



The self-concepts of people with Dark Triad traits tend to be weaker, less clearly defined, and more state-related[☆]

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ABSTRACT

Researchers have examined overt social-behavioral manifestations of Dark Triad traits, while mostly ignoring the similarities in the covert self-concept of these individuals. Across two independent samples, we investigated aspects of an unstable self-concept in relation to the Dark Triad traits. In Study 1 ($N = 298$), we found that higher levels of the Dark Triad traits were related to a weaker sense of self, decreased trait-term usage, and greater state-term usage in a spontaneous self-concept task. In Study 2 ($N = 262$), we sought to obtain a more fine-grained understanding of these associations. In regression models, secondary psychopathy followed by vulnerable narcissism emerged as the only predictors of both a weaker sense of self and lower self-concept clarity, whereas the Leadership/Authority aspect of grandiose narcissism emerged as a significant predictor of a stronger sense of self and increased self-concept. These findings are discussed within the context of existing theory (i.e., the life strategy approach and the Vulnerable Dark Triad model).

1. Introduction

In recent years, there has been a growing interest in studying the overt behaviors associated with the three socially harmful and undesirable personality traits—Machiavellianism, narcissism, and psychopathy—that are collectively referred to as the Dark Triad traits (Muris, Merckelbach, Otgaar, & Meijer, 2017; Paulhus & Williams, 2002). The overt social-behavioral manifestations of Dark Triad traits are characterized by shared components such as deceitfulness, self-promotion, and manipulation (e.g., Forsyth, Banks, & McDaniel, 2012; Vernon, Villani, Vickers, & Harris, 2008). However, little attention has been devoted to similarities in the covert self-concepts of these individuals. Attempting to understand the shared aspects of their self-concepts is important, because they might provide knowledge about what motivates these individuals to behave in similar ways. Accordingly, using both student and community samples, we sought to identify shared features in the self-concepts of individuals with higher levels of the Dark Triad traits.

Among the Dark Triad traits, the narcissistic self-concept has

arguably received the most theoretical attention. Theoretically, narcissism should be related to an ill-defined and fluctuating self-concept in development (e.g., Kernberg, 1975). In fact, according to Kernberg (1975) unempathetic parents do not provide appropriate mirroring and idealization opportunities, and so the narcissistic child continues to seek and explore other opportunities to define the self. For this reason, the core of a stable and internally consistent self-concept does not develop early in life, and the narcissistic child is forced to compensate by seeking other relationships and manipulating the social environment in the attempt to construct a grandiose self. According to the *dynamic self-regulatory processing model* (Morf & Rhodewalt, 2001a,b; Rhodewalt, 2012), narcissistic individuals possess transient, overblown, and fragile self-images that are dependent on social validation within particular social contexts or situations.

The empirical study of the self-concept of narcissistic people has provided mixed, but generally supportive, evidence for this view. For instance, Kaufman, Weiss, Miller, and Campbell (2018) found that narcissism was correlated with having a weaker sense of self. Other

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studies have investigated the clarity and coherence of self in narcissistic individuals, with findings that show either a negative correlation (e.g., Steffgen, Da Silva, & Recchia, 2007; Stucke & Sporer, 2002) or no significant relationship (Bechtoldt, De Dreu, Nijstad, & Zapf, 2010) between narcissism and these two constructs. Finally, there is reasonably consistent evidence that narcissism is related to greater variability in the self-concept across different roles and time points—findings which suggest greater instability in the self-concept of narcissists (see Fukushima & Hosoe, 2011; F. Rhodewalt, Madrian, & Cheney, 1998). A possible reason for these somewhat mixed findings is differences across studies in how narcissism is defined and measured.

What does the available research say about aspects of the self-concept that are commonly found in other two Dark Triad traits—psychopathy and Machiavellianism? According to the Comprehensive Assessment of Psychopathic Personality (Cooke & Logan, 2018), one of the features of the psychopathic personality is an unstable self-concept which derives from a malleable, incomplete, and an unstable sense of self (Campbell et al., 1996). In regard to Machiavellianism, Christie and Geis (1970) found that individuals with high levels of Machiavellianism are not invested in having a consistent self-image in the way that low Machiavellians are. Also, Láng (2015) found that individuals with high level of Machiavellianism scored higher on measures of identity diffusion. In related findings, identity confusion has been linked to more unrestricted sociosexuality (McDonald, Donnellan, & Navarrete, 2012) and preference for sexual relationships as opposed to romantic ones (P. K. Jonason, Li, Webster, & Schmitt, 2009).

We further suggest that the shared features of self-concept in the Dark Triad traits can be interpreted via the theoretical framework of life history theory (Jonason, Koenig, & Tost, 2010). Life history theory (Wilson, 1975) is a mid-level theory derived from general evolutionary theory; it describes differences in the amount of bioenergetic and material resources allocated for somatic effort (i.e., resources devoted to continued survival) and reproductive effort (i.e., devoted to mating and/or parenting). Jonason, Koenig, et al. (2010) proposed that the Dark Triad traits represent a fast life approach, which is characterized by indicators such as diminished self-control, short-term mating patterns, selfishness, antisocial dispositions, failure to delay gratification, and living on a shortened timeline.

We suggest that the identity flexibility that comes with an unclear and unstable self-concept might be adaptive for pursuing these goals, because it helps the individual adapt to the situation and be flexible in applying the necessary tactics. People with higher levels of the Dark Triad traits should have an extreme external orientation, with the consequence that they spend little time considering their internal world and instead are highly focused on the external world and on getting what they want from others. Over time, this strong focus on the external world might well be a major obstacle to developing a clear and consistent self-concept. It should also be the case that too much consistency in self-concept can get in the way of people with high Dark Triad traits pursuing their fast life goals, such as short-term mating (Jonason, Koenig, et al., 2010).

2. Study 1

Our purpose in the current study was to understand the self-concept in individuals with high levels of Dark Triad traits. Drawing upon the literature we have reviewed above, our predictions were based on the assumptions that people with higher Dark Triad traits have a weaker sense of self and an unstable self-concept. In Study 1, we examined how our participants' Dark Triad traits were related to (1) the spontaneous use of state vs. trait self-descriptions, and (2) the strength versus weakness of their sense of self. We predict that all three Dark Triad traits are related to having weaker, more unstable, and more state-related self-concepts.

We measured self-concept content with a spontaneous and open-ended measure called the Who Am I? task (Gordon, 1968). This

measure was originally developed by Bugental and Zelen (1950) and later updated by Gordon (1968) to capture aspects of the spontaneous self-concept. In this task, participants' self-conceptions are assessed without the use of primed or pre-constructed responses to provide a less constrained, and ideally more accurate, depiction of self-concept content (Markus, 1977; Rentsch & Heffner, 1994).³

To measure the feature of an unstable self in individuals with higher levels of Dark Triad traits, we focused on state versus trait self-descriptions. It is a commonly held idea that there is a relationship between self and memory, such that at any moment the most salient aspects of the self are the easiest to retrieve (Charlesworth, Allen, Havelka, & Moulin, 2016). If individuals with higher levels of the Dark Triad traits have weaker and more diffuse self-concepts, as previous theory and research suggest (Cooke & Logan, 2018; Fox & Rooney, 2015; Fukushima & Hosoe, 2011; Láng, 2015), trait information should be relatively difficult for them to retrieve whereas state information (information about their current wants, needs, emotions, and other psychological states) should be relatively easy for them to retrieve. The relatively greater accessibility of state versus trait information also follows from the fast life strategy of individuals with higher levels of the Dark Triad traits, which emphasizes their focus on gratifying immediate wants and acting on immediate emotions and impulses (Fuchs, 2007; P.K. Jonason, Luévano, & Adams, 2012).

We also aimed to see whether individuals who score higher in the Dark Triad traits also report having a weaker sense of self.⁴ In previous studies, a weak sense of self has been related to a more diffuse identity status (Ickes, Park, & Johnson, 2012), and so have the Dark Triad traits. For example, in two previous studies (Barlett, 2016; Barlett & Barlett, 2015), adolescents with higher Dark Triad traits were more likely than other adolescents to report repeated changes in their identity, feeling overwhelmed with options about who to become, less optimism about their identity choices, and feeling neither like a child or an adult.

2.1. Method

2.1.1. Participants and procedure

A sample of 298 participants ($M_{age} = 20.05$, $SD_{age} = 3.71$, age range: 18–56) was recruited via the undergraduate psychology research participation pool. About 70% ($n = 210$) of the respondents were women and 30% ($n = 88$) were men. Participants were recruited if they identified English as one of their most frequently used languages and consented to participate in the study in exchange for course credit. IRB approval was obtained for all parts of the study.

2.1.2. Measures

Participants completed the 12-item Dirty Dozen scale as a measure of individual differences in the Dark Triad traits (P.K. Jonason & Webster, 2010). Participants were asked to rate their level of agreement (1 = *Strongly disagree*; 7 = *Strongly agree*) with items that measured individual differences in narcissism e.g., (“I tend to want others to admire me”), Machiavellianism e.g., (“I have used deceit or lied to get my way”), and psychopathy (e.g., “I tend to lack remorse”). The individual item scores were averaged to obtain a total score for each trait.

The 12-item Sense of Self Scale (Flury & Ickes, 2007) was used to measure the degree to which an individual's sense of self is weak versus strong. Participants were asked to rate their level of agreement (1 =

³ For example, an artist might describe her self-concept in the Who Am I? task with responses such as *artistic, creative, free-spirited*, and doing what I love to do.”

⁴ According to Flury and Ickes (2007), a weak sense of self includes (1) a lack of self-understanding, (2) the tendency to confuse one's feelings, thoughts, and perspectives with those of others, (3) sudden changes in one's opinions, values, and feelings, and (4) the feeling that one's own existence is tenuous and unstable.

Strongly disagree; 4 = Strongly Agree) with items measuring individual differences in the strength versus weakness of their sense of self (e.g., “Who am I? is a question that I ask myself a lot”). The individual item scores were averaged to obtain a total score, with higher values indicating a stronger sense of self.

As another measure to capture aspects of the spontaneous self-concept in individuals with higher levels of Dark Triad traits, we used the Who Am I? task originally developed by Bugental and Zelen (1950) and later updated by Gordon (1968). Participants provided free-response answers to complete the statement “I am...” 15 times. Subsequently, teams of trained, undergraduate raters coded each of these free-response items. Because the number of participants was fairly large (about 300), three teams of five raters were each assigned to code one-third of the Who Am I? data (about 100 different participants for each team). The raters within each team coded both measures of interest: the number of Who Am I? entries that contained state-based self-descriptors and the number of entries that contained trait-based self-descriptors.⁵ The obtained score in each case is the percent of all Who Am I? statements that contained the appropriate descriptor category (range 0.00–1.00).⁶

The raters were provided specific instructions for identifying and coding the trait-based descriptors and the state-based descriptors, as per the following instructions:

Trait descriptors. “If the response contains one or more ascribed trait descriptors, in other words, personality traits that apply to the participant (e.g., introverted, kind, serious, fun-loving, shy, lazy, passionate, unfriendly, curious), code the response with a one (1). Otherwise, code it with a zero (0)” (ICC = 0.92).

State descriptors. “If the response contains one or more ascribed state descriptors, in other words, current psychological states that apply to the participant (e.g., tired, happy, relieved, stressed, exhilarated, worried, sad, excited, sleepy) code the response with a one (1). Otherwise, code it with a zero (0)” (ICC = 0.88).

2.2. Results and discussion

In Table 1, we report the zero-order correlations among the variables in the study. The three Dark Triad traits were positively correlated with each other and were all correlated with a weaker sense of self. In addition, Machiavellianism and psychopathy were negatively correlated with the use of trait-based self-descriptors and positively correlated with the use of state-based self-descriptors.

These correlations were (1) similar in men and women, despite replicating sex differences in psychopathy ($t[296] = 5.42, p < .001$, Cohen's $d = 0.68$), and Machiavellianism ($t[296] = 2.61, p = .02, d = 0.32$); (2) a function of shared variance rather than unique variance, as revealed by multiple regression analyses (i.e., no unique predictors emerged); (3) accounted for 6% of the variance in sense of self ($F[3, 294] = 6.38, p < .001$), 4% in the use of trait descriptors ($F[3, 294] = 4.16, p = .007$), and 4% in the use of state descriptors ($F[3, 294] = 3.59, p = .01$), and (4) were not moderated by the participants' age despite the weak correlation between age and sense of self.

In summary, both the rater data and the self-report data showed that the Dark Triad traits are associated with more unstable (i.e., state-based) self-concepts and a weaker sense of self. However, these results are based on the Dirty Dozen (P.K. Jonason & Webster, 2010) measure, a

potentially limited measure of the Dark Triad traits (Lee et al., 2013; Maples, Lamkin, & Miller, 2014). Given the brevity of the Dirty Dozen measure and the fact that it does not cover the full range of each trait or assess lower-order aspects of each trait, Study 2 was conducted to address this limitation.

3. Study 2

Despite the interesting findings it produced, Study 1 did not enable us to isolate the effects of each of the Dark Triad traits. It is possible that the Dirty Dozen scale does a good job of capturing the core of the Dark Triad, but is less successful in capturing the nuances of each of the Dark Triad traits (see Lee et al., 2013). Indeed, it has been argued that the convenient brevity of Dirty Dozen scale comes with trade-offs such as the removal of some essential content and decrements in content validity (see Maples et al., 2014). Moreover, a complicating issue surrounding the Dark Triad is that measures of its three elements do not all capture unitary constructs. Among the Dark Triad traits, psychopathy and narcissism are regarded as multifaceted constructs.

For these reasons, to extend and further clarify the Study 1 findings, we conducted Study 2 using more elaborate measures of the Dark Triad, such as the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988), the Hypersensitive Narcissism Scale (Hendin & Cheek, 1997), the 20-item Machiavellianism Scale (Christie & Geis, 1970), and the Levenson Self-Report Psychopathy Scale (Levenson, Kiehl, & Fitzpatrick, 1995), to better capture the specific components of the Dark Triad. We pursued this direction based on evidence that the proposed subtypes of psychopathy and narcissism are real and important (Miller et al., 2011), and that they might be differentially related to sense of self and self-concept (e.g., Maples et al., 2014).

The original description of psychopathy as a personality trait was characterized by criminal and violent behavior, along with a marked lack of anxiety and consideration for others (Newman, MacCoun, Vaughn, & Sadeh, 2005). This description accurately characterizes the first variant of psychopathy, which has been termed *primary psychopathy*. However, the secondary variant of psychopathy, *secondary psychopathy*, is characterized by high levels of anxiety and extensive symptoms of psychological turmoil and emotional reactivity (Vaughn, Edens, Howard, & Smith, 2009). Individuals who display this second variant of psychopathy are more reactive, antagonistic, and impulsive, and they are at greater risk for engaging in self- and other-destructive behavior such as drug use/abuse, suicidal ideation/gestures, and interpersonal aggression (e.g., Falkenbach, Poythress, & Creevy, 2008; Hicks, Markon, & Patrick, 2004). Some researchers suggest that this second variant might be more closely related to or isomorphic with Borderline Personality Disorder (Blackburn, 1996), which has consistently been related to a weak and unstable sense of self (Gunderson, Herpertz, Skodol, Torgersen, & Zanarini, 2018).

In addition, there is broad consensus that there are at least two different variants of narcissism: grandiose and vulnerable. Grandiose narcissism is associated with traits such as exhibitionism, immodesty, interpersonal dominance, self-absorption, callousness, manipulativeness, and a need for acclaim from others. In contrast, vulnerable narcissism is associated with psychological distress, anxiety, depression, negative emotions, withdrawal, hypersensitivity to criticism, and feelings of inferiority, along with an entitled, egocentric, and distrustful approach to interpersonal relations (Miller et al., 2011). Interestingly, according to Miller et al. (2010), vulnerable and grandiose narcissism should also be differentially related to sense of self.

To relate these more nuanced aspects of the Dark Triad personality to essential aspects of the self-concept, we needed a more economical way to measure the strength and clarity of our participants' self-concepts in Study 2. For this reason, we again measured strength of sense of self using Flury and Ickes's (2007) Sense of Self Scale (Flury & Ickes, 2007), but also measured the clarity of self-concept using Campbell et al.'s (1996) Self-concept Clarity Scale. We did not, however, attempt the far

⁵ Following Gordon's (1968) precedent, the raters coded the Who Am I? responses on other dimensions as well (e.g., demographic characteristics and social role descriptors), but these data are not relevant to the present investigation.

⁶ Note that the percentages of trait-based and state-based self-descriptions do not sum to 100% because many of the respondents' self-descriptions on the Who Am I? task were ones to which neither of these categories applied.

Table 1
Correlations and descriptive statistics of the variables in study 1.

Variable	1	2	3	4	5	6	7
1. Age	–	0.04	0.06	–0.01	0.12*	0.004	–0.08
2. Narcissism		–	0.47**	0.32**	–0.19**	–0.09	0.06
3. Machiavellianism			–	0.54**	–0.22**	–0.19**	0.16*
4. Psychopathy				–	–0.19**	–0.16*	0.17*
5. Sense of Self Scale					–	0.27**	–0.26**
6. Trait-based descriptors						–	–0.69**
7. State-based descriptors							–
Cronbach's α		0.84	0.81	0.80	0.83		
Overall: <i>M</i> (<i>SD</i>)		3.68 (1.46)	2.96 (1.38)	2.48 (1.32)	27.53 (6.32)	0.56 (0.25)	0.20 (0.18)

Intraclass correlation coefficients were measured for trait- and state-based descriptors.

* $p < .05$.

** $p < .01$.

more labor-intensive task of measuring the relative use of trait and state self-descriptions using the Who Am I? task.

Strength of sense of self and self-concept clarity are similar and partially overlapping constructs. In essence, the Self-concept Clarity Scale measures the extent to which the contents of one's self-concept are clear, coherent and highly stable over time (Campbell et al., 1996), whereas the Sense of Self Scale measures the overall strength versus weakness of one's sense of self. To elaborate a bit on this difference, the Sense of Self Scale measures four aspects of a weak sense of self that have been reported in the clinical literature—(1) a lack of understanding of oneself (Briere & Runtz, 2002; J.G. Gunderson, 1984); (2) the tendency to confuse one's feelings, thoughts, and perspectives with those of others (Kreisman & Straus, 1989); (3) sudden shifts in one's feelings, opinions, and values (Kreisman & Straus, 1989); and (4) the feeling that one's very existence is tenuous (Kreisman & Straus, 1989). In contrast, the Self-Concept Clarity Scale provides an exceptionally good measure of the first of these aspects but does not address the other three.

In other words, although scores on the Sense of Self scale and the Self-concept Clarity scale tend to be strongly correlated (Cuperman, Robinson, & Ickes, 2014), there is nonetheless reason to believe that they assess conceptually different constructs: the strength or weakness of one's sense of self and the clarity of one's self-concept. Both of these aspects are of obvious interest in regard to the self-concepts of individuals with higher levels of the Dark Triad traits.

As previously discussed, the Dark Triad of personality can be interpreted via the theoretical framework of life history theory. We propose that the development of a strong sense of self can be time consuming and might interfere with adopting a fast life strategy. However, previous evidence suggests that not all components of the Dark Triad are related to a fast life strategy. For example, McDonald et al. (2012) showed that (1) Machiavellianism, (2) the Impulsive/Antisociality (IA) facet of psychopathy (which conceptually overlaps with secondary psychopathy), and (3) the Entitlement/Exploitativeness facet of grandiose narcissism are all related to a fast life strategy. In contrast, the Grandiose Exhibitionism and the Leadership/Authority facets of grandiose narcissism are related to a slow life approach. If an unstable self-concept helps individuals achieve a fast life strategy, then the three aspects of the Dark Triad that are more related to a fast life approach should be more likely to predict a weak sense of self and low self-concept clarity.

In Study 2, we sought to replicate and expand the Study 1 findings showing that the Dark Triad traits were related to having a weaker sense of self and less self-concept clarity. However, we also sought to clarify these findings by predicting that they would be found for the specific components of the Dark Triad that can be interpreted within the theoretical framework of the life strategy approach.

3.1. Method

3.1.1. Participants and procedure

We recruited an adult sample of 262 (38% men) participants who

were located in the U.S.A. ($M_{age} = 37.73$, $SD_{age} = 13.09$, Age range = 18–77) via MTurk. The participants consented to take part in the study in exchange for small monetary award and were debriefed online at the end of the study. IRB approval was obtained for all parts of Study 2.

3.1.2. Measures

The 20-item Mach-IV Scale (Christie & Geis, 1970) was used to measure individual differences in Machiavellianism. Participants rated their agreement (1 = *Strongly disagree*; 7 = *Strongly agree*) with each statement (e.g., “The biggest difference between most criminals and other people is that criminals are stupid enough to get caught”). The individual item scores were averaged to derive our measure of Machiavellianism.

The 40-item Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988) was used to assess individual differences in grandiose narcissism. Each item contains two statements: one that is narcissistic (e.g., “I have a natural talent for influencing people”) and one that is not (e.g., “I am not good at influencing people”). Respondents are asked to select the statement within each pair that best describes them. The items for which the narcissistic option was chosen were then summed to create a count measure of narcissism.

The 10-item Hypersensitive Narcissism Scale (Hendin & Cheek, 1997) was used to measure individual differences in vulnerable narcissism. Participants rated their agreement (1 = *Strongly disagree*; 7 = *Strongly agree*) with each item (e.g., “I dislike sharing the credit of an achievement with others”). The individual items scores were then averaged to create our measure of vulnerable narcissism.

The 26-item Self-Report Psychopathy Scale (Levenson, Kiehl, & Fitzpatrick, 1995) was used to measure individual differences in primary and secondary psychopathy. The participants rated their agreement (1 = *strongly disagree*; 7 = *strongly agree*) with statements specific to primary psychopathy (e.g., “For me, what's right is whatever I can get away with”) and secondary psychopathy (e.g., “I find myself in the same kinds of trouble, time after time”). Their responses to the relevant item sets were averaged to create separate indices of primary and secondary psychopathy.

In addition to Sense of Self scale from Study 1, the 12-item Self-Concept Clarity Scale (Campbell et al., 1996) was used to measure individual differences in how stable and well-defined the participants' self-concept was. The participants rated their level of agreement (1 = *Strongly disagree*; 7 = *Strongly agree*) with each statement (e.g., “Sometimes I feel that I am not really the person that I appear to be”). Higher scores indicated a clearer and more coherent self-concept.

3.2. Results and discussion

Table 2 presents descriptive statistics, internal consistencies, and the zero-order correlations among the scales. As assessed by the zero-order correlations, higher levels of all major components of the Dark Triad traits were associated with both a weaker sense of self and lower self-

Table 2
Correlations and descriptive statistics of the variables in study 2.

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Age	–	–0.37	–0.30	–0.34	–0.40	–0.37	–0.32	–0.41	–0.39	0.36	0.40
2. DD Machiavellianism		–	0.70	0.84	0.61	0.43	0.64	0.74	0.79	–0.59	–0.65
3. DD Narcissism			–	0.63	0.43	0.58	0.62	0.67	0.64	–0.53	–0.49
4. DD Psychopathy				–	0.58	0.38	0.59	0.73	0.77	–0.54	–0.61
5. Machiavellianism (Mach-IV)					–	0.32	0.32	0.57	0.44	–0.23	–0.23
6. Grandiose Narcissism						–	0.32	0.57	0.44	–0.26	–0.23
7. Vulnerable Narcissism							–	0.60	0.65	–0.61	–0.56
8. Primary Psychopathy								–	0.80	–0.61	–0.60
9. Secondary Psychopathy									–	–0.76	–0.75
10. Sense of Self										–	–0.80
11. Self-concept Clarity											–
Cronbach's α		0.91	0.91	0.90	0.72	0.89	0.86	0.90	0.84	0.87	0.93
Overall: $M (SD)$		3.37 (1.72)	3.73 (1.66)	3.23 (1.69)	3.62 (0.65)	16.42 (8.32)	4.33 (1.11)	3.36 (1.13)	3.42 (1.16)	3.63 (1.12)	3.63 (1.12)

All variables were correlated with one another at $p < .001$. DD = Dirty Dozen scale.

concept clarity. These results are consistent with our Study 1 findings and support our Study 2 predictions. These correlations were similar in men and women, despite replicating sex differences in primary psychopathy ($t[237.45] = 5.05, p < .001$, Cohen's $d = 0.62$), secondary psychopathy ($t[260] = 3.04, p = .003$, Cohen's $d = 0.43$), and Grandiose narcissism, ($t[260] = 2.94, p = .002$, Cohen's $d = 0.39$). The participants' age moderated the association between Machiavellianism and sense of self as well as self-concept clarity, such that older participants with higher levels of Machiavellianism reported a higher level of self-concept clarity and a stronger sense of self (Table 3).

To see if the distinctions between various components of the Dark Triad traits added nuance to this general data pattern, two separate linear regression analyses were conducted to differentiate the effects of

Table 3
Age and sex moderation results (SPSS PROCESS Model 1, (Hayes, 2013) in the association between components of the Dark Triad, sense of self, and self-concept clarity.

Variable	$B (SE)$	t	95% CI
Sense of self			
Sex Moderation (Model 1)			
Leadership/Authority	0.31 (0.31)	1.01	[–0.29, 0.91]
Sex	2.48 (0.88)	2.82*	[0.75, 4.23]
Interaction	–1.83 (0.58)	–3.14*	[–2.97, –0.68]
Simple slope (men)	–1.52 (0.49)	–3.06*	[–2.49, –0.54]
Simple slope (women)	0.31 (0.31)	1.01	[–0.29, 0.91]
Sex Moderation (Model 2)			
Grandiose/Exhibitionism	–0.22 (0.29)	–0.75	[–0.36, 0.80]
Sex	2.42 (0.66)	3.54*	[–3.78, –1.07]
Interaction	–1.86 (0.48)	–3.87*	[0.91, 2.81]
Simple slope (men)	–2.08 (0.38)	–5.48**	[1.34, 2.83]
Simple slope (women)	–0.22 (0.29)	–0.76	[–0.36, 0.80]
Age Moderation (Model 3)			
Machiavellianism	–0.76 (0.10)	–7.59**	[–0.96, –0.06]
Age	0.02 (0.005)	4.18**	[0.01, 0.03]
Interaction	0.02 (0.007)	2.89*	[0.006, 0.03]
Self-concept Clarity			
Age Moderation (Model 4)			
Machiavellianism	–0.94 (0.12)	–7.87**	[–1.17, –0.70]
Age	0.03 (0.006)	4.75**	[0.02, 0.04]
Interaction	0.02 (0.008)	2.74*	[0.006, 0.04]

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

each subcomponent of the Dark Triad on sense of self and self-concept clarity.⁷

3.2.1. Dark Triad trait components associated with sense of self

In a multiple regression model, the five Dark Triad trait components (e.g., grandiose narcissism, vulnerable narcissism, primary psychopathy, secondary psychopathy, Machiavellianism) together predicted having a weak sense of self, $R^2 = 0.61, F(5, 256) = 79.45, p < .001$. Secondary (i.e., impulsive, neurotic) psychopathy was the strongest predictor of a weak sense of self, $\beta = -0.68, t(256) = -9.67, p < .001, sr^2 = 0.14$. Vulnerable narcissism was the second-highest predictor of a weak sense of self, $\beta = -0.22, t(256) = -4.18, p < .001, sr^2 = 0.03$. Notably, however, grandiose narcissism was a marginally significant positive predictor of a Sense of Self in the combined model, $\beta = 0.09, t(256) = 1.88, p = .06$. Finally, Machiavellianism and primary psychopathy were not significant predictors of sense of self in the combined model.

3.2.2. Dark Triad components associated with self-concept clarity

As expected, the five Dark Triad scales also predicted having low self-concept clarity in a combined model, $R^2 = 0.59, F(5, 256) = 73.75, p < .001$. Secondary psychopathy was the strongest predictor of low self-concept clarity, $\beta = -0.69, t(256) = -9.66, p < .001, sr^2 = 0.15$. Vulnerable narcissism was also a significant predictor of low self-concept clarity, $\beta = -0.12, t(256) = -2.23, p = .03, sr^2 = 0.01$. However, in the combined model, grandiose narcissism was a weak but significant predictor of higher self-concept clarity, $\beta = 0.14, t(256) = 2.78, p = .01, sr^2 = 0.01$. Finally, Machiavellianism and primary psychopathy were not significant predictors of self-concept clarity in the model.

It is important to note that, in the zero-order analyses, grandiose narcissism was correlated with a weaker sense of self and lower self-concept clarity. However, when we accounted for the shared variance of the Dark Triad trait components in our multiple regression models, grandiose narcissism emerged as predictor of a stronger sense of self and greater self-concept clarity. To help explain these findings, we examined the three-factor structure of the NPI-40, which separates items into one adaptive outcome factor (Leadership/Authority) and two maladaptive outcome factors (Grandiose Exhibitionism and Entitlement/Exploitativeness) (Ackerman et al., 2011).

⁷ The five scales did not violate multicollinearity assumptions when we applied a conservative variance inflation factor cutoff of 5.00 (Thompson, Kim, Aloe, & Becker, 2017).

3.2.3. Exploring the anomalous effects of leadership/authority

3.2.3.1. Zero-order correlation analyses. In the zero-order correlation analyses, Leadership/Authority was not significantly correlated with sense of self or self-concept clarity. However, Grandiose Exhibitionism and Entitlement/Exploitativeness were negatively related to a weaker sense of self ($r = -0.25, p < .001, r = -0.38, p < .001$, respectively) and lower self-concept clarity ($r = -0.22, p < .001, r = -0.37, p < .001$, respectively). These correlations were similar in men and women despite replicating sex differences in Grandiose/Exhibitionism, ($t[296] = 2.94, p = .004, d = 0.39$), Leadership/Authority ($t[244.82] = 4.09, p = .02, d = -0.32$), and Entitlement/Exploitativeness ($t[296] = 2.34, p = .001, d = -0.32$). Moreover, sex moderated the association between the Leadership/Authority and Grandiose Exhibitionism components of grandiose narcissism and self-concept clarity. Similarly, sex moderated the association between the Leadership/Authority and Grandiose Exhibitionism components of grandiose narcissism and sense of self (Table 3). Interestingly, in men, higher levels of these two components of grandiose narcissism were significantly associated with a weaker sense of self and lower self-concept clarity.

3.2.3.2. Multiple regression analyses. The results of the multiple regression analyses further clarified how the components of grandiose narcissism were related to strength of sense of self and self-concept clarity. In two separate regression models, we examined the components of grandiose narcissism as predictors of strength of sense of self and self-concept clarity. In the first model, the three factors collectively predicted a weak sense of self, $R^2 = 0.19, F(3, 258) = 20.56, p < .001$. When viewed in terms of their individual contributions, however, Leadership/Authority predicted a *strong* sense of self ($\beta = 0.23, t(258) = 3.11, p = .002, sr^2 = 0.03$), whereas Grandiose Exhibitionism ($\beta = -0.28, t(258) = -3.76, p < .001, sr^2 = 0.04$) and Entitlement/Exploitativeness ($\beta = -0.37, t(258) = -6.13, p < .001, sr^2 = 0.12$) predicted a *weak* sense of self.

Similar to the first model, the three factors collectively predicted low self-concept clarity in the second model, $R^2 = 0.19, F(3, 258) = 20.61, p < .001$. Individually, however, Leadership/Authority predicted *higher* self-concept clarity ($\beta = 0.28, t(258) = 3.77, p < .001, sr^2 = 0.04$), whereas Grandiose Exhibitionism ($\beta = -0.28, t(258) = -3.83, p < .001, sr^2 = 0.05$) and Entitlement/Exploitativeness ($\beta = -0.37, t(258) = -6.19, p < .001, sr^2 = 0.12$) predicted *lower* self-concept clarity.

3.2.4. Summary of the findings of study 2

The results obtained from Study 2 extended the findings from Study 1. Although the initial zero-order correlations had revealed that all of the Dark Triad traits were correlated with a weak sense of self and low self-concept clarity, the results of the multiple regression models revealed that only secondary psychopathy and vulnerable narcissism were correlates of both a weaker sense of self and lower self-concept clarity. These more nuanced regression findings suggest that the variance in the Dark Triad core that overlaps with a weak sense of self and low self-concept clarity is accounted for primarily by secondary psychopathy and vulnerable narcissism. Another interesting finding from the multiple regression analysis is that, in contrast to vulnerable narcissism, Leadership/Authority components of grandiose narcissism emerged as a predictor of a *stronger* sense of self and *higher* self-concept clarity.

4. General discussion

The main purpose of the current study was to examine the self-concept in individuals with Dark Triad traits. We hypothesized that Dark Triad traits should be related to a weaker and more unstable sense of self. We tested this hypothesis in two studies, using a student sample in Study 1 and a more diverse community sample in Study 2. Our

findings revealed a picture of the self-concept of individuals with Dark Triad traits that can be interpreted within the context of existing theory and research.

In Study 1, we found evidence that a weak and uncertain self-concept is characteristic of individuals with higher levels of the Dark Triad traits. Moreover, we found that individuals with higher Dark Triad traits have more state-related self-concepts and fewer trait-related self-concepts, a pattern which reflects the short-term thinking of people with Dark Triad traits and their reduced access to their own personality traits. However, this effect was not uniquely attributable to any one of the dimensions of the Dark Triad. Rather, this relationship was a function of the total, or core, Dark Triad variance.⁸

In Study 2, we expanded these findings by using more nuanced measures of the Dark Triad trait and their respective subcomponents. The results indicated that not all subcomponents of the Dark Triad are equally predictive of weaker and more uncertain self-concepts. Although virtually all of the subcomponents were significantly associated with a weaker sense of self and less self-concept clarity in the zero-order correlation data, we were able to detect more fine-grained differences in subsequent multiple regression models in which we controlled for shared variance.

In these multiple regression models, vulnerable narcissism and secondary psychopathy emerged as significant predictors of a weak sense of self and low self-concept clarity. With regard to grandiose narcissism, the Grandiose Exhibitionism and Entitlement/Exploitativeness subcomponents were significant predictors of a weaker sense of self and lower self-concept clarity, whereas the Leadership/Authority subcomponent was the only significant predictor in the dataset of a stronger sense of self and greater self-concept clarity. These contrasting findings are reminiscent of those reported by previous researchers (e.g., Ackerman et al., 2011), who found the Leadership/Authority factor to be positively correlated with higher self-esteem, higher self-control, a greater self-awareness (Watson & Biderman, 1993), but negatively correlated with impulsive psychopathy and Machiavellianism.

According to Barry, Frick, and Killian (2003), the Leadership/Authority component of grandiose narcissism might be seen as *adaptive narcissism* because it captures psychological resilience and social potency of narcissism. In contrast, the Grandiose Exhibitionism and Entitlement/Exploitativeness components are both negatively correlated with self-control but positively correlated with impulsive psychopathy and Machiavellianism. In fact, individuals with higher levels of these *maladaptive narcissism* (Barry et al., 2003) components are more likely to be self-conscious (Watson & Biderman, 1993), possess lower self-esteem (Brown, Budzek, & Tamborski, 2009), exhibit lower levels of empathy and social desirability (Watson, Grisham, Trotter, & Biderman, 1984; Watson, Little, Sawrie, & Biderman, 1992; Watson & Morris, 1991), and show increased mood variability and emotional intensity (Emmons, 1987), and neuroticism (Emmons, 1984).

Interestingly, our Study 2 results can be interpreted within two different theoretical frameworks: The Vulnerable Dark Triad model (Miller et al., 2010) and the life strategy approach (McDonald et al.,

⁸ In order to be able to compare the results across the two studies, we also measured the Dark Triad traits using the Dirty Dozen Scale (P.K. Jonason & Webster, 2010) (see Table 2). The basic association between the sense of self scale and the Dirty Dozen composite score was substantially weaker in Study 1 ($r = -0.25$) than in Study 2 ($r = -0.61$). This difference can be explained by the fact that the Study 2 sample was obtained using Mturk ($M_{age} = 37.73$), whereas the Study 1 sample was obtained from a younger and more age-restricted college population ($M_{age} = 20.01$). Previous research has shown that self-concept clarity and strength of sense of self tend to increase (Campbell et al., 1996), whereas Dark Triad traits tend to decrease (e.g., Barlett & Barlett, 2015), as people get older. Thus, the stronger negative zero-order correlation between sense of self and the composite Dark Triad score in Study 2 can likely be attributed to the demographic differences between the Study 1 and Study 2 samples.

2012). However, it appears that The Vulnerable Dark Triad model best explains the findings of the present study, as the following discussion indicates.

4.1. Vulnerable Dark Triad model

Our Study 2 results revealed that secondary psychopathy and vulnerable narcissism are the only components of the Dark Triad traits that significantly predicted weaker sense of self and lower self-concept clarity. Consistent with these results, the Vulnerable Dark Triad model, proposed by Miller et al. (2010) specifically focuses on secondary psychopathy and vulnerable narcissism—both of which share overlapping symptoms with Borderline Personality Disorder (Miller et al., 2010) and with having an unstable self-concept (e.g., Casale, Rugai, Fioravanti, & Puccetti, 2018; Sellbom, Cooke, & Hart, 2015). Moreover, these two personality constructs are also related to increased psychological distress and dysfunction, such as suicidality (Miller & Campbell, 2008; Verona, Patrick, & Joiner, 2001), higher negative affect, lower self-esteem (Pincus et al., 2009; Witt & Donnellan, 2008), and insecure attachment style (Smolewska & Dion, 2005)—all of which have all been connected to a weak sense of self.

Taken together, these findings present the Vulnerable Dark Triad as an alternative to the Dark Triad that is psychologically unhealthy in all respects—and one that does not include the positive leavening of a grandiose narcissism factor such as Leadership/Authority. Moreover, because the Vulnerable Dark Triad is significantly related to higher neuroticism, lower agreeableness (Miller & Campbell, 2008; Miller, Gaughan, & Pryor, 2008; Samuel & Widiger, 2008), and lower self-esteem (Miller et al., 2010), it would not surprise us if future research reveals that the Vulnerable Dark Triad better represents the weak and pathological core that it shares with the Dark Triad traits.

4.2. The life strategy approach

Our Study 2 findings can also, to some extent, be interpreted within the life strategy approach framework (Figueredo et al., 2006; Jonason & Tost, 2010). We originally proposed that a weak sense of self should be associated with pursuing a fast life strategy approach. From this perspective, a weak and unstable sense of self in individuals with increased Dark Triad traits could be an evolutionary response to their need be flexible in order to achieve their fast life strategy goals within an ever-changing social environment.

Our Study 2 findings also overlap with those of McDonald et al. (2012) in showing that Dark Triad trait components that indicate a lack of self-control (e.g., secondary psychopathy and Entitlement/Exploitativeness) are associated not only with a fast life strategy but with a weaker sense of self and lower self-concept clarity as well. In contrast, the Dark Triad trait component that indicates a higher level of self-control (Leadership/Authority) is not only associated with a slow life strategy but with a stronger sense of self and greater self-clarity. Note, however, that the results for Machiavellianism are less amenable to a fast versus slow life strategy interpretation, because people who score high in Machiavellianism exhibit both a high level of self-control in formulating and carrying out their plans and a low level of self-control in pursuing goals that promise short-term gratification at the expense of long-term potential costs.

4.3. Strengths, limitations, and future directions

The present investigation has a number of notable strengths. First, to our knowledge, our current investigation was the first to examine associations between the various components of the Dark Triad traits and strength of sense of self and self-concept clarity. Second, in Study 1, we found conceptually similar patterns of association between the Dirty Dozen measure of the Dark Triad and the differential use of state-related versus trait-related self-concept content. Third, we found evidence in

Study 2 which suggests that the Vulnerable Dark Trait model (Miller et al., 2010) does a better job than the original Dark Triad model of capturing the weak, unstable, and uncertain concept of self that lies at the core of the Dark Triad. Fourth, in the spirit of recent efforts to encourage the use of behavioral measures in personality and social psychological research (Baumeister, Vohs, & Funder, 2007), we included a “behavioroid,” rater-assessed measure of the participants’ tendency to provide trait-related versus state-related spontaneous self-descriptions.

First, the present investigation was limited by its cross-sectional design. The Study 1 sample was obtained from a young, college population whereas the Study 2 sample was obtained from a more demographically diverse population via Mturk. Previous research has shown that younger individuals have lower self-concept clarity and strength of sense of self (Campbell et al., 1996), but higher levels of Dark Triad traits (Barlett & Barlett, 2015). Accordingly, one possible reason for some of the observed inconsistencies across the two studies, such as the strength of relationship between the Dirty Dozen composite score and the Sense of Self Scale, is the demographic differences between our samples. Future studies should employ a longitudinal design to identify changes in the clarity, strength, consistency, and stability of self-concept content over time, and to explore the extent to which age-related changes affect aspects of the self in relation to the Dark Triad personality traits.

Second, future studies are needed to replicate our findings across different cultures and, ideally, with the use of different methods (e.g., informant reports, interviews, neuro-imaging methods).⁹ Third, the measures we used to test the stability versus flexibility of the self were not focused on particular domains of the self-concept. However, individuals with increased Dark Triad traits might prove to be relatively stable in certain aspects of their self-concepts, (e.g., their desire for power or status), but to be relatively unstable in others (e.g., their identity). Future research is encouraged to expand on this idea and to test the extent to which the associations in this study may extend to behaviors that are relatively stable (e.g., willfulness, putting one’s own needs first) versus behaviors that are relatively unstable (e.g., ones that are the product of impulsive, state-based decision-making, such as gambling, unsafe sexual behaviors, and sudden changes in one’s careers or one’s personal relationships).

CRedit authorship contribution statement

Stephen M. Doerfler: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Visualization, Writing – original draft. **Maryam Tajmiriyahi:** Data curation, Investigation, Writing – original draft. **William Ickes:** Methodology, Supervision, Writing – review & editing. **Peter K. Jonason:** Writing – review & editing.

References

- Ackerman, R. A., Witt, E. A., Donnellan, M. B., Trzesniewski, K. H., Robins, R. W., & Kashy, D. A. (2011). What does the narcissistic personality inventory really measure? *Assessment, 18*, 67–87.
- Barlett, C. P. (2016). Exploring the correlations between emerging adulthood, Dark Triad traits, and aggressive behavior. *Personality and Individual Differences, 101*, 293–298.
- Barlett, C. P., & Barlett, N. D. (2015). The young and the restless: Examining the relationships between age, emerging adulthood variables, and the Dark Triad. *Personality and Individual Differences, 86*, 20–24.
- Barry, C. T., Frick, P. J., & Killian, A. L. (2003). The relation of narcissism and self-esteem to conduct problems in children: A preliminary investigation. *Journal of Clinical Child and Adolescent Psychology, 32*, 139–152.

⁹ For example, neuroimaging studies have found that narcissists have decreased cortical volume in regions of the brain responsible for self-knowledge (e.g., Mao et al., 2016). Future research is encouraged to examine differences in the narcissistic brain during self-concept retrieval, and in the Machiavellian and psychopathic brain as well.

- Baumeister, R. F., Vohs, K. D., & Funder, D. C. (2007). Psychology as the Science of Self-Reports and Finger Movements: Whatever Happened to Actual Behavior? *Perspectives on Psychological Science*, 2, 396–403.
- Bechtoldt, M. N., De Dreu, C. K. W., Nijstad, B. A., & Zapf, D. (2010). Self-concept clarity and the management of social conflict. *Journal of Personality*, 78, 539–574.
- Blackburn, R. (1996). Psychopathy and personality disorder: Implications of interpersonal theory. *Issues in Criminological and Legal Psychology*, 24, 18–23.
- Briere, J., & Runtz, M. (2002). The inventory of altered self-capacities (IASC). *Assessment*, 9, 230–239.
- Brown, R. P., Budzek, K., & Tamborski, M. (2009). On the meaning and measure of narcissism. *Personality and Social Psychology Bulletin*, 35, 951–964.
- Bugental, J. F. T., & Zelen, S. L. (1950). Investigations into the “self-concept” I. The W-A-Y technique. *Journal of Personality*, 18, 483–498.
- Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavallee, L. F., & Lehman, D. R. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology*, 70, 141–156.
- Casale, S., Rugai, L., Fioravanti, G., & Puccetti, C. (2018). Narcissism and authentic self: An unfeasible marriage? *Personality and Individual Differences*, 135, 131–136.
- Charlesworth, L. A., Allen, R. J., Havelka, J., & Moulin, C. J. (2016). Who am I? Autobiographical retrieval improves access to self-concepts. *Memory*, 24, 1033–1041.
- Christie, R., & Geis, F. (1970). *Studies in Machiavellianism*. Academic Press.
- Cooke, D. J., & Logan, C. (2018). Capturing psychopathic personality: Penetrating the mask of sanity through clinical interview. In C. J. Patrick (Ed.), *The handbook of psychopathy* (2 ed., pp. 189–210). Guilford Press.
- Cuperman, R., Robinson, R. L., & Ickes, W. (2014). On the malleability of self-image in individuals with a weak sense of self. *Self and Identity*, 13, 1–23.
- Emmons, R. A. (1984). Factor analysis and construct validity of the Narcissistic Personality Inventory. *Journal of Personality Assessment*, 48, 291–300.
- Emmons, R. A. (1987). Narcissism: Theory and measurement. *Journal of Personality and Social Psychology*, 52, 11–17.
- Falkenbach, D., Poythress, N. G., & Creevy, C. (2008). The exploration of subclinical psychopathic subtypes and the relationship with types of aggression. *Personality and Individual Differences*, 44, 821–832.
- Figueredo, A. J., Vásquez, G., Brumbach, B. H., Schneider, S. M. R., Sefcek, J. A., Tal, I. R., ... Jacobs, W. J. (2006). Consilience and Life History Theory: From genes to brain to reproductive strategy. *Developmental Review*, 26, 243–275.
- Flury, J. M., & Ickes, W. (2007). Having a weak versus strong sense of self: The Sense of Self Scale (SOSS). *Self and Identity*, 6, 281–303.
- Forsyth, D. R., Banks, G. C., & McDaniel, M. A. (2012). A meta-analysis of the Dark Triad and work behavior: A social exchange perspective. *Journal of Applied Psychology*, 97, 557.
- Fox, J., & Rooney, M. C. (2015). The dark triad and trait self-objectification as predictors of men's use and self-presentation behaviors on social networking sites. *Personality and Individual Differences*, 76, 161–165.
- Fuchs, T. (2007). Fragmented selves: Temporality and identity in Borderline Personality Disorder. *Psychopathology*, 40, 379–387.
- Fukushima, O., & Hosoe, T. (2011). Narcissism, variability in self-concept, and well-being. *Journal of Research in Personality*, 45, 568–575.
- Gordon, C. (1968). Self-conceptions: Configurations of content. In C. Gordon, & K. Gergen (Eds.), *The self in social interaction* (pp. 115–136). Wiley.
- Gunderson, J. G. (1984). *Borderline personality disorder*. American Psychiatric Press.
- Gunderson, J. G., Herpertz, S. C., Skodol, A. E., Torgersen, S., & Zanarini, M. C. (2018). Borderline personality disorder. *Nature Reviews Disease Primers*, 4, 1–20.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press.
- Hendin, H. M., & Cheek, J. M. (1997). Assessing hypersensitive narcissism: A reexamination of Murray's Narcissism Scale. *Journal of Research in Personality*, 31, 588–599.
- Hicks, B. M., Markon, K. E., & Patrick, C. J. (2004). Identifying psychopathy subtypes based on personality structure. *Psychological Assessment*, 16, 276–288.
- Ickes, W., Park, A., & Johnson, A. (2012). Linking identity status to strength of sense of self: Theory and validation. *Self and Identity*, 11, 531–544.
- Jonason, P. K., Koenig, B. L., & Tost, J. (2010). Living a fast life: The Dark Triad and life history theory. *Human Nature*, 21, 428–442.
- Jonason, P. K., Li, N. P., Webster, G. W., & Schmitt, D. P. (2009). The Dark Triad: Facilitating short-term mating in men. *European Journal of Personality*, 23, 5–18.
- Jonason, P. K., Luévano, V. X., & Adams, H. M. (2012). How the Dark Triad traits predict relationship choices. *Personality and Individual Differences*, 53, 180–184.
- Jonason, P. K., & Tost, J. (2010). I just cannot control myself: The Dark Triad and self-control. *Personality and Individual Differences*, 49, 611–615.
- Jonason, P. K., & Webster, G. D. (2010). The dirty dozen: A concise measure of the Dark Triad. *Psychological Assessment*, 22, 420–432.
- Kaufman, S., Weiss, B., Miller, J., & Campbell, W. K. (2018). Clinical correlates of vulnerable and grandiose narcissism: A personality perspective. *Journal of Personality Disorders*, 34(1), 107–130.
- Kemberg, O. (1975). *Borderline conditions and pathological narcissism*. Jason Aronson.
- Kreisman, M. D., & Straus, H. (1989). *I hate you—don't leave me: Understanding the borderline personality disorder*. Avon Books.
- Láng, A. (2015). Borderline personality organization predicts Machiavellian interpersonal tactics. *Personality and Individual Differences*, 80, 28–31.
- Lee, K., Ashton, M. C., Wiltshire, J., Bourdage, J. S., Visser, B. A., & Gallucci, A. (2013). Sex, power, and money: Prediction from the Dark Triad and Honesty-Humility. *European Journal of Personality*, 27, 169–184.
- Levenson, M. R., Kiehl, K. A., & Fitzpatrick, C. M. (1995). Assessing psychopathic attributes in a noninstitutionalized population. *Journal of Personality and Social Psychology*, 68, 151–158.
- Mao, Y., Sang, N., Wang, Y., Hou, X., Huang, H., Wei, D., Zhang, J., & Qiu, J. (2016). Reduced frontal cortex thickness and cortical volume associated with pathological narcissism. *Neuroscience*, 328, 50–57.
- Maples, J. L., Lamkin, J., & Miller, J. D. (2014). A test of two brief measures of the Dark Triad: The dirty dozen and the short Dark Triad. *Psychological Assessment*, 26, 326–331.
- Markus, H. (1977). Self-schemata and processing information about the self. *Journal of Personality and Social Psychology*, 35, 63–78.
- McDonald, M. M., Donnellan, M. B., & Navarrete, C. D. (2012). A life history approach to understanding the Dark Triad. *Personality and Individual Differences*, 52, 601–605.
- Miller, J. D., & Campbell, W. K. (2008). Comparing clinical and social-personality conceptualizations of narcissism. *Journal of Personality*, 76, 449–476.
- Miller, J. D., Dir, A., Gentile, B., Wilson, L., Pryor, L. R., & Campbell, W. K. (2010). Searching for a vulnerable dark triad: Comparing Factor 2 psychopathy, vulnerable narcissism, and borderline personality disorder. *Journal of Personality*, 78, 1529–1564.
- Miller, J. D., Gaughan, E. T., & Pryor, L. R. (2008). The Levenson self-report psychopathy scale: An examination of the personality traits and disorders associated with the LSRP factors. *Assessment*, 15, 450–463.
- Miller, J. D., Hoffman, B. J., Gaughan, E. T., Gentile, B., Maples, J., & Campbell, W. K. (2011). Grandiose and vulnerable narcissism: A nomological network analysis. *Journal of Personality*, 79, 1013–1042.
- Morf, C. C., & Rhodewalt, F. (2001). Unraveling the paradoxes of narcissism: A dynamic self-regulatory processing model. *Psychological Inquiry*, 12, 177–196.
- Morf, C. C., & Rhodewalt, F. (2001). Expanding the dynamic self-regulatory processing model of narcissism: Research directions for the future. *Psychological Inquiry*, 12, 243–251.
- Muris, P., Merckelbach, H., Otgaar, H., & Meijer, E. (2017). The malevolent side of human nature: A meta-analysis and critical review of the literature on the dark triad (narcissism, Machiavellianism, and psychopathy). *Perspectives on Psychological Science*, 12, 183–204.
- Newman, J. P., MacCoon, D. G., Vaughn, L. J., & Sadeh, N. (2005). Validating a distinction between primary and secondary psychopathy with measures of Gray's BIS and BAS constructs. *Journal of Abnormal Psychology*, 114, 319.
- Paulhus, D. L., & Williams, K. M. (2002). The Dark Triad of personality: Narcissism, Machiavellianism and psychopathy. *Journal of Research in Personality*, 36, 556–563.
- Pincus, A. L., Ansell, E. B., Pimentel, C. A., Cain, N. M., Wright, A. G. C., & Levy, K. N. (2009). Initial construction and validation of the Pathological Narcissism Inventory. *Psychological Assessment*, 21(3), 365–379.
- Raskin, R., & Terry, H. (1988). A principal-components analysis of the Narcissistic Personality Inventory and further evidence of its construct validity. *Journal of Personality and Social Psychology*, 54, 890–902.
- Rentsch, J. R., & Heffner, T. S. (1994). Assessing self-concept: Analysis of Gordon's coding scheme using “Who Am I?” responses. *Journal of Social Behavior and Personality*, 9, 283–300.
- Rhodewalt, F. (2012). Contemporary perspectives on narcissism and the narcissistic personality type. In M. R. Leary, & J. P. Tangney (Eds.), *Handbook of self and identity* (2nd ed, pp. 571–586). Guilford Press.
- Rhodewalt, F., Madrian, J. C., & Cheney, S. (1998). Narcissism, self-knowledge organization, and emotional reactivity: The effect of daily experiences on self-esteem and affect. *Personality and Social Psychology Bulletin*, 24, 75–87.
- Samuel, D. B., & Widiger, T. A. (2008). A meta-analytic review of the relationships between the five-factor model and DSM-IV-TR personality disorders: A facet level analysis. *Clinical Psychology Review*, 28, 1326–1342.
- Sellbom, M., Cooke, D. J., & Hart, S. D. (2015). Construct validity of the Comprehensive Assessment of Psychopathic Personality (CAPP) concept map: Getting closer to the core of psychopathy. *International Journal of Forensic Mental Health*, 14, 172–180.
- Smolewska, K., & Dion, K. L. (2005). Narcissism and adult attachment: A multivariate approach. *Self and Identity*, 4, 59–68.
- Steffgen, G., Da Silva, M., & Recchia, S. (2007). Self-concept clarity scale (SCSS): Psychometric properties and aggression correlates of a German version. *Individual Differences Research*, 5, 230–245.
- Stucke, T. S., & Sporer, S. L. (2002). When a grandiose self-image is threatened: Narcissism and self-concept clarity as predictors of negative emotions and aggression following ego-threat. *Journal of Personality*, 70, 509–532.
- Thompson, C. G., Kim, R. S., Aloe, A. M., & Becker, B. J. (2017). Extracting the variance inflation factor and other multicollinearity diagnostics from typical regression results. *Basic and Applied Social Psychology*, 39, 81–90.
- Vaughn, M. G., Edens, J. F., Howard, M. O., & Smith, S. T. (2009). An investigation of primary and secondary psychopathy in a statewide sample of incarcerated youth. *Youth Violence and Juvenile Justice*, 7, 172–188.
- Vernon, P. A., Villani, V. C., Vickers, L. C., & Harris, J. A. (2008). A behavioral genetic investigation of the Dark Triad and the Big 5. *Personality and Individual Differences*, 44, 445–452.
- Verona, E., Patrick, C. J., & Joiner, T. E. (2001). Psychopathy, antisocial personality, and suicide risk. *Journal of Abnormal Psychology*, 110, 462–470.
- Watson, P. J., & Biderman, M. D. (1993). Narcissistic Personality Inventory factors, splitting and self-consciousness. *Journal of Personality Assessment*, 61, 41–57.
- Watson, P. J., Grisham, S. O., Trotter, M. V., & Biderman, M. D. (1984). Narcissism and empathy: Validity evidence for the Narcissistic Personality Inventory. *Journal of Personality Assessment*, 48, 301–305.

- Watson, P. J., Little, T., Sawrie, S. M., & Biderman, M. D. (1992). Measures of the narcissistic personality: Complexity of relationships with self-esteem and empathy. *Journal of Personality Disorders, 6*, 434–449.
- Watson, P. J., & Morris, R. J. (1991). Narcissism, empathy and social desirability. *Personality and Individual Differences, 12*, 575–579.

- Wilson, E. O. (1975). *Sociobiology: The new synthesis*. Harvard University Press.
- Witt, E. A., & Donnellan, M. B. (2008). Furthering the case for the MPQ-based measures of psychopathy. *Personality and Individual Differences, 45*, 219–225.