronted with challenges that might be eased by increasing one's self-focus (Roberts, Wood, & Smith, 2005).

Situation-Invariant Variables that Influence State Narcissism

As proposed by NARCIS, trait narcissism was positively associated with state narcissism but not trait self-esteem (exceptions were two models in Study 3). People who get a lot of feedback from privately known others (i.e., friends or romantic partners) might get used to it and will not "over-react" by behaving more narcissistically in a particular situation. Instead, their state narcissism levels are more likely to decrease due to a habituation effect.

It is not only people high on trait narcissism who react more narcissistically in a particular moment. The results from all studies (with some exceptions in Study 3) support previous findings that traits and their manifestations are moderately strongly correlated (Fleeson & Gallagher, 2009): People scoring high on narcissism tend to react more narcissistically on a

day-to-day basis as well. Narcissists are known for their agentic goal pursuit (Campbell et al., 2006). These goals are pursued in a certain situation (e.g., by demanding respect after receiving negative skill-related feedback). However, the results found in the current studies were not exclusive for individuals with high levels of trait narcissism because most of the interactions with trait narcissism were not significant. One exception to this, however, was the effect of positive feedback. In other words, although people who scored high on trait narcissism reported greater state narcissism, they did not react more strongly to social interactions or feedback than people scoring low on trait narcissism. Even if we did not expect such a result in advance, its interpretation is especially interesting. This shows that situational features can indeed trigger narcissistic responses in anybody and that this response is comparable to the reactions that individuals high on trait narcissism express. The fact that people in general use self-protective and -enhancing strategies (see Sedikides, 2012 for a review) links the results found here to the idea that narcissistic attitudes might work as such a strategy as well. Like other authors (Miller & Campbell, 2011), we hesitate to evaluate whether such a short-term narcissistic strategy can be called “adaptive” because trait narcissism itself includes aspects that are usually viewed as harmful to others (e.g., exploitation, little empathy for or interest in others). Nonetheless, it is remarkable that the expression of narcissistic cognitions is strongly influenced by situation-triggered processes besides the influence of personality traits (i.e., narcissism and self-esteem). In other areas of narcissism research, however, there might be stronger trait-related influences (Maaß & Ziegler, 2016) as was found in Big Five research (Fleeson & Law, 2015). For this reason, NARCIS might be a useful framework for considering person and situation effects in a more profound way within narcissism research and might thereby contribute to the person-situation interaction debate.

Limitations and Future Directions

The current research examined potential influences on state narcissism. The three studies differed slightly in their designs in terms of the inclusion of trait self-esteem, sample size with regard to men and women, rating scales, and items used in the diary questionnaire, but all results were largely similar across the studies despite these methodological differences.

Nonetheless, we see some limitations in the current studies. For example, future studies could use differentiated measurements to assess daily events in more detail over a longer period of time. Researchers could examine a broader range of narcissistic behaviors on a state level with both self- and other reports (e.g., feeling grandiose, devaluing others, craving admiration). Furthermore, the situations could be standardized across participants as suggested by Fleeson and Law (2015). Such an approach might also offer the opportunity to ask people for their concrete thoughts and interpretations of identical situations, which could be used to predict state narcissism scores. Although we now know that the number of social interactions with others plays a role, future study designs could disentangle such effects in more detail. Which individual assumptions, cognitive representations, or motives do people form in the long term when they regularly rely on positive social activities? Which situations trigger which concrete cognitions so that an individual expresses higher or lower levels of narcissism (independent from or dependent on the corresponding mean trait level). Last but not least, although we used homogenous and heterogeneous samples and differentiated between women and men, the sample size for males in Study 2 was rather small. Thus, the gender differences we identified need further replication. Maas and Hox (2005) recommend that samples for conducting multilevel models should include at least 50 Level 2 units to prevent biased estimates. Given that there were three subsamples in

Study 3 that did not meet this standard, collecting larger samples, with more Level 1 units as well, seems to be advisable for future studies.

Conclusions

NARCIS provides a conceptual framework for the study of narcissism in situations. We conclude that there is a strong situational influence on the expression of state narcissism. Feedback that is evaluated as negative tends to trigger ego-protection strategies and increases the expression of state narcissism. People, especially women in general and people high on trait narcissism, are more likely to exhibit higher state narcissism scores when they receive positive feedback (ego-boosting strategy). State narcissism also increases when people have low state self-esteem in negative interactions (ego protection). Positive interactions (e.g., positively evaluated disagreements with others) reduce state narcissism due to successful need satisfaction. This association is stronger for high trait narcissists and positive situations in which attempts are made to contact others. In general, skill-related feedback increases state narcissism when it is evaluated as extremely positive (ego boosting) or extremely negative (ego protection). This mechanism works for appeal-related and behavior-related feedback only when state self-esteem is low. At the trait level, narcissism but not self-esteem enhances state narcissism as one form of trait manifestation. Furthermore, people receiving a lot of feedback are less likely to develop higher scores on state narcissism due to habituation mechanisms. These associations are especially true for privately known feedback givers such as friends or romantic partners. The mechanisms derived from NARCIS are largely in line with current narcissism models and frameworks. In addition, the results call into question the role of trait self-esteem for the expression of state narcissism and point to the more important role of state self-esteem.

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Footnotes

[1]The terms “narcissism” and “narcissist” are used from now on as an abbreviation for people with higher scores on measures for assessing subclinical narcissism. The term “non-narcissist” is applied to people who score lower on narcissism scales. Furthermore, we refer to grandiose rather than vulnerable forms of narcissism.

[2]The current version consists of 27 items rather than the 28 we used here. For more details, see Jones and Paulhus (2014).

Table 1

Predicting State Narcissism in Study 1 and Study 2: Results From Hierarchical Linear Modeling for the Complete Models

	Study 1								Study 2							
	Empty Model (Model 0)				Complete Model (Model 2a)				Empty Model (Model 0)				Complete Model (Model 2a)			
Predictor	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI
Intercept	2.93	.05	59.24	[2.84, 3.03]	2.92	.05	63.99	[2.83, 3.01]	2.99	.09	35.04	[2.82, 3.16]	3.01	.08	37.72	[2.85, 3.16]
Level-2																
$Psych_{trait}$					-.01	.12	-.04	[-.25, .22]					.12	.19	.63	[-.25, .49]
$Mach_{trait}$					-.38	.12	-3.28	[-.56, -.10]					.02	.17	.12	[-.31, .35]
$Narc_{trait}$					.25	.10	2.45	[.04, .45]					.71	.17	4.24	[.38, 1.04]
$Self_{trait}$													-.02	.16	-.13	[-.33, .30]
Level-1																
$Self_{state}$					.27	.03	9.76	[.24, .32]					.07	.02	2.64	[.02, .30]
Positive feedback					.15	.02	8.94	[.13, .18]					.05	.02	2.60	[.01, .08]
Negative feedback					-.04	.03	-1.31	[-.11, .001]					.03	.02	1.27	[-.01, .01]
Positive interaction					-.08	.02	-3.83	[-.10, -.03]					-.02	.02	-1.22	[-.05, .01]
Negative interaction					.04	.02	2.10	[.01, .07]					.08	.02	3.34	[.03, .12]

(continued)

	Study 1								Study 2							
	Empty Model (Model 0)				Complete Model (Model 2a)				Empty Model (Model 0)				Complete Model (Model 2a)			
	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI
Variance component																
Level-2	.12				.10				.96				.80			
Level-1	.38				.31				.42				.34			
Slope $Self_{state}$					.02								.03			
Slope positive feedback					.01								.01			
Slope negative feedback					.01								.01			
Slope positive interaction					.003								.001			
Slope negative interaction					.01								.02			
ICC	.24								.70							
Deviance	6491				5726				4947				4417			
Pseudo R^2					.201								.174			

Note. Model 2a = Random Intercept Random Slopes; Est = Estimate; $Psych_{trait}$ = Psychopathy (trait), $Mach_{trait}$ = Machiavellianism (trait), $Narc_{trait}$ = Narcissism (trait), $Self_{state}$ = Self-esteem (state), ICC = intraclass correlation; Pseudo R^2 = explained variance on Level 1; *SE* = standard error; *z* = Wald Z-test; CI = confidence interval (lower bound, higher bound).

Table 2

Predicting State Narcissism in Study 1: Results From Hierarchical Linear Modeling for the Separated Analyses

	Negative Feedback (Model 2c)				Positive Feedback (Model 2b)				Negative Interaction (Model 2e)				Negative Interaction (Model 3e)				Positive Interaction (Model 2d)			
Predictor	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI
Intercept	2.92	.05	60.09	[2.83, 3.01]	2.92	.05	63.97	[2.83, 3.01]	2.92	.05	64.08	[2.83, 3.01]	2.92	.05	60.23	[2.84, 3.01]	2.92	.05	64.08	[2.83, 3.01]
Level 2																				
$Psych_{trait}$	-.06	.12	-.49	[-.30, -.18]	< -.01	.12	-.01	[-.23, .23]	-.02	.12	-.20	[-.28, -.24]	-.03	.12	-.21	[-.28, -.23]	-.02	.12	-.16	[-.26, .22]
$Mach_{trait}$	-.29	.12	-2.44	[-.52, -.05]	-.39	.12	-3.38	[-.62, -.16]	-.33	.12	-2.75	[-.60, -.06]	-.33	.12	-2.72	[-.59, -.05]	-.33	.12	-2.77	[-.56, -.10]
$Narc_{trait}$	.24	.10	2.26	[.03, .44]	.26	.10	2.56	[.06, .46]	.24	.11	2.30	[.04, .45]	.24	.11	2.28	[.04, .45]	.24	.11	2.30	[.04, .45]
Level 1																				
$Self_{state}$	.37	.03	11.99	[.31, .43]	.30	.03	10.63	[.24, .35]	.36	.03	11.91	[.30, .42]	.36	.03	11.98	[.30, .41]	.36	.03	11.43	[.30, .42]
Valence	-.06	.04	-1.81	[-.13, .01]	.17	.02	9.93	[.13, .20]	.07	.02	3.44	[.03, .11]	.08	.02	3.76	[.04, .12]	-.10	.02	-4.55	[-.14, -.05]
Cross-level interaction																				
$Narc_{trait}$ x Valence													.01	.04	.35	[-.06, .09]				

(continued)

	Negative Feedback (Model 2c)				Positive Feedback (Model 2b)				Negative Interaction (Model 2e)				Negative Interaction (Model 3e)				Positive Interaction (Model 2d)			
	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI
Level-1 interaction																				
$Self_{state}$ x Valence													-.07	.02	-2.71	[-.11, -.02]				
Variance component																				
Level 2	.10				.10				.10				.10				.10			
Level 1	.33				.32				.33				.33				.33			
Slope $Self_{state}$	.03				.02				.03				.03				.03			
Slope Valence	.02				<.01				.01				.01				<.01			
Deviance	5912				5775				5897				5890				5903			
Pseudo R^2	.146				.178				.151				.152				.146			

Note. Model 1 = Random Intercept; Model 2 = Random Intercept Random Slopes; Model 3 = Random Intercept Random Slopes with Interaction Terms; Est = Estimate; $Psych_{trait}$ = Psychopathy (trait), $Mach_{trait}$ = Machiavellianism (trait), $Narc_{trait}$ = Narcissism (trait), $Self_{state}$ = Self-esteem (state), ICC = intraclass correlation; Pseudo R^2 = explained variance on Level 1; *SE* = standard error; *z* = Wald Z-test; CI = confidence interval (lower bound, higher bound).

Table 3

Predicting State Narcissism in Study 2: Results From Hierarchical Linear Modeling for the Separate Analyses

	Negative Feedback (Model 2c)				Positive Feedback (Model 2b)				Positive Feedback (Model 3b)				Negative Interaction (Model 2e)				Negative Interaction (Model 3e)				Positive Interaction (Model 2d)			
Predictor	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI
Intercept	2.85	.15	19.39	[2.56, 3.13]	2.83	.15	19.33	[2.55, 3.12]	2.84	.15	19.34	[2.56, 3.13]	2.83	.15	19.31	[2.55, 3.12]	2.83	.15	19.31	[2.55, 3.12]	2.85	.15	19.42	[2.57, 3.13]
Level 2																								
$Psych_{trait}$	.13	.19	.53	[-.24, .50]	.15	.19	.79	[-.22, .52]	.15	.19	.80	[-.22, .52]	.15	.19	.76	[-.22, .51]	.14	.19	.71	[-.23, .51]	.14	.19	.75	[-.23, .51]
$Mach_{trait}$	.09	.17	.23	[-.25, .42]	.08	.17	.49	[-.25, .42]	.09	.17	.52	[-.24, .42]	.09	.17	.55	[-.24, .43]	.09	.17	.55	[-.24, .43]	.07	.17	.41	[-.26, .40]
$Narc_{trait}$	.64	.17	3.71	[.30, .97]	.65	.17	3.80	[.32, .99]	.63	.17	3.65	[.30, .96]	.65	.17	3.78	[.32, .98]	.65	.17	3.78	[.32, .99]	.64	.17	3.73	[.31, .97]
$Self_{trait}$	.02	.16	.12	[-.30, .34]	.03	.16	.16	[-.29, .34]	.03	.16	.17	[-.29, .35]	.001	.16	.01	[-.32, .32]	.003	.16	.02	[-.32, .32]	.04	.16	.22	[-.28, .35]
Gender	.23	.18	1.30	[-.12, .59]	.26	.18	1.42	[-.10, .61]	.24	.18	1.34	[-.11, .59]	.26	.18	1.45	[-.09, .62]	.24	.18	1.32	[-.11, .59]	.24	.18	.131	[-.11, .59]
Level 1																								
$Self_{state}$	.05	.03	1.97	[.001, .10]	.03	.03	1.11	[-.02, .08]	.03	.03	1.22	[-.02, .08]	.06	.02	2.57	[.01, .11]	.06	.02	2.62	[.02, .11]	.05	.03	1.84	[.002, .10]
Valence	.05	.02	2.26	[.01, .10]	.05	.02	2.64	[.01, .09]	-.002	.03	-.06	[-.06, .06]	.08	.02	3.56	[.04, .13]	.04	.04	.95	[-.04, .12]	-.03	.02	-1.86	[-.06, .001]
Cross-level interaction																								
$Narc_{trait}$ x Valence									.09	.03	2.91	[.03, .15]					.01	.04	.13	[-.08, .09]				
Gender x Valence									.08	.04	1.98	[.002, .15]					.05	.05	.97	[-.05, .15]				
Level-1 interaction																								
$Self_{state}$ x Valence									.02	.02	1.00	[-.02, .06]					-.06	.02	-2.68	[-.10, -.02]				

(continued)

	Negative Feedback (Model 2c)				Positive Feedback (Model 2b)				Positive Feedback (Model 3b)				Negative Interaction (Model 2e)				Negative Interaction (Model 3e)				Positive Interaction (Model 2d)			
	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI
Variance component																								
Level 2	.79				.79				.79				.79				.80				.79			
Level 1	.37				.36				.37				.36				.36				.38			
Slope $Self_{state}$	.04				.04				.04				.03				.03				.04			
Slope Valence	.02				.01				.01				.02				.02				.003			
Deviance	4514				4511				4498				4470				4461				4532			
Pseudo R^2	.119				.123				.124				.145				.148				.101			

Note. Model 1 = Random Intercept; Model 2 = Random Intercept Random Slopes; Model 3 = Random Intercept Random Slopes with Interaction Terms; Est = Estimate; $Psych_{trait}$ = Psychopathy (trait), $Mach_{trait}$ = Machiavellianism (trait), $Narc_{trait}$ = Narcissism (trait), $Self_{trait}$ = Self-esteem (trait), $Self_{state}$ = Self-esteem (state), ICC = intraclass correlation, Pseudo R^2 = explained variance on Level 1; *SE* = standard error; *z* = Wald Z-test; CI = confidence interval (lower bound, higher bound)

Table 4

Predicting State Narcissism in Study 3: Results From Hierarchical Linear Modeling For Several Social Interactions in Separated Analyses

		Empty Model (Model 0: *n* = 62, obs. = 666)				Activities (Model 2a: *n* = 61, obs. = 516)				Attempts to contact (Model 2b; *n* = 61, obs. = 521)				Attempts to contact (Model 3b; *n* = 61, obs. = 521)				Disagreement (Model 1c; *n* = 41, obs. = 119)			
Predictor		Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI
Intercept		2.55	.11	22.47	[2.32, 2.77]	2.57	.11	24.36	[2.36, 2.78]	2.57	.11	23.73	[2.36, 2.78]	2.57	.11	23.58	[2.36, 2.78]	2.57	.17	15.49	[2.25, 2.88]
Level 2																					
$Psych_{trait}$						-.01	.19	-.08	[-.40, .37]	-.03	.19	-.14	[-.40, .34]	-.03	.19	-.18	[-.41, 34]	-.12	.31	-.40	[-.72, .46]
$Mach_{trait}$						.18	.19	.97	[-.19, .56]	.21	.19	1.10	[-.16, .57]	.18	.19	.97	[-.18, .55]	.48	.31	1.54	[-.12, 1.07]
$Narc_{trait}$						.32	.16	1.96	[-.001, .64]	.38	.16	2.42	[.07, .71]	.33	.16	2.03	[.02, .64]	.33	.25	1.30	[-.15, .81]
$Self_{trait}$						.27	.14	1.89	[-.01, .55]	.22	.14	1.58	[-.05, .49]	.21	.14	1.49	[-.06, .48]	.20	.22	.91	[-.22, .63]
Level 1																					
$Self_{state}$						.30	.07	4.24	[.16, .44]	.23	.07	3.26	[.09, .37]	.22	.07	3.17	[.08, .36]	.50	.11	4.55	[.29, .71]
Valence						-.10	.06	-1.59	[-.22, .02]	-.03	.06	-.53	[-.16, .09]	-.03	.06	-.61	[-.16, .09]	-.25	.15	-1.71	[-.54, .03]
Cross-level interaction																					
$Narc_{trait}$	x																[-.41, -				
Valence														-.21	.10	-2.06	.01]				
Level-1 interaction																					
$Self_{state}$	x																[-.10,				
Valence														.07	.08	.88	.24]				

(continued)

	Empty Model (Model 0: n = 62, obs. = 666)				Activities (Model 2a: n = 61, obs. = 516)				Attempts to contact (Model 2b; n = 61, obs. = 521)				Attempts to contact (Model 3b; n = 61, obs. = 521)				Disagreement (Model 1c; n = 41, obs. = 119)			
	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI
Variance component																				
Level 2	.72				.62				.65				.66				.77			
Level 1	.57				.35				.30				.30				.53			
Slope $Self_{state}$					.16				.14				.15							
Slope Valence					.01				.06				.05							
ICC	.56																			
Deviance	1669				1142				1079				1074				315			
Pseudo R^2					.376				.469				.471				.072			

Note. Model 0 = empty model; Model 1 = random intercept; Model 2 = random intercept random slopes; Model 3 = random intercept random slopes with interaction terms; Est = estimate; obs. = observations; $Psych_{trait}$ = psychopathy (trait), $Mach_{trait}$ = Machiavellianism (trait), $Narc_{trait}$ = narcissism (trait), $Self_{state}$ = self-esteem (state), ICC = intraclass correlation, Pseudo R^2 = explained variance on Level 1; *SE* = standard error; *z* = Wald Z-test; CI = confidence interval (lower bound, higher bound).

Table 5

Predicting State Narcissism in Study 3: Results From Hierarchical Linear Modeling for Several Kinds of Feedback

	Skills (Model 1d: n = 59, obs. = 236)				Appeal (Model 1e: n = 50, obs. = 169)				Appeal (Model 3e: n = 50, obs. = 169)				Behavior (Model 1f: n = 48, obs. = 166)				Behavior (Model 3f: n = 48, obs. = 166)			
Predictor	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI
Intercept	2.55	.12	21.57	[2.32, 2.78]	2.58	.12	20.87	[2.34, 2.81]	2.57	.12	20.69	[2.34, .281]	2.56	.15	17.13	[2.28, 2.84]	2.62	.15	17.41	[2.33, 2.90]
Level 2																				
$Psych_{trait}$	-.11	.26	-.40	[-.61, .39]	-.21	.28	-.77	[-.74, .31]	-.21	.27	-.77	[-.73, .31]	-.24	.37	-.65	[-.93, .45]	-.24	.36	-.66	[-.92, .45]
$Mach_{trait}$	.28	.23	1.21	[-.16, .39]	.34	.24	1.41	[-.12, .81]	.34	.24	1.40	[-.13, .81]	.48	.31	1.55	[-.10, 1.05]	.44	.31	1.44	[-.13, 1.02]
$Narc_{trait}$	.14	.22	.66	[-.28, .56]	.28	.23	1.23	[-.15, .72]	.30	.23	1.30	[-.14, .74]	.05	.34	.15	[-.58, .69]	.33	.29	1.12	[-.63, .67]
$Self_{trait}$	.34	.19	1.77	[-.03, .72]	.32	.20	1.64	[-.05, .70]	.31	.19	1.60	[-.06, .68]	.35	.29	1.20	[-.20, .90]	.02	.34	.06	[-.22, .87]
Level 1																				
$Self_{state}$	.13	.06	2.14	[.01, .26]	.15	.07	2.17	[.02, .28]	.23	.07	3.23	[.09, .36]	.16	.08	2.13	[.02, .32]	.25	.08	3.20	[.11, .42]
Valence	14	.08	1.71	[-.02, .30]	-.12	.11	-1.09	[-.35, .10]	.08	.13	.64	[-.17, .32]	-.02	.09	-.18	[-.19, .15]	.01	.09	.05	[-.16, .17]
$Valence^2$	.19	.10	2.01	[.01, .37]	.24	.15	1.60	[-.05, .53]	.11	.18	.59	[-.25, .45]	.05	.09	.59	[-.12, .23]	-.08	.10	-.85	[-.27, .11]
Cross-level interaction																				
$Narc_{trait}$ x $Valence^2$									-.20	.44	-.46	[-1.05, .66]					.15	.31	.48	[-.43, .76]

(continued)

	Skills (Model 1d: n = 59, obs. = 236)				Appeal (Model 1e: n = 50, obs. = 169)				Appeal (Model 3e: n = 50, obs. = 169)				Behavior (Model 1f: n = 48, obs. = 166)				Behavior (Model 3f: n = 48, obs. = 166)			
	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI
Level-1 interaction																				
$Self_{state}$ x $Valence^2$									-.42	.13	-3.43	[-.67, -.19]					-.25	.08	-3.00	[-.41, -.09]
Variance component																				
Level 2	.60				.53				.56				.78				.78			
Level 1	.43				.41				.38				.52				.49			
Deviance	565				397				387				432				423			
Pseudo R^2	.234				.272				.334				.089				.142			

Note. Model 1 = random intercept; Model 2 = random intercept random slopes; Model 3 = random intercept random slopes with interaction terms; Est = estimate; obs. = observations; $Psych_{trait}$ = psychopathy (trait), $Mach_{trait}$ = Machiavellianism (trait), $Narc_{trait}$ = narcissism (trait), $Self_{state}$ = self-esteem (state), ICC = intraclass correlation, Pseudo R^2 = explained variance on Level 1; *SE* = standard error; *z* = Wald Z-test; CI = confidence interval (lower bound, higher bound).

Table 6

Predicting State Narcissism in Study 3: Results From Hierarchical Linear Modeling for the Complete Model (n = 61, observations = 663)

	Complete Model (Model 2g)				Complete Model (Model 2j)			
Predictor	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95% CI
Intercept	2.47	.11	22.76	[2.26, 2.67]	2.47	.10	24.52	[2.29, 2.66]
Level 2								
$Psych_{trait}$	-.02	.19	-.11	[-.39, .34]	-.13	.17	-.67	[-.51, .23]
$Mach_{trait}$	.16	.18	.87	[-.19, .51]	.25	.15	1.33	[-.10, .60]
$Narc_{trait}$	.36	.16	2.28	[.06, .66]	.31	.14	2.08	[.03, .60]
$Self_{trait}$	.31	.14	2.23	[.05, .58]	.27	.10	1.98	[.02, .54]
Level 1								
$Self_{state}$	.30	.07	4.58	[.17, .43]				
Number of interactions	-.00	.01	-.58	[-.02, .01]				
with privately known others					-.01	.01	-.64	[-.02, .01]
with work-related others					-.001	.02	-.04	[-.04, .04]
Number of times feedback received	-.02	.01	-1.67	[-.05, .004]				
from privately known others					-.04	.02	-2.09	[-.07, -.004]
from work-related others					.05	.06	.91	[-.06, .16]
Variance component								
Level 2	.57				.51			
Level 1	.35				.35			
Slope $Self_{state}$	.14				.14			
Deviance	1409				1401			
Pseudo R^2	.384				.383			

Note. Model 2 = random intercept random slopes; Est = estimate; $Psych_{trait}$ = psychopathy (trait), $Mach_{trait}$ = Machiavellianism (trait), $Narc_{trait}$ = narcissism (trait), $Self_{state}$ = self-esteem (state), ICC = intraclass correlation, Pseudo R^2 = explained variance on Level 1; *SE* = standard error; *z* = Wald Z-test; CI = confidence interval (lower bound, higher bound).

Table 7

Predicting State Narcissism in Study 3: Results From Hierarchical Linear Modeling For Certain Interaction Partners (n = 61, observations = 663)

	Number of interactions								Number of times feedback received							
	Work-related others (Model 2k)				Privately known others (Model 2l)				Work-related others (Model 2m)				Privately known others (Model 2n)			
Predictor	Est	*SE*	*z*	95% CI	Est	*SE*	*z*	95 % CI	Est	*SE*	*z*	95 % CI	Est	*SE*	*z*	95 % CI
Intercept	2.57	.11	23.86	[2.37, 2.78]	2.47	.10	23.98	[2.27, 2.66]	2.57	.11	24.11	[2.37, 2.87]	2.48	.10	25.19	[2.29, 2.67]
Level 2																
$Psych_{trait}$	-.05	.20	-.25	[-.43, .33]	-.16	.19	-.87	[-.54, .20]	-.07	.20	-.35	[-.46, .31]	-.05	.18	-.25	[-.40, .31]
$Mach_{trait}$	.22	.20	1.13	[-.15, .60]	.29	.18	1.61	[-.05, .64]	.23	.19	1.19	[-.14, .60]	.19	.18	1.01	[-.15, .52]
$Narc_{trait}$	.33	.15	2.03	[.02, .64]	.31	.15	2.02	[.01, .60]	.33	.16	2.03	[.02, .64]	.33	.15	2.15	[.03, .61]
$Self_{trait}$	.26	.07	1.77	[-.02, .54]	.26	.14	1.93	[.001, .53]	.26	.14	1.81	[-.02, .54]	.29	.13	2.17	[.03, .55]
Level 1																
$Self_{state}$	.30	.07	4.64	[.17, .43]	.30	.07	4.60	[.17, .43]	.31	.07	4.68	[.17, .44]	.30	.07	4.56	[.17, .43]
No. of events	.01	.02	.41	[-.02, .04]	-.02	.01	-3.20	[-.03, -.01]	.03	.04	.89	[-.04, .11]	-.05	.01	-3.79	[-.07, -.02]
Variance component																
Level 2	.65				.54				.64				.51			
Level 1	.35				.35				.35				.35			
Slope $Self_{state}$	.14				.14				.14				.15			
Deviance	1418				1408				1417				1404			
Pseudo R^2	.384				.383				.383				.384			

Note. All models that are displayed are random intercept random slopes models (Model 2); Est = Estimate; $Psych_{trait}$ = Psychopathy (trait), $Mach_{trait}$ = Machiavellianism (trait), $Narc_{trait}$) = Narcissism (trait), $Self_{trait}$ = Self-esteem (trait), $Self_{state}$ = Self-esteem (state), ICC = intraclass correlation, Pseudo R^2 = explained variance on Level 1; *SE* = standard error; *z* = Wald Z-test; CI = confidence interval (lower bound, higher bound).

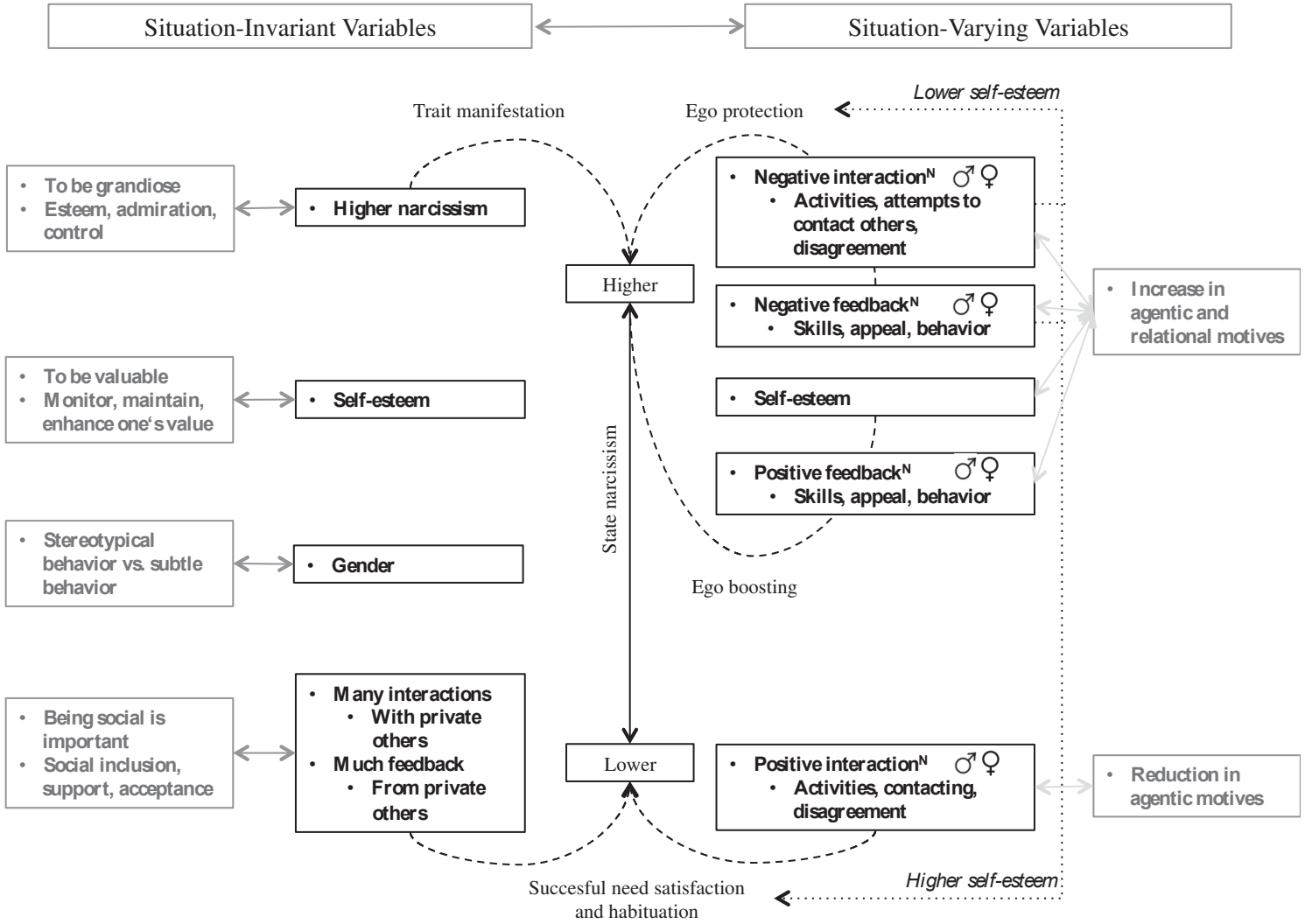

Figure 1. The narcissism in situations (NARCIS) framework. ^{N} represents moderating effects for trait narcissism. The male and female symbols represent the moderating effects of gender.

Appendix A1

Table A1

Means, Standard Deviations, and Correlations for the Mean Levels of State Variables and their Standard Deviations in Study 1 (N = 53)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Trait level															
Psychopathy	—														
Machiavellianism	.69***	—													
Narcissism	.40**	.49***	—												
Mean state level															
Narcissism	-.23	-.36**	.09	—											
Self-esteem	-.17	-.24	.20	.73***	—										
Positive feedback	-.10	-.04	.10	.54***	.40**	—									
Negative feedback	.13	.06	-.13	-.03	-.25	.06	—								
Positive interactions	.47***	.41**	.08	-.37**	-.51***	-.17	.29*	—							
Negative interactions	-.06	.01	-.04	.11	-.04	.22	.75***	.09	—						
Variability in state level															
Narcissism	-.07	.00	.11	-.15	-.02	-.05	-.43**	-.23	-.23	—					
Self-esteem	-.03	-.03	.04	-.07	-.11	.12	-.30*	.10	-.27*	.54***	—				
Positive feedback	-.11	.02	.04	-.18	-.04	-.19	-.55***	-.17	-.47***	.57***	.55***	—			
Negative feedback	.09	.12	.02	-.23	-.20	.01	.22	.14	.33*	.15	.12	-.07	—		
Positive interactions	.35 *	.50***	.19	-.32*	-.40**	-.09	-.08	.65***	-.06	.13	.30*	.26*	.31*	—	
Negative interactions	-.13	.13	.22	-.06	.09	.05	-.57***	-.11	-.11	.51***	.47***	.49***	.15	.31*	—
M	1.91	2.33	2.98	2.93	2.86	2.64	1.39	1.43	1.81	0.61	0.56	0.76	0.35	0.48	0.66
SD	0.52	0.55	0.49	0.36	0.34	0.40	0.37	0.39	0.44	0.15	0.11	0.20	0.19	0.24	0.22

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

Appendix A2

Table A2

Means, Standard Deviations, and Correlations for all Variables Used in the Analyses from Study 2 (N = 129)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Gender	—																
Trait level																	
Psycho	-.17*	—															
Mach	-.22*	.53***	—														
Narcissism	.06	36***	.36***	—													
Self-esteem	-.06	-.07	-.14	.31***	—												
Mean state level																	
Narcissism	.11	.21*	.19*	.42***	.11	—											
Self-esteem	.00	-.06	-.16	.18*	.57***	-.01	—										
Positive feedback	.01	.06	.12	.33***	.13	-.11	.22*	—									
Negative feedback	-.03	.25**	.27**	.06	-.28**	-.04	-.29**	.44***	—								
Positive interactions	.14	-.09	-.05	.25**	.18*	-.09	.33***	.55***	.07	—							
Negative interactions	-.05	.38***	.34***	.09	-.26**	.05	-.41***	.27**	.74***	-.05	—						
Variability in state level																	
Narcissism	.08	.08	.09	.13	.00	-.11	-.01	.12	.00	.18*	.08	—					
Self-esteem	.06	.03	.05	-.09	-.21*	.05	-.44***	-.23**	.06	-.06	.19*	.21*	—				
Positive feedback	.04	.00	-.10	-.01	.05	-.02	.12	-.15	-.45***	-.02	-.33***	.15	.17*	—			
Negative feedback	.07	.04	.12	.07	-.14	.02	-.16	.26**	.36***	.17	.19*	.20*	.20*	.16	—		
Positive interactions	.01	-.05	.01	-.12	.04	-.01	.00	-.40***	-.41***	-.15	-.37***	.09	.33***	.50***	.04	—	
Negative interactions	.10	.17	.19*	.02	-.08	.09	-.14	.07	.08	.09	.42***	.16	.28***	.12	.37***	.14	—
M	—	1.93	2.56	2.94	3.24	2.98	3.48	2.74	1.88	3.27	1.83	0.56	0.77	0.86	0.70	0.89	0.75
SD	—	0.51	0.59	0.57	0.54	0.99	0.54	0.64	0.54	0.64	0.52	0.35	0.23	0.32	0.31	0.31	0.33

Note. Psycho = psychopathy, Mach = Machiavellianism.
*$p < .05$. **$p < .01$. ***$p < .001$.

Table A3

Means, Standard Deviations, and Correlations for all Variables Used in the Analyses from Study 3 (N = 61)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
Trait level													
1 Psychopathy	—												
2 Machiavellianism	.56	—											
3 Narcissism	.21	.15	—										
4 Self-esteem	-.15	-.23	.43***	—									
5 No. interactions	-.04	.05	.00	.08	—								
6 No. feedback	-.01	-.13	.09	.12	.58***	—							
7 No. feed private	-.18	-.07	-.11	-.05	.49***	.39**	—						
8 No. feed work	.10	-.12	.06	.12	.18	.41***	.02	—					
9 No. int private	-.12	-.02	-.11	-.14	.48***	.17	.83***	.01	—				
10 No. int work	-.02	-.21	.07	.22	.36**	.34**	.12	.79***	.08	—			
Mean state level													
11 Narcissism	.03	.03	.31*	.32**	-.34**	-.21	-.31*	.17	-.24	.10	—		
12 Self-esteem	-.13	-.22	.23	.47***	-.13	.16	-.19	.19	-.15	.16	.61***	—	
13 Skills	-.16	-.10	.14	.36**	.35**	.05	.12	.01	.14	.19	.01	.11	—
14 Behavior	-.07	-.17	.06	.23	.30*	.26	-.01	-.08	.00	-.09	.09	.57***	.32*
15 Appeal	-.11	-.10	.20	.19	.29*	.05	.20	-.08	.12	-.03	.03	.13	.50***
16 Activities	-.36**	-.47***	.00	.26*	-.15	.04	-.12	.12	-.08	.09	.48***	.66***	.25*
17 Contact	-.16	-.40**	.15	.39**	-.10	.18	-.01	.13	.01	.14	.37**	.69***	.28*
18 Disagree	-.11	-.39	.26	.29	-.12	.12	-.31*	.23	-.34*	.22	.27**	.62***	.13
Variability in state level													
19 Narcissism	-.05	-.02	.13	.02	.28*	.10	.21	-.09	.13	-.01	-.35***	-.44***	.22
20 Self-esteem	.11	-.02	-.01	-.06	.28*	.01	.20	.01	.15	.05		-.40	.29*
21 Skills	-.12	-.09	-.05	-.03	-.26	.15	.11	.10	.02	-.10	.20	.21	-.57***
22 Behavior	-.11	.07	-.11	-.12	-.17	-.24	.27	.17	.32	.19	.11	-.14	-.23
23 Appeal	.01	.02	.14	.00	-.20	.13	-.04	.21	-.05	.12	.23	.17	-.47**
24 Activities	.12	.13	.08	-.06	.42***	.06	.26*	-.04	.21	.13	-.44***	-.62***	.11
25 Contact	-.09	.08	-.13	-.24	.34**	-.07	.23	-.07	.28*	-.04	-.37**	-.59***	-.06
26 Disagree	.10	.31	.01	-.12	-.01	-.22	.19	.12	.12	.18	.18	-.02	-.23
M	.82	1.43	1.96	2.13	36.40	12.14	3.28	1.85	7.29	5.66	2.48	2.84	3.36
SD	.52	.61	.59	.64	21.72	9.60	4.44	2.71	8.32	6.79	.95	.74	.50

Variables	14	15	16	17	18	19	20	21	22	23	24	25	26
Mean state level													
11 Narcissism													
12 Self-esteem													
13 Skills													
14 Behavior	—												
15 Appeal	.41**	—											
16 Activities	.43**	.36**	—										
17 Contact	.47***	.27*	.76***	—									
18 Disagree	.47**	.14	.49***	.47**	—								
Variability in state level													
19 Narcissism	-.11	.03	-.31*	-.25*	-.15	—							
20 Self-esteem	-.24	.13	-.25*	-.26*	-.18	.66***	—						
21 Skills	-.17	-.33*	.05	.01	-.10	-.06	-.33*	—					
22 Behavior	-.44**	-.11	-.15	-.20	-.41*	-.14	-.28	.55**	—				
23 Appeal	-.46**	-.51***	-.09	-.17	-.12	-.21	-.20	.48**	.37*	—			
24 Activities	-.21	-.12	-.70***	-.51***	-.48**	.42***	.42***	-.25	.15	-.09	—		
25 Contact	-.37**	.00	-.40**	-.56***	-.39**	.44***	.38**	-.05	.38*	.09	.57***	—	
26 Disagree	-.35	-.19	-.11	-.16	-.07	.03	-.01	.25	.50*	.20	.17	.15	—
M	3.00	3.34	3.53	3.32	2.30	.65	.79	.49	.68	.40	.46	.50	.40
SD	.67	.64	.39	.52	.76	.43	.49	.41	.51	.40	.30	.29	.35

Note. No. feed private / work = number of imes feedback received from privately known / work-related others; No. int private / work = number of interactions with privately known / work-related others; Skills = skill-related feedback; Behavior = behavior-related feedback; Appeal = appeal-related feedback; Activities = interactions that included activities with others; Contact = interactions that included attempts to contact others; Disagree = interactions that included disagreements with others.

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

7.3 Narcissists of a Feather Flock Together: Narcissism and the Similarity of Friends

Article

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Narcissists of a Feather Flock Together: Narcissism and the Similarity of Friends

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Abstract

Who is willing to expose himself or herself to narcissists on a long-term basis? Studies that address the interactions of narcissists focus mainly on their interactions with strangers. Hence, the aim of the present study was to investigate the extent to which two best friends' similarity in narcissism would influence their similarities in other personality profiles. A total of 290 best friends' dyads filled out measurements of the whole Dark Triad as well as the Big Five. For each personality domain, profile similarity and its dependence on the similarity in the Dark Triad were determined. Results showed that the friends' similarity in narcissism significantly predicted similarity in all Big Five domains. For the general Big Five similarity as well as extraversion, the effect of narcissism similarity was stronger for male than female or mixed friends. Similarity in psychopathy and Machiavellianism significantly predicted all domains except for openness and extraversion, respectively.

Keywords

Narcissism, Dark Triad, friends, profile similarity, personality

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Have you ever wondered whether your narcissistic boss has friends or what kind of people would spend time with such a person at all? The term *narcissism* has been used to describe subclinical phenomena in personality psychology for a long time. Research on subclinical narcissism, together with psychopathy (high impulsivity, sensation seeking, low empathy, low anxiety; Paulhus & Williams, 2002) and Machiavellianism (manipulative behaviors, emotional coldness; Christie & Geis, 1970) as part of the so-called Dark Triad (Paulhus & Williams, 2002), has already contributed a great deal to the understanding of these rather objectionable traits of the human personality. Narcissists[1] are mainly characterized by exaggerated self-esteem, fantasies about unlimited success, a striving for admiration, a tendency to exploit others, and a feeling of grandiosity (Raskin, Novacek, & Hogan, 1991). Sooner or later, partners and friends will get angry about the manipulative, aggressive (Bushman & Baumeister, 1998), and controlling behavior expressed by narcissists (Campbell, Foster, & Finkel, 2002). Who is willing to expose himself or herself to such interactions on a long-term basis? This question has so far attracted little research attention, and therefore, it was chosen as the subject of the current study. More precisely, the aim of the current study was to shed light onto several aspects of friendships with narcissists: First, are two best friends' personality traits similar with respect to their personality profiles (i.e., the shape and deviation of Big Five profiles from norm)? Second, does the friends' similarity in narcissism predict the degrees of personality similarity (i.e., Big Five similarity)? Last but not least, does the gender composition of the dyad (two women, two men, one man, and one woman) moderate these relationships?

Theoretical Framework: Narcissism in Social Interactions

Underlying Motives

Theories from clinical psychology point to the interactional problems that result from pathological narcissistic behaviors. For example, the double action regulation model (Sachse, 1999) supports the idea that pathological feelings of grandiosity result from compensating negative self-concepts. A negative self-concept includes the belief that one is not acceptable. However, acceptance is the central motive of pathological narcissistic personalities. To resolve this discrepancy between central motives and a negative self-concept, pathological narcissists strive for admiration, manipulation, and entitlement.

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Self-Regulation

During the past decades, personality psychologists developed models that try to explain the paradox presented by the interactional behaviors of subclinical narcissists based on self-regulatory processes, for example, the dynamic self-regulatory processing model (Morf & Rhodewalt, 2001), the agency model of narcissism (Campbell, Brunell, & Finkel, 2006), the contextual reinforcement model (Campbell & Campbell, 2009), or the admiration–rivalry concept (Back et al., 2013). The self-regulatory model (Morf & Rhodewalt, 2001) includes the idea of an underlying vulnerable self-concept that leads to (counterproductive) efforts of self-confirmation. Similarly, the agency model (Campbell et al., 2006) proposes that narcissists use interpersonal relationships to regulate self-related processes. They affirm their self by seeking the attention of others, boasting, talking about themselves, or devaluing others who criticize them. All self-regulatory models have in common that narcissism leads to interactional problems not necessarily in the short but in the long run.

To Make Contact With Others

Because there are different phases in the development of friendships (Fehr, 2012), the negative consequences of the narcissistic self-regulation strategies evolve over time. This idea is supported by the admiration–rivalry concept of narcissism (Back et al., 2013), which differentiates between two dimensions of narcissism, that is, admiration (self-promotion) and rivalry (self-defense). Although

> positive consequences in zero and short-term acquaintance contexts (e.g., dating; getting to know strangers) might be primarily due to admiration . . . it might be rivalry that causes the negative consequences in long-term acquaintance contexts (e.g., romantic relationships, friendships). (p. 38)

Indeed, with respect to the formation process of a friendship, subclinical narcissists cultivate helpful traits to get into contact with others. They are extraverted and are perceived as attractive (Back, Schmuckle, & Egloff, 2010; Paulhus & Williams, 2002; Rauthmann & Kolar, 2013). Furthermore, they create a humorous aura by using clever jokes while enjoying putting on a show (Back et al., 2010). Indeed, subclinical narcissists are evaluated as charming, popular, and liked at first sight (Back et al., 2010; Foster, Shrira, & Campbell, 2006).

To Maintain Contact With Others

This picture, however, is transformed relatively quickly into an arrogant and hostile image (Back et al., 2010; Paulhus, 1998; Wink, 1991). In the long term, narcissistic people do not invest in factors that are important for maintaining a friendship (i.e., self-disclosure and support). Because of their self-orientation, they tend to avoid emotional intimacy in relationships (Campbell, 1999). Instead, they focus on the promotion of positive and on the avoidance of negative outcomes with friends: They want to have fun and do not care about offending someone (Foster, Misra, & Reidy, 2009). Thus, in accordance with the contextual reinforcement model (Campbell & Campbell, 2009), narcissism is advantageous in short-term contexts with strangers and within the formation phase of relationships but disadvantageous in continuing relationships. This model predicts that narcissists will cyclically return to formation phases with new friends over and over again.

Long-Term Interactions

Against this background, one question stands out: Who is friends with a narcissist? Although the above-mentioned models describe the negative social outcomes of narcissism, most studies so far have focused on narcissistic interactions with strangers or romantic partners only (e.g., Rauthmann & Kolar, 2013). Only few studies have yet considered dark personalities with respect to long-term friends. Jonason and Schmitt (2012), for example, focused on reasons why members of the Dark Triad would contract a friendship with someone. The current study, instead, was aimed at contributing to that topic by comparing the personalities of sports science students and their long-term friends. The idea was that the degree to which friends share similar dark personality traits could play an important role for the long-term relationship with a narcissist. Hence, the focus of the present study lies in comparing personality profiles of long-term friends as a function of similarity in subclinical narcissism.

Hypothesis 1: Narcissists Share Similar Personality Profiles With Their Friends

Evidence From the Self-Orientation Model

As already mentioned, several theories state that narcissists tend to "use their relationships in the service of the self" (Campbell & Foster, 2007, p. 118). Similar friends might fulfill this expectation because they would behave similarly and pursue the same goals, unlike people who have personalities that are different from the narcissist's. For example, Campbell (1999) found that narcissists avoid people who are caring and offer the potential for intimacy. The author summarizes this effect in the so-called self-orientation model: Narcissists are attracted to mating partners who offer the potential for self-enhancement, either by admiring the narcissist or by being highly positive and thereby providing a platform for identification. Narcissists' degree of commitment in friendships might be comparable with the commitments they make in romantic relationships insofar as both depend on the narcissist's subjective benefits (Foster et al., 2006).

Evidence From the Agency Model

According to the agency model, narcissists are strongly approach-oriented and, thus, motivated by reward (Campbell et al., 2006; Campbell & Foster, 2007). Hence, they consistently pursue friendship goals such as having fun and making good impressions (Foster et al., 2009). However, they do not avoid upsetting friends (Foster et al., 2009), which should not help them to maintain friendships with other people.

Evidence From the Evolutionary Perspective

Also, theories from evolutionary psychology support the assumption that narcissists may only get along with similar others. For example, twin studies showed that "people are genetically inclined to choose as social partners those who resemble themselves at a genetic level" (Rushton & Bons, 2005, p. 555). According to Jonason and Schmitt (2012), narcissists follow a life strategy that is selfish, competitive, risk-seeking, and fast-paced. Such a strategy usually entails conflicts or disruption of friendships (see Fehr, 2012). To avoid all these consequences in friendships, narcissists might be especially reliant on friends accepting their strategy and values or at least in not punishing this strategy. Presumably, friends who also share these traits are more likely to measure up to a narcissist's values and expectations than are people who do not.

Summing up, there is good reason to believe that narcissists of a feather flock together. They may have fun only with personalities that are similar to their own, because narcissists all share the same approach motivation in friendships: self-regulation through self-promotion, avoiding intimacy, and accepting a selfish life strategy.

Hypothesis 2: Narcissists Share Different Personality Profiles With Their Friends

Evidence From the Similarity Literature

However, research that has addressed personality similarities within friendships has found only zero to small correlation coefficients (Fehr, 2012; Fuhrman & Funder, 1995; Funder, Kolar, & Blackman, 1995; Kammann, Smith, Martin, & McQueen, 1984; Watson, Hubbard, & Wiese, 2000). Also, results indicated that friends seem no more similar to a target person than do randomly selected strangers. The reasons that people initiate friendships are manifold and do not necessarily result from a search for similarities. For example, Jonason and Schmitt (2012) stated that although narcissists look for "similar interests" ($\beta = .36, p < .01$) in same-sex friends, they are also interested in friends who are thoughtful and sensitive ($\beta = .23, p < .05$). These findings may suggest that narcissists will not solely be interested in non-empathetic and reckless friends.

Evidence From the Clinical Perspective

From a clinical point of view, some theorists have stated that a person who tends to admire people is probably attracted to a person who likes to be admired and vice versa (e.g., Willi, 2012). Thus, someone who is friends with a narcissist over a longer period of time may not necessarily have a similar personality but should admire the narcissist to keep the relationship alive.

In brief, general results from friendship research, including descriptions of the variety of motivations for initiating friendships and the need for admiration, are good arguments against the notion that narcissists of a feather flock together.

Summary of the Hypotheses

In sum, the existing literature on the above-posed question of who is friends with a narcissist is not clearly conclusive. Based on existing theory and empirical findings, two competing hypotheses regarding the influence of narcissism on the personality pattern similarity of close friends can be drawn: (a) People with an increased degree of similarity in narcissism have friends with similar personalities. (b) Similarity in narcissism is not associated with the similarity of two friends' personalities. The following study will address this issue.

Gender Differences

Morf and Rhodewalt (2001) stated that "narcissistic concerns might manifest differently in each gender due to gender differences in development and socialization" (p. 191). For example, some studies have found that men act out more stereotypical narcissistic behaviors and manifest traits of exploitation and entitlement more strongly than women (Tschanz, Morf, & Turner, 1998). Narcissistic women have to affirm their self within the boundaries of their more subtle social role (Morf & Rhodewalt, 2001). As a consequence, they might still prefer a communal orientation (the motivation to get along with others), although narcissism in general is associated with a rather agentic orientation, that is, a motivation to get ahead of others (e.g., Campbell, Rudich, & Sedikides, 2002). Bearing this idea in mind, it seems to be important to take gender differences into consideration when addressing the influence of narcissism on friendships.

Similarity in Machiavellianism and Psychopathy

Although the main focus of this study is on narcissism, its overlap with the other two Dark Triad traits will not be neglected. Because all dark traits facilitate the use of others to promote their own interests (Furnham, Richards, & Paulhus, 2013; Güroğlu et al., 2008; McHoskey, 1999), the relationships that will be found for narcissism might be the

same for the whole Dark Triad. However, it is also possible to assume that different patterns will emerge: Although psychopaths prefer friends who are less kind or trustworthy, Machiavellianism is not associated with these features in friends but with physically attractive friends (Jonason & Schmitt, 2012). Unfortunately, the literature on this topic is not exhausting or conclusive. Hence, we pursue an exploratory view at the effects of similarities in Machiavellianism and psychopathy.

Aims of the Current Study

The aim of the present study was to shed light onto the associations between two friends' personality similarities depending on their similarity in narcissism. The research questions were as follows: (a) Are the friends' personality profiles similar to each other (i.e., do they deviate from the norm in the same direction and amount)? (b) Does the friends' similarity in narcissism predict similarities in their Big Five profiles? (c) Does the gender composition of a friendship moderate these relationships? The study concentrates on the similarity in narcissism while controlling for similarities in psychopathy and Machiavellianism. Only when controlling for the overlap with one of the other two Dark Triad traits, the specific effect of narcissism can be interpreted distinctively (Jones & Paulhus, 2014).

Method

Sample and Procedure

The sample consisted of 290 sports science students and their best friends. Subjects were recruited in the beginning of a semester as part of a course. All participants completed the measures at home and named their best friends. One requirement was that the recruited friends must have been within a friendship with the sports student for at least 2 years. All participants named a best friend who agreed in participating in the study and completed all measures at home as well. Hence, there was no sports student who was unable to recruit a friend. On average, the sports students were 21.44 (SD = 1.81) years old, whereas their friends were 22.85 (SD = 4.54) years old. The sports student group contained slightly more women than men (160 vs. 125), whereas the friend group consisted of more men than women (144 vs. 138). Five and seven participants, respectively, did not report their gender. Missing values (less than 5% of the complete data) were imputed using the Multivariate Imputations by Chained Equations (MICE) algorithm. Afterward, the sports student group included 127 men and 163 women, whereas the friend group consisted of 148 men and 142 women. Male sports students had significantly more male friends (59.1%) than did female sport students (44.8%), $\chi^2(1) = 5.26$, $p = .02$, odds ratio = 1.77. All participants rated their own personality with respect to the Big Five and the Dark Triad.

Variables and Instruments

The Big Five were assessed with the German version of the NEO-PI-R (Ostendorf & Angleitner, 2004). This 240-item inventory measures the personality domains neuroticism, extraversion, agreeableness, conscientiousness, and openness to experience. Each domain comprises six facets. A German translation of the Machiavellianism Scale (MACH-IV; Christie & Geis, 1970) was used to examine the degree of Machiavellianism with 20 items. To assess subclinical forms of psychopathy, test takers had to fill out the German translation of the Self-Report Psychopathy Scale–III (SRP-III, 64 items; Hare, 1985). On all those measurements, test takers indicated their confirmation on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Last but not least, the German version of the 40 forced-choice items from the Narcissistic Personality Inventory (NPI; Schuetz, Marcus, & Sellin, 2004) was used to measure subclinical narcissism.

Statistical Analysis

All calculations were done using R Studio (R Core Team, 2012). All similarity indices were determined at item level using the raw scores rather than reverse coded scores. Throughout all fields of psychology, researchers have been studying the similarity of personality profiles, for example, of self- and other ratings (e.g., Funder et al., 1995; Watson et al., 2000), wives and husbands (e.g., Gaunt, 2006; Luo & Klohnen, 2005), the stability of profiles (e.g., Bleidorn, Kandler, Riemann, Angleitner, & Spinath, 2012), and cross-situational consistency of behavior (e.g., Furr & Funder, 2004). Methods for determining the similarity include procedures such as calculating difference scores (e.g., Gaunt, 2006), intraclass correlations (ICCs; for example, Watson et al., 2000), covariance scores (e.g., Dilchert, Ones, Davis, & Rostow, 2007), and Pearson correlations (e.g., Gaunt, 2006; Watson et al., 2000). However, similarity indices are prone to biases from response sets, assumed similarity effects (Cronbach, 1955), and normativeness (Furr, 2008). The determination of profile similarity in the present study is therefore based on two approaches. The framework presented by Furr and Wood (2013), which specifically takes the so-called normativeness problem into account, was chosen for the similarities on the Big Five, psychopathy and Machiavellianism profiles. This approach is sophisticated for handling continuous variables; however, because the NPI is build on dichotomous items, another method for the estimation of similarity on narcissism was needed. Here, we calculated a multilevel analysis for binary responses.[2] Both approaches are described in the following.

Profile similarity for the Big Five, psychopathy and Machiavellianism. When dealing with similarities, one has to be aware of normativeness within the data, which can bias

simple correlation coefficients. Normativeness reflects a person's psychological adjustment, adaption to environment, or socially desirable responding. It is often operationalized as the association between an individual's profile and the average profile of the sample. This is further detailed in the following. If the Big Five personality profile of a subject is strongly associated with a friends' personality profile, it may be interpreted to mean that both share the same personality trait standings. However, if the subject's profile similarity to the average person is high as well, it would be quite normative (or ordinary). Hence, a high similarity would simply reflect the subject's psychological adaption or, in other words, it would show how average the subject's profile is. Normativeness also poses a problem for the interpretation of similarity indices on a group level. High normative associations within the sample might bias the similarity between all profiles in that any given subject's profile will likely be similar to any given friends' profile. Thus, making unambiguous conclusions about the actual amount of similarity between friends would not be possible. Last but not least, the concept of normativeness questions the use of simple correlations (i.e., between the means of the profiles) as an index for profile similarity. For example, a positive correlation between extraversion and the subject-friend-similarity could be understood to mean that increasing degrees of extraversion go along with increasing degrees of similarity. Because this similarity might be biased by normativeness, the positive correlation could, however, also indicate that social, outgoing, and talkative people are well-adjusted. One simple correlation score usually is not controlled for this degree of adjustment. In his framework, Furr and Wood (2013) try to overcome such influences by decomposing similarity into elements of normativeness and distinctiveness. Thus, they recommend determining several similarity components to get a profound understanding of the associations within a sample. The normative components represent the averageness of a certain similarity, and the distinctive components reflect the deviation from this average. The first index suggested by Furr and Wood, Overall Similarity (OS), represents the covariance of two raw profiles ($\sigma_{x_i x_j}$), for example, between extraversion scores (v) of two friends (x_i and x_j). It can be decomposed into four terms:

$$\sigma_{x_i x_j} = \sigma_{x_i^I x_j^I} + \sigma_{x_i \bar{x}_\cdot} + \sigma_{x_j \bar{x}_\cdot} - \sigma^2_{\bar{x}_\cdot}, \quad (1)$$

where $\sigma_{x_i^I x_j^I}$ is the index for Distinctive Similarity (DS), $\sigma_{x_i \bar{x}_\cdot}$ and $\sigma_{x_j \bar{x}_\cdot}$ are the individual norm components (INC), and $\sigma^2_{\bar{x}_\cdot}$ is the Normative Variability (i.e., the variance of the normative profile). INC reflects the covariances between each participant's extraversion profile and the average extraversion profile. In contrast, DS indicates whether the friends' extraversion profiles deviate in the same manner from the average (i.e., in the same direction). More technical details are given in Appendix A (i.e., the formula for the correlation of two distinct profiles). Whereas the first two indices are not adjusted for normativeness, the third one is. For all these reasons, Furr and Wood's approach to profile similarity is used in the present study to determine similarity between two friends' personality profiles. Because those best friends cannot be easily differentiated by a psychologically meaningful variable such as gender, the framework for non-distinguishable profiles was applied (Furr & Wood, 2013).

Profile similarity for narcissism. We used a multilevel-model approach for binary responses to estimate the similarity on narcissism. Although Furr and Wood's approach is a reasonable method for continuous variables, it does not cover dichotomous variables. Hence, the idea was to use the clustering within the data to determine the similarity in narcissism, that is, the dichotomous NPI items (Level 1) were nested in dyads of friends (Level 2). The question was whether Friend B's responses predicted Friend A's responses on the NPI items. Modeling binary responses requires the application of non-linear relationships. Thus, the dependent variable was not modeled directly but indirectly through a probability function: The probability for Friend A to choose the narcissistic expression on one item, $p(Y_{ij} = 1)$, over the non-narcissistic expression, $p(Y_{ij} = 0)$, was predicted by Friend B's choice on the same item. Due to dealing with probabilities, the equation was based on an exponential function known as the logit. The underlying propensity, η_{ij}, can vary across Friends j and Items i (Equation 2) and is composed of an intercept γ_{00}, the within-subject difference in Friend B's answer, $\gamma_{10}X_{ij}$, and a random component for each dyad, u_{0j}, which is assumed to be normally distributed with a mean of 0 and a variance of τ_{00} (Equations 3 and 4). The model was described by the following equations:

$$p\left(Y_{ij}\right) = \frac{1}{1 + e^{-\eta_{ij}}}, \quad (2)$$

$$\eta_{ij} = \gamma_{00} + \gamma_{01}X_{0j} + u_{0j}, \quad (3)$$

$$u_{0j} \sim N\left(0, \tau_{00}\right). \quad (4)$$

To take normativeness into consideration for this analysis, too, all Level 1 variables were grand mean centered. We specified three models (Table 1): (a) the null model where people are not allowed to differ in their intercept, (b) the random-intercept model with inter-individual differences in narcissism level, and last but not least (c) the random-intercept random-slope model, where it is possible that people differ in their narcissism level as well as that dyads differ in the slopes between the friends' answers. These analyses were repeated for the influence of Friend B to Friend A's answers. Afterward, the random regression coefficients from the best fitting models were averaged and used as an indicator for similarity on narcissism between the two friends. The obtained random coefficients can be interpreted as the log

Table 1. Parameter Estimates for Multilevel Model of Friend A's (B's) NPI Scores as a Function of Friend B's (A's) NPI Scores.

Model and variables	Estimate	*SE*	Wald's *z* value	Lower	Upper	AIC	BIC	Log likelihood	Deviance
Null model						14,464 (15,090)	14,478 (15,104)	−7,230 (−7,543)	14,460 (15,086)
Fixed effects									
Intercept	−0.58 (−0.30)	.04 (.04)	−13.24 (−7.51)	−0.67	−0.49				
Random effects									
Residual	0.43 (0.35)	.04 (.04)							
Random-intercept model						13,508 (14,129)	13,530 (14,152)	−6,751 (−7,062)	13,502 (14,123)
Fixed effects									
Intercept	−0.66 (−0.28)	.04 (.04)	−15.57 (−7.17)	−0.75	−0.58				
NPI	1.33 (1.33)	.04 (.04)	30.23 (30.30)	1.25	1.42				
Random effects									
Residual	0.38 (0.31)	.04 (.03)							
Random-intercept random-slope model						13,443 (14,064)	13,480 (14,101)	−6,717 (−7,027)	13,433 (14,055)
Fixed effects									
Intercept	−0.69 (−0.27)	.04 (.04)	−15.47 (−6.86)	−0.77	−0.60				
NPI	1.38 (1.37)	.06 (.06)	22.21 (22.24)	1.26	1.50				
Random effects									
Residual	0.41 (0.32)	.04 (.03)							
NPI	0.50 (0.50)	.04 (.04)							

Note. NPI = Friend A's and Friend B's scores on the Narcissistic Personality Inventory items, respectively. AIC = Akaike information criterion; BIC = Bayesian information criterion.

odds for the one friend choosing the narcissistic response when the other friend's choice changes from non-narcissistic to narcissistic. These coefficients were used as predictors in hierarchical regression analyses as well as the meta-analytical evaluation of these (described in the next section).

Hierarchical regression analysis. The current analysis determined distinctive similarity indices (DS) for the Big Five in general along with its domains, and the Dark Triad variables. We used similarity on narcissism (DS_{Narc})—the random coefficients from the multilevel analysis—as predictor (Does the friends' similarity in narcissism predict similarities in the Big Five profiles? Does the gender composition of a friendship moderate these relationships?). The DS coefficients of the Big Five were used as dependent variables in hierarchical regression analyses because they are adjusted for normative influences and provide a measure of mutual deviations from the norm. Hence, higher DS coefficients provide information about the similarity to extreme (above and below average, respectively) scores.

In a first regression block (Model 1), the Fisher's *z*-transformed DS coefficients of each Big Five domain were regressed on the distinctive similarities in psychopathy (DS_{Psych}), Machiavellianism (DS_{Mach}) and narcissism (DS_{Narc}), the mean across both friends' narcissism sum scores (Narc), and the gender composition within a friendship. Narc was included to get a more profound understanding of the associations within the data. It is possible that dyads with high DS coefficients do not necessarily have the highest mean levels of narcissism. High DS coefficients show that two friends have both high and low distinctive profiles (i.e., share unusually high or low traits). However, it does not show whether both friends have the same degree of deviation from the norm. Thus, the inclusion of the mean tests whether dyads with higher average narcissism scores are also more similar on the Big Five traits. The gender composition could either consist of two men, one man and one woman, or two women. Thus, this variable was dummy coded and described the change in personality similarity (a) from a solely male friendship to a mixed one (Mixed) and (b) from a solely male friendship to a solely female one (Female).

Meta-analytical evaluation of the specific effect of similarity in narcissism.[2] In a last step, the question whether similarity in the Big Five might be driven by similarity in narcissism in particular or whether it is the other way around was addressed (i.e., that friends are just more similar when being similar in one of the Big Five domains). In other words, we provided a test yielding evidence pertaining to the main hypothesis that similar narcissists will be more similar to each other on the Big Five and that this is not due to similarity on the other measures of the Big Five. For this purpose, we first calculated a series of multiple regressions with DS_{Narc} being the moderator and the similarity in two of the Big Five domains being another predictor and the criterion, respectively. Because there are five Big Five domains, there will be 10 combinations of the Big Five (i.e., 10 multiple regressions). Equation 5 gives an example for the extraversion–agreeableness pair. In a next step, additional 10 regression models were examined, which included DS_{Narc} as the dependent variable and similarity in two of the Big Five domains as predictors (see Equation 6 for an example for the extraversion–agreeableness pair). To answer the research question, the regression weight b_3 has to be compared. As there are 10 such weights from each series of a regression, two meta-analyses were conducted. The hypothesis would be supported when the meta-analyzed effect size for similarity in narcissism as a moderator would be significantly different from the meta-analyzed effect size for similarity in the other Big Five domains (i.e., their confidence intervals [CIs] would not overlap).

All predictors were *z*-standardized before extracting the b_3 coefficients to use them in the meta-analyses (Kim, 2011). The R package metafor (Viechtbauer, 2010) was applied to specify a random-effects model for the meta-analyses of the 2 × 10 regressions. There are dependencies between the dependent variables (similarity in the Big Five) for the models with similarity in narcissism as moderator. To control for that, the variance–covariance matrix of the b_3 coefficients was calculated after all models had been estimated using bootstrapping (W. Viechtbauer, personal communication, November 11, 2015).

$$DS_{Agree} = b_0 + b_1 \times DS_{Extra} + b_2 \times DS_{Narc} + b_3 \times DS_{Extra} \times DS_{Narc}, \quad (5)$$

$$DS_{Narc} = b_0 + b_1 \times DS_{Extra} + b_2 \times DS_{Agree} + b_3 \times DS_{Extra} \times DS_{Agree}. \quad (6)$$

Results

Are Best Friends' Personality Profiles Similar to Each Other (i.e., Do They Deviate From the Norm in the Same Direction)?

Intraclass correlations. With respect to a general dependency within two friends' personality profiles ICCs for each of the personality traits were calculated. The question was to what extent friendship dyads were more similar on each of the traits than random pairings of individuals? A positive ICC shows that two friends are more similar to each other than to friends of other dyads. If the similarity between dyads would be higher than within them, the ICC would be negative. As can be seen in Table 2, the medians of ICCs vary between .51 (narcissism) and .79 (psychopathy). Hence, it was quite likely that two friends rated their personalities in a similar way.

Descriptive statistics for DS coefficients. Table 2 also provides an overview of descriptive statistics for INC, OS, DS, and

Table 2. Descriptive Statistics for Big Five Domains, the Dark Triad Traits in the Sports Student Group and Friend Group, and the Similarity Indices.

	Sports students ($N = 290$)				Friends ($N = 290$)				OS				DS			
Variables	*M* (*SD*)	α	$r_{prof\,\pi}$	M_{INC} (*SD*)	*M* (*SD*)	α	$r_{prof\,\pi}$	M_{INC} (*SD*)	*ICC*	*M* (*SD*)	Median	Minimum	Maximum	*M* (*SD*)	Median	Minimum	Maximum
Big Five																	
BF	—	—	.75	0.52 (0.15)	—	—	.76	0.54 (0.17)	.62	0.46 (0.16)	.47	−.07	.92	0.25 (0.18)	.25	−.14	.88
Agree	2.38 (0.32)	.70	.54	0.56 (0.20)	2.39 (0.37)	.80	.53	0.55 (0.24)	.64	0.45 (0.22)	.47	−.21	.95	0.20 (0.24)	.24	−.50	.94
Extra	2.54 (0.36)	.73	.56	0.59 (0.22)	2.56 (0.38)	.78	.54	0.61 (0.23)	.64	0.53 (0.22)	.56	−.33	.96	0.27 (0.24)	.27	−.39	.94
Consc	2.37 (0.42)	.84	.48	0.49 (0.24)	2.49 (0.44)	.88	.42	0.56 (0.23)	.59	0.45 (0.22)	.47	−.21	.97	0.25 (0.23)	.26	−.33	.95
Open	2.37 (0.36)	.70	.54	0.48 (0.19)	2.26 (0.31)	.62	.56	0.44 (0.20)	.61	0.42 (0.20)	.42	−.27	.86	0.26 (0.23)	.26	−.48	.87
Neuro	1.87 (0.44)	.83	.53	0.42 (0.25)	1.68 (0.42)	.82	.54	0.45 (0.25)	.66	0.36 (0.23)	.38	−.33	.89	0.21 (0.26)	.22	−.46	.84
Dark Triad																	
Psych	2.33 (0.35)	.89	—	0.69 (0.15)	2.26 (0.40)	.92	—	0.67 (0.19)	.79	0.62 (0.19)	.65	−.15	.93	0.29 (0.23)	.30	−.42	.83
Mach	3.21 (0.43)	.70	—	0.62 (0.17)	2.95 (0.44)	.74	—	0.53 (0.21)	.63	0.45 (0.23)	.47	−.37	.94	0.15 (0.30)	.15	−.57	.89
Narc	0.37 (0.16)	.83	—			.81	—		.51					(0.48)[a]	—	−1.14	1.49

Note. ICC = intraclass correlation; OS = overall similarity; DS = distinctive similarity; $r_{prof\,\pi}$ = profile reliability; M_{INC} = mean of the individual norm component; BF = Big Five; Agree = Agreeableness; Extra = Extraversion; Consc = Conscientiousness; Neuro = Neuroticism; Psych = Psychopathy; Mach = Machiavellianism; Narc = Narcissism.
[a]Here, the standard deviation of the index for distinctive similarity in narcissism is given only because the mean of the random coefficients equals the intercepts from the two multilevel models.

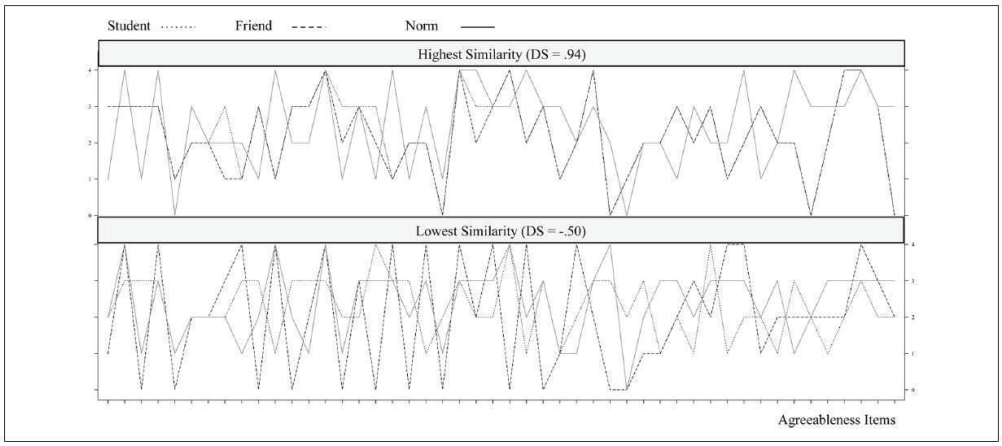

Figure 1. Agreeableness profiles for two best friends with the highest and lowest distinctive similarity coefficients.

DS_{Narc}. Overall, the friends were fairly similar to each other: For all variables, the OS coefficients were moderate (from .36 to .62), indicating that, on average, friends had relative similar personality profiles on all variables. Also, the INC coefficients were moderate for all variables (from .42 to .69) indicating that each participant's profile resembled the average profile within the sample to a moderate to high degree. With respect to above- or below-average aspects of two profiles, the ranges of the DS coefficients showed that there were friends who almost perfectly shared unusually high and low Big Five trait levels (see Figure 1). However, there were also dyads that had relatively contradicting profiles. Thus, on average, the DS coefficients were small (.15) to moderate (.29). Because it is generally expected for DS to be lower than OS (Furr & Wood, 2013), the DS coefficients obtained here appear rather large and indicate a moderate degree of similarity in terms of the non-normative aspects of friends' personalities. The highest average for DS could be found for the psychopathy profile (DS_{Psych} = .29). There was a great variance in all DS ranges within the sample (between −0.57 and 0.95). Interestingly, the random coefficients for narcissism varied similarly (between −1.16 and 1.50). Nonetheless, the mean coefficient was almost zero, indicating that, on average, the friends were not very similar with respect to their narcissism profiles. To explain the large variance in similarities within the sample, hierarchical regression analyses were conducted.

Correlation between variables. Pearson correlations for all variables included in the regression analyses can be found in Table 3. All DS coefficients were significantly associated with each other. However, the mean level of two friends' narcissism correlated with DS_{Agree} and DS_{Consc} only, indicating that higher levels of narcissism within a dyad go along with higher similarity in agreeableness and conscientiousness. The dyads' mean level of narcissism was not significantly associated with similarity in narcissism.

Does the Friends' Similarity in Narcissism Predict Similarities in the Big Five Profiles?

Hierarchical regression analysis. Model 1 included the DS of the Dark Triad scores as predictors of similarities in the Big Five. Results are displayed in Tables 4 and 5. DS_{Psych} and DS_{Mach} significantly predicted DS in all Big Five variables except for openness and extraversion. Similarly, DS_{Narc} had effects on all DS coefficients except for neuroticism. The mean of two friends' narcissism scores (Narc) positively predicted DS in agreeableness, conscientiousness, the Big Five overall profile, and marginally in extraversion.

Meta-analytical evaluation of the specific effect of similarity in narcissism. The results of the two series of 10 regression models can be found in Appendix B. The average standardized regression coefficient was β = .11 (*SD* = .04) for the models with DS_{Narc} as moderator. When DS_{Narc} was the dependent variable, the mean regression coefficient for the interaction terms between two Big Five predictors was β = .004 (*SD* = .01). The *Q* statistics, $Q(9) = 9.98$, $p = .35$, and $Q(9) = 3.61$, $p = .94$, for the models with DS_{Narc} as moderator and for the models with DS_{Narc} as dependent variable, respectively, showed that there was no significant heterogeneity within the effects. The effect of DS_{Narc} as moderator on the prediction of Big Five similarity was significant: β = .10 (95% CI = [.04, .17], $p < .01$). In contrast, the estimate for the effect of similarity in the Big Five domains predicting DS_{Narc}

Table 3. Correlation for All Variables Included in the Hierarchical Regression Models.

		1	2	3	4	5	6	7	8	9	10	11
1.	DS_{Agree}	—										
2.	DS_{Extra}	**.50**	—									
3.	DS_{Neuro}	**.41**	**.55**	—								
4.	DS_{Open}	**.33**	**.41**	**.36**	—							
5.	DS_{Consc}	**.45**	**.48**	**.45**	**.39**	—						
6.	$DS_{BigFive}$	**.72**	**.79**	**.78**	**.67**	**.75**	—					
7.	DS_{Psych}	**.38**	**.37**	**.38**	**.29**	**.34**	**.48**	—				
8.	DS_{Mach}	**.42**	**.23**	**.34**	**.28**	**.29**	**.45**	**.44**	—			
9.	DS_{Narc}	**.29**	**.28**	**.29**	**.24**	**.26**	**.40**	**.34**	**.23**	—		
10.	Mixed	−.07	.01	.01	−.09	−.03	−.07	−.11	−.06	−.06	—	
11.	Female	−.05	−.06	−.10	−.07	−.06	.06	−.03	−.09	.09	−.58	—
12.	Narc	.20*	.12	<.001	.06	.15	.11	.04	−.06	−.06	−.08	−.07

Note. Bold values are significant at the level of $p < .001$. DS_{Agree} = distinctive similarity in agreeableness; DS_{Extra} = distinctive similarity in extraversion; DS_{Neuro} = distinctive similarity in neuroticism; DS_{Open} = distinctive similarity in openness; DS_{Consc} = distinctive similarity in conscientiousness; $DS_{BigFive}$ = distinctive similarity in the Big Five; DS_{Psych} = distinctive similarity in psychopathy; DS_{Mach} = distinctive similarity in Machiavellianism; DS_{Narc} = distinctive similarity in narcissism; Mixed = dummy variable representing the difference between male and mixed friendships; Female = dummy variable representing the difference between male and female friendships; Narc = mean over the NPI sum scores from both friends.
*$p < .05$.

was nonsignificant ($\beta = .001$, 95% CI = [−.01, .01], $p = .83$). Consequently, the influence from similarity in narcissism on similarity in the other Big Five domains was stronger than the other way around.

Does the Gender Composition of a Friendship Moderate These Relationships?

In Model 2, Mixed and Female as well as the interaction terms between these and DS_{Narc} were added. As can be seen in Tables 4 and 5, only Model 2 for extraversion and the overall Big Five profile made an incremental contribution to the explanation of any of the Big Five DS. In all Models, the main effect of DS_{Narc} remained significant. Although there was no significant main effect of the gender composition (i.e., mixed vs. male friendship and female vs. male friendship, respectively), there was a significant interaction with DS_{Narc} in the prediction of DS_{Extra} and $DS_{BigFive}$: The effect of DS_{Narc} was especially higher for male (than for female or mixed) friendships (see Figure 2). In general, up to 39% of the variance in the DS of the Big Five could be explained by all the variables in Model 2.

Discussion

The current study examined the associations between two friends' personality profiles depending on their similarities[3] in narcissism (controlling for similarity in the other Dark Triad traits) and the gender composition of the dyad. With respect to narcissism research, this approach is new in two ways: First, it contains data from long-term friends rather than from strangers or short-term acquaintances. Second, the methods used to analyze profile similarities are sophisticated in that they control for effects of normativeness. In the introduction, we wondered who might be willing to expose himself or herself to narcissists on a long-term basis. Our data support the conclusion that someone with a similar personality is willing to be friends with a narcissist. We will consider the role of the other two Dark Triad traits later.

Friends with similar degrees of narcissism have similar standings on the Big Five traits (Hypothesis 1), indicating that it is likely that narcissists of a feather flock together. Summarizing, the data show that similarity in narcissism goes along with similarities in the Big Five profile in general, and in all of its domains (marginally for neuroticism). There was no main effect for the gender composition of the dyad but it moderated the impact of similarity in narcissism on similarity in the general Big Five and extraversion profiles: Male friends were less similar at low levels of narcissism similarity but more similar at high levels of narcissism similarity than females or mixed friendships.

Are the Friends' Personality Profiles Similar to Each Other?

All similarity coefficients showed small to moderately high mean associations between the personality profiles of friends (between DS = .15 and DS = .29). This contradicts findings from previous studies that found low correlation coefficients ranging between $r = .01$ and $r = .21$ (Fuhrman & Funder, 1995; Funder et al., 1995; Kammann et al., 1984; Watson et al., 2000). Because those authors used either simple correlations of traits or profiles without differentiating at the distinctive profile level, our results point to the usefulness of controlling similarity coefficients for the effects of normativeness to get an understanding of the real strength of

Table 4. Hierarchical Regression Analysis for Distinctive Similarities of Agreeableness, Extraversion, and Neuroticism (N = 290).

	DS_{Agree}			DS_{Extra}			DS_{Neuro}		
Variables	r	β_1	β_2	r	β_1	β_2	r	β_1	β_2
DS_{Psych}	.38***	.22**	.21**	.37***	.28***	.25***	.38***	.25***	.24**
DS_{Mach}	.42***	.27***	.26***	.23***	.07	.06	.34***	.20**	.19*
DS_{Narc}	.29***	.16*	.23*	.28***	.16*	.45***	.29***	.12†	.22†
Mixed	−.07	−.02	−.02	.01	.01	.02	.01	.02	.02
Female	−.05	−.07	−.07	−.06	−.05	−.03	−.10	−.02	−.02
Narc	.20***	.20***	.20***	.12	.11†	.10†	<.001	.03	.03
Int1			−.09			−.24*			−.15
Int2			−.02			−.24**			−.02
R^2 [95% CI]		.307*** [.197, .404]	.310*** [.185, .395]		.180*** [.087, .270]	.215*** [.101, .294]		.199*** [.101, .292]	.211*** [.100, .290]
ΔR^2		—	.003		—	.035*		—	.012

Note. r = zero-order correlation; β_1 = standardized regression weight from Model 1, β_2 = standardized regression weight from Model 2; DS_{Agree} = Distinctive similarity in agreeableness; DS_{Extra} = distinctive similarity in extraversion; DS_{Neuro} = distinctive similarity in neuroticism; DS_{Psych} = distinctive similarity in psychopathy; DS_{Mach} = distinctive similarity in Machiavellianism; DS_{Narc} = similarity in narcissism; Mixed = dummy variable representing the difference between male and mixed friendships; Female = dummy variable representing the difference between male and female friendships; Narc = mean over the sum scores from both friends; Int1 = Interaction between Mixed and DS_{Narc}; Int2 = Interaction between Female and DS_{Narc}; CI = confidence interval.
†$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 5. Hierarchical Regression Analysis for Distinctive Similarities of Conscientiousness, Openness, and the General Big Five ($N = 290$).

	DS_{Consc}			DS_{Open}			$DS_{BigFive}$		
Variables	r	β_1	β_2	r	β_1	β_2	r	β_1	β_2
DS_{Psych}	.34***	.21**	.20**	.29***	.12	.10	.48***	.27***	.24**
DS_{Mach}	.29***	.16*	.16*	.28***	.16*	.15*	.45***	.25***	.24***
DS_{Narc}	.26***	.14*	.32**	.23***	.24**	.36**	.40***	.21**	.47***
Mixed	−.03	.04	.05	−.09	−.10	−.10	−.07	−.02	−.02
Female	−.06	.01	.02	−.07	−.09	−.09	−.06	−.05	−.04
Narc	.15*	.18**	.17**	.06	.02	.02	.11	.13*	.13*
Int1			−.13			−.20*			−.25**
Int2			−.16†			−.04			−.16†
R^2 [95% CI]		.194*** [.100, .286]	.208*** [.093, .287]		.150*** [.064, .235]	.167*** [.063, .240]		.361*** [.237, .465]	.392*** [.251, .482]
ΔR^2		—	.014		—	.017		—	.031*

Note. r = zero-order correlation; β_1 = standardized regression weight from Model 1, β_2 = standardized regression weight from Model 2; DS_{Consc} = distinctive similarity in conscientiousness; DS_{Open} = distinctive similarity in openness; $DS_{BigFive}$ = distinctive similarity in the Big Five; DS_{Psych} = distinctive similarity in psychopathy; DS_{Mach} = distinctive similarity in Machiavellianism; DS_{Narc} = similarity in narcissism; Mixed = dummy variable representing the difference between male and mixed friendships; Female = dummy variable representing the difference between male and female friendships; Narc = mean over the sum scores from both friends; Int1 = Interaction between Mixed and DS_{Narc}; Int2 = Interaction between Female and DS_{Narc}; CI = confidence interval.
†$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

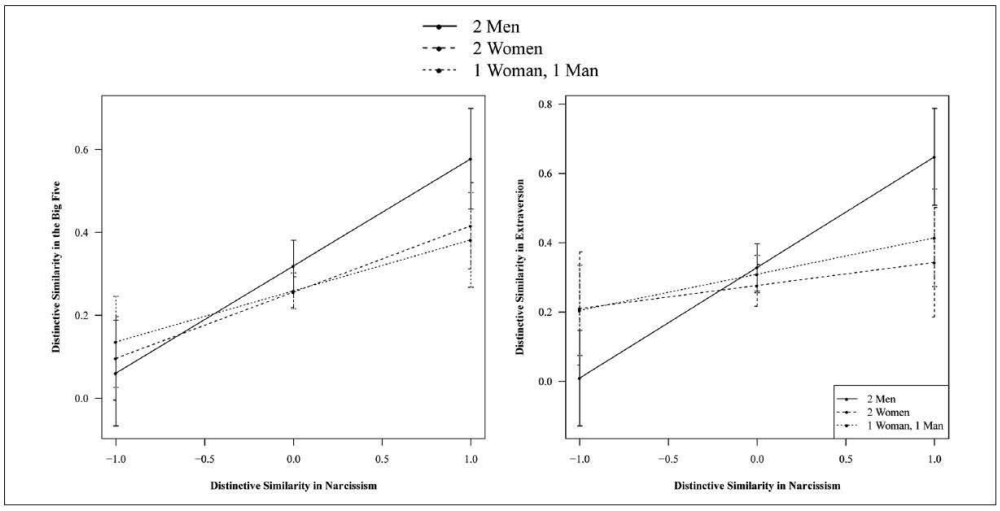

Figure 2. Interaction between gender and distinctive similarity in narcissism for the distinctive similarity in the general Big Five and extraversion, respectively.

associations. This approach is well received in other areas such as assumed distinctive similarity and self–other accuracy, as well (e.g., Human & Biesanz, 2012). Future studies should, however, engage more in comparing directly the effects of personality similarity with different techniques and analyses and thereby put more attention to the conceptualization of "similarity."

Furthermore, the results indicated that the Big Five profiles of sports students and their friends differed quite similarly from the sample's norm. Nonetheless, there was a great variability within the similarity coefficients: There were dyads with almost identical profiles and dyads with quite opposite profiles. Consequently, we need to trace those factors influencing the amount of similarity.

Does the Similarity in Narcissism Predict These Similarities in Personality?

Results of the present study suggest the important role of similarity in narcissism for the personality similarity of friends. This similarity was related to similarity in the general Big Five as well as in all domains, even when controlling for similarities in the other Dark Triad traits. Hence, one factor for the friends' personality similarity was the dyadic narcissism similarity.

Narcissists like what they have. It is reasonable to assume that people with similar narcissism profiles are most likely to establish long-term relationships. There is evidence that narcissists (vs. non-narcissists) are even more tolerant of others' narcissistic traits (e.g., bossy aggressive, arrogant, selfish) when they possess these characteristics themselves (Hart & Adams, 2014). Hart and Adams explain this effect with the similarity-liking principle (Klohnen & Mendelsohn, 1998), based on their positive self-view and tendency to be less repelled by narcissistic traits.

Similarity as a function of self-regulation. The current study assumes self-regulatory mechanisms to lay the groundwork for the formation of friendships with similar others. Although "self-regulation is presumed to steer the narcissist away from ego-threatening people and situations" (Hart & Adams, 2014, p. 166), two narcissistic best friends will probably not threaten each other's egos. Self-regulation might work on a dyadic friendship level by enhancing each other's self-worth through in-group and out-group effects. Narcissistic friendships function because they build one unit (in-group) in which their socially disapproved sides are directed against the outside (out-group) and not each other. As long as this pattern is assured, the friendship is maintained. Similarity in all Big Five domains is more likely to guarantee this stability. As described earlier, self-regulatory models of narcissism assume that narcissists use their social interactions purposefully to regulate negative or vulnerable intrapersonal traits. Similar narcissistic friends might help each other to achieve such a rapport by respecting the same life strategy, avoiding conflicts, sharing the same mating behavior and preferences for competition, and displaying the same non-caring attitudes.

Advantages of similarity. Sharing the same deviations from the agreeableness norm, for example, might reduce interactional problems related to narcissism, as both friends would tend to accept a selfish life strategy and would rather focus on benefits than on losses within their relationship. Furthermore, extraversion might be a clear hint that a person is suitable to be a "wingman" or "wingwoman," because extraversion is associated with a larger number of sexual partners and promiscuity (e.g., Cooper, Agocha, & Sheldon, 2000; Nettle & Clegg, 2008; Schmitt & Shackelford, 2008). In accordance with recent symbolic interactionism approaches, a wingman or wingwoman might be useful for narcissists in several ways (Grazien, 2007). First, they facilitate meeting suitable sexual partners. Second, the wingman or wingwoman can confirm and memorize the other's success as triumph, which, in turn, enhances mutual self-esteem and meets the need for admiration. Third, this cooperation might serve as a mutual "strategy of impression management and mobilizing masculinity" (Grazien, 2007, p. 238). Self-regulatory mechanisms lead to a striving for social feedback and demonstration of abilities (Morf & Rhodewalt, 2001; Raskin et al., 1991). Consequently, being friends with a similarly narcissistic person seems to reinforce a shared preference for conscientiousness and thereby competition. In addition, a highly neurotic friend would tend to worry, panic easily, and behave more impulsively. Thus, neuroticism contradicts narcissists' regulation strategies and agentic goals (e.g., Campbell et al., 2006, 2002; Foster et al., 2009). Hence, similarity in neuroticism could be important for narcissists because less neurotic friends would not offer the potential for intimacy and care. In our sample, narcissists are less open than a representative norm.[4] Hence, similarity in openness would probably have the advantage of sharing or avoiding the same interests and activities (e.g., not to visit the museum, not to be attentive to inner feelings) to defend the unit of the friendship against new and open-minded ideas or threats from the outside.

Does the Gender Composition of a Friendship Moderate These Relationships?

Considering the gender composition of a dyad, the above-described effects did not differ for male, mixed, and female friendships on the domain level given the power of the current sample. Replication of results given a larger sample size is therefore needed. However, there was a significant interaction for the general Big Five and extraversion profiles. For all gender compositions, there was a significant positive relationship between the similarities in narcissism and the Big Five. However, a man and his best male friend who are similarly narcissistic were likely to have more similar Big Five profiles than women or mixed friendships. The effect of high similarity in narcissism might be stronger for men, because of a different socialization of men and women. Men are allowed to express more stereotypical narcissistic behavior than women (Morf & Rhodewalt, 2001). Self-centeredness, self-enhancement, less empathy, and preference for interpersonal competition are examples of such stereotypical narcissistic behaviors that correspond to the agreeableness, extraversion, or conscientiousness domains of the Big Five (Morf & Rhodewalt, 2001). In this view, similarity in the general Big Five profile is more associated with male friendships.

Similarity in Machiavellianism and Psychopathy

The data showed that similarities in psychopathy and Machiavellianism also go along with similarities in the Big Five profile in general and in all of its domains except for openness and extraversion, respectively. For narcissism, we argued that similar friends would offer the main advantage to prevent from interactional problems (i.e., for being disagreeable and less conscientious). However, some Big Five traits might match this function better than others. Although psychopaths are seen as more malevolent than the other two (Rauthmann, 2012), similarity in openness might not be that important, because such friends might not be such a "strong" unit that would have to be defended by open-minded ideas from the outside (as narcissists may do). Adding to that, research has not provided a consistent picture of the strength of associations between psychopathy and openness (e.g., Jonason, Li, & Teicher, 2010; Lee & Ashton, 2005; Paulhus & Williams, 2002). In contrast, similarity in extraversion might not be that beneficial for similar Machiavellians, because they are not that interested in having a wingman as narcissists might be. Supporting this idea, Jonason and Schmitt (2012) found that Machiavellians do not wish for sociable friends or friends who help finding mates.

Despite these issues, similarity in Machiavellianism and psychopathy were also strong predictors of similarity in the Big Five. It could be concluded that a similarity in those two traits also requires similar personalities to reduce the risk of losing a friend. More importantly, these effects all occurred after controlling for the general overlap between the dark triad traits. Thus, there are specific effects at work for each of the three dark traits. Without further research, no concrete hypotheses regarding these effects can be drawn here.

Implications for the Study of Similarity in Friendships

The results here suggest that with an increasing narcissism score, it becomes more important to have friends with personalities similar on the deviating-from-the-norm parts. It is therefore plausible to hypothesize that being higher in narcissism might lead people to choose their friends more diligently. Of course, there might be other personality traits that require such careful friend selection as well. In general, assortative friendships that are based on personality similarity might especially be important in the area of norm-deviant traits. As can be seen with adolescents, some people form

themselves around others with similar delinquent behaviors (e.g., Young, Rebellon, Barnes, & Weerman, 2014). For this reason, considering distinctive personality similarity would also contribute to the homophily literature (i.e., more similar people interact more often than less similar ones; McPherson, Smith-Lovin, & Cook, 2001), which mostly has focused less on personality traits and more on demographic variables such as race, ethnicity, religion, education, and attitudes.

Limitations and Future Research

There are some limitations that future studies should address. First, there might be the possibility of range restriction within the data. The variances of Narc within the two friend groups did not significantly differ between men and women, $F(162, 126) = 1.28$ for both groups. With respect to DS_{Narc}, there was a significant difference only in one group $F(161, 125) = 1.54$, $p < .01$, respectively. Such range restriction would mean that the reported findings are conservative estimates of the effects. Second, it would be interesting to examine the unique effects of a person's narcissism on the Big Five traits in dependence of the unique friends' narcissism scores. Differentiating actor and partner effects (i.e., by using the Actor-Partner-Interdependence-Model; Kenny & Kashy, 2000) would shed additional light on the effects of narcissism in friendships. For instance, there is evidence that narcissism is associated with negative perceptions of (not) well-known people (Back et al., 2013; Wood, Harms, & Vazire, 2010). This might apply for friends as well. Third, future study designs could include friendship satisfaction within their analyses as well as it should be controlled for self-esteem when dealing with narcissism (Paulhus, 2001; Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004). Last but not least, the focus in this analysis was similarity in narcissism. Results, however, suggest an important role of the similarities in Machiavellianism and psychopathy as well. A more comprehensive theory for the differential effects of the Dark Triad is needed here.

Conclusion

The current study demonstrated that the distinctive similarity in the Dark Triad influences the distinctive personality similarity of good friends. Especially with increasing distinctive similarity in narcissism, the two friends' distinctive similarity in the Big Five increases. Although the results indicate that the effect of narcissism similarity was stronger for male friends, there is conclusive evidence showing that all narcissists of a feather flock together.

Appendix A

Determination of the Similarity Components

An individual's score on Variable v in profile $p(x_{vp})$ is made up of

$$x_{vp} = \bar{x}_{v\bullet} + x'_{vp},$$

where $\bar{x}_{v\bullet}$ is the grand mean on the variable (represents the degree of normativeness within the sample), and x_{vp} is the deviation from that grand mean (represents the degree of individual's distinctiveness on the variable).

The following formula, presented in Furr and Wood (2013), was used to determine the correlation between two distinctive profiles:

$$r_{x'_u x'_\mu} = \frac{r_{x'_u x'_\mu}\sigma_{x'_u}\sigma_{x'_\mu} + r_{x_u \bar{x}_v}\sigma_{x'_u}\sigma_{\bar{x}_v} + r_{x_\mu \bar{x}_v}\sigma_{x'_\mu}\sigma_{\bar{x}_v} - \sigma^2_{\bar{x}_v}}{\sigma_{x_u}\sigma_{x_\mu}}, \quad \text{(A1)}$$

where $\sigma_{x'_u}$ and $\sigma_{x'_\mu}$ are the standard deviations for those distinctive profiles.

Appendix B

Results From Regression Models Used in the Meta-Analysis

Table B1. Coefficients for the Interaction Terms From the Regression Models Used in the Meta-Analysis ($N = 290$).

DS_{Narc} as moderator				DS_{Narc} as dependent variable			
DV	Interaction term	β	*SE*	DV	Interaction term	β	*SE*
DS_{Agree}	$DS_{Narc} \times DS_{Extra}$	.11	.05	DS_{Narc}	$DS_{Agree} \times DS_{Extra}$	−.01	.02
DS_{Agree}	$DS_{Narc} \times DS_{Open}$	.18**	.06	DS_{Narc}	$DS_{Agree} \times DS_{Open}$	.01	.02
DS_{Agree}	$DS_{Narc} \times DS_{Consc}$	.14*	.06	DS_{Narc}	$DS_{Agree} \times DS_{Consc}$	−.01	.01
DS_{Agree}	$DS_{Narc} \times DS_{Neuro}$	.08	.06	DS_{Narc}	$DS_{Agree} \times DS_{Neuro}$	.02	.02
DS_{Extra}	$DS_{Narc} \times DS_{Open}$	.10	.06	DS_{Narc}	$DS_{Extra} \times DS_{Open}$	.02	.02

(continued)

Appendix B (continued)

DS_{Narc} as moderator				DS_{Narc} as dependent variable			
DV	Interaction term	β	*SE*	DV	Interaction term	β	*SE*
DS_{Extra}	$DS_{Narc} \times DS_{Consc}$	.11	.06	DS_{Narc}	$DS_{Extra} \times DS_{Consc}$	−.01	.01
DS_{Extra}	$DS_{Narc} \times DS_{Neuro}$	.09	.06	DS_{Narc}	$DS_{Extra} \times DS_{Neuro}$	.01	.02
DS_{Open}	$DS_{Narc} \times DS_{Consc}$	.03	.06	DS_{Narc}	$DS_{Open} \times DS_{Consc}$	.01	.02
DS_{Open}	$DS_{Narc} \times DS_{Neuro}$	.08	.05	DS_{Narc}	$DS_{Open} \times DS_{Neuro}$	.01	.02
DS_{Consc}	$DS_{Narc} \times DS_{Neuro}$	.17**	.06	DS_{Narc}	$DS_{Consc} \times DS_{Neuro}$	.00	.02

Note. Main effects of the predictors are not displayed. DS_{Narc} = distinctive similarity in narcissism; DV = dependent variable; DS_{Agree} = distinctive similarity in agreeableness; DS_{Extra} = distinctive similarity in extraversion; DS_{Open} = distinctive similarity in openness; DS_{Consc} = distinctive similarity in conscientiousness; DS_{Neuro} = distinctive similarity in neuroticism.
*p < .05. **p < .01.

Appendix C

Comparison of the Current Sample With a Representative Norm

Table C1. Means, Standard Deviations, and *t* Statistics (*t*) for the Big Five Traits of Sport Students (n_1 = 68) and Their Best Friends (n_2 = 68) in Comparison With a Representative Norm Population (N = 4,784).

	Sports students				According friends				Norm[a]	
Variable	*M*	*SD*	*t*	*d*	*M*	*SD*	*t*	*d*	*M*	*SD*
Extra	134.22	15.30	11.00***	.74	128.03	18.64	6.35***	.73	113.57	19.72
Agree[b]	103.01	15.50	−4.01***	−.57	107.04	19.55	−1.50	−.21	110.62	17.13
Consc	120.46	18.44	3.39**	.13	118.76	23.80	2.05*	.29	112.82	2.55
Open	118.22	17.31	−4.65***	−1.14	108.54	17.81	−8.97***	−1.09	128.05	17.90
Neuro	80.46	17.83	−5.59***	−.79	74.04	19.24	−7.91***	−.79	92.70	23.68

Note. Extra = extraversion; Agree = agreeableness; Consc = conscientiousness; Open = openness; Neuro = neuroticism.
[a]Norm includes a population of higher education between 16 and 29 years old.
[b]The comparison between agreeableness of the best friends and the norm population is significant for male friendships, $t(21.17) = -2.23$, $p = .02$ (one-tailed, M = 101.91, SD = 18.32).
*p < .05. **p < .01. ***p < .001, two-tailed.

Table C2. Means, Standard Deviations, and *t* Statistics (*t*) for the Big Five Traits of the 25% Most Narcissistic Friends (n_1 = 70) and Their Sport Students Friends (n_2 = 70) in Comparison With a Representative Norm Population (N = 4,784).

	Friends				According sports students				Norm[a]	
Variable	*M*	*SD*	*t*	*d*	*M*	*SD*	*t*	*d*	*M*	*SD*
Extra	130.09	18.50	7.41***	.84	130.04	17.40	7.85***	.84	113.57	19.72
Agree	100.89	17.13	−4.72***	−.57	106.99	17.71	−1.70*	−.21	110.62	17.13
Consc	115.56	22.18	1.03	.13	114.80	21.63	0.76	.10	112.82	2.55
Open	107.69	19.26	−8.79***	−1.14	115.61	18.29	−5.65***	−.69	128.05	17.90
Neuro	74.09	19.12	−8.05***	−.79	81.03	18.03	−5.35***	−.49	92.70	23.68

Note. Extra = extraversion; Agree = agreeableness; Consc = conscientiousness; Open = openness; Neuro = neuroticism.
[a]Norm includes a population with higher education between 16 and 29 years old.
*p < .05. **p < .01. ***p < .001, two-tailed.

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Notes

1. The terms *narcissism* or *narcissist* are used from now on as an abbreviation for people with higher scores on methods assessing subclinical narcissism. Furthermore, we refer to grandiose rather than vulnerable forms of narcissism.
2. We thank an anonymous reviewer for pointing out this approach.
3. To ease reading, the terms *similarity* and *similar* are used shortly for "distinctive similarity" and "similar with respect to the distinct parts of two profiles," respectively.
4. In comparison with a representative norm (Ostendorf & Angleitner, 2004), the most narcissistic dyads from our sample were more extraverted and more conscientious but less neurotic, less open, and less agreeable (for agreeableness, these traits only hold true for the male narcissists from the friend group). Detailed results can be found in Tables C1 and C2 in Appendix C.

Supplemental Material

The online supplemental material is available at http://pspb.sagepub.com/supplemental.

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Eidesstattliche Erklärung

Hiermit erkläre ich an Eides statt,

- dass ich die vorliegende Arbeit selbstständig und ohne unerlaubte Hilfe verfasst habe,
- dass diese Dissertation zum ersten Mal eingereicht wird,
- dass ich mich nicht anderwärts um den Doktorgrad beworben habe und keinen Doktorgrad in dem Promotionsfach besitze, und
- dass ich die zugrundliegende Promotionsordnung vom 03. August 2006 kenne.

Berlin, den

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Ulrike Maaß