Dissertation im Fach Psychologie

mit dem Titel

Die dunkle Triade der Persönlichkeit:

Konzept, Fähigkeiten und erfolgreiches Verhalten

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Zusammenfassung

Die dunkle Triade der Persönlichkeit (D3) – Psychopathie, Machiavellismus und Narzissmus – ist eine Gruppierung von sozial-aversiven Persönlichkeitsmerkmalen. Im Zentrum der vorliegenden Dissertation stehen drei Leitfragen: (a) kovariieren die Konstrukte der dunklen Triade mit emotionalen und kognitiven Fähigkeiten, (b) wie steht die D3 mit verschiedenen Erfolgskriterien in Beziehung und (c) wie ordnet sich die dunkle Triade in bestehende Persönlichkeitskonzeptualisierungen ein und ist eine konzeptuelle Erweiterung der dunklen Triade um die Komponente Sadismus sinnvoll?

Im Rahmen der Dissertation wurde den drei Fragen durch insgesamt sieben Einzelstudien nachgegangen. Ob D3-Personen über besondere Fähigkeiten verfügen, wurde geprüft durch zwei Metaanalysen zum Zusammenhang mit allgemeiner Intelligenz (Studie 1) und emotionaler Intelligenz (Studie 2). Bezüglich der Bedeutung der D3 für das Erreichen unterschiedlicher Erfolgskriterien wurden Studien zum Zusammenhang mit Lügenfähigkeit (Studie 3), zum Zusammenhang zum Lösen von sozialen Aufgaben und dem Verhalten im Gefangenendilemma (Studie 4) und zum typologischen Ansatz für das Merkmal Psychopathie mit dem Fokus auf das Erreichen von unterschiedlichen Erfolgskriterien (Studie 5) durchgeführt. Außerdem erfolgte ein systematischer Literaturreview zur Adaptivität der D3 im Arbeitskontext (Studie 6). Abschließend erfolgt eine konzeptuelle Würdigung der D3 am Beispiel einer Metaanalyse zum Zusammenhang der D3 mit Sadismus sowie einer empirischen Überprüfung der theoretisch angenommenen Struktur der D3 unter zusätzlichem Einbezug von Sadismus (Studie 7).

Für den Bereich der Zusammenhänge zu Fähigkeiten und Erfolgskriterien zeigen sich überwiegend schwache, tendenziell negative Beziehungen. Psychopathie, Machiavellismus und Narzissmus scheinen leicht maladaptive Verhaltens- und Erlebensdisposition darzustellen. In der Gesamtschau zeigt sich für die D3 allerdings, dass eine Erweiterung um Sadismus nicht angemessen erscheint und grundsätzliche Probleme bezüglich Theorie und Messung teils noch ungelöst bleiben. Es wird empfohlen die dunkle Triade zukünftig nicht als zusammengehörenden Verbund zu untersuchen. Der Begriff "dunkle Triade" sollte keine Anwendung mehr finden.

Inhaltsverzeichnis

1. Einleitung

Die *dunkle Triade* der Persönlichkeit (D3) ist eine von Paulhus und Williams (2002) angeregte, übergeordnete Bezeichnung für drei Persönlichkeitsmerkmale, die als sozial-aversiv aufgefasst werden: Psychopathie, Machiavellismus und Narzissmus. Obwohl alle drei Konstrukte im Einzelnen jeweils seit einigen Jahrzehnten beforscht wurden, kam es seit der Einführung dieses Zusammenschluss zu einer bedeutsamen Steigerung an Forschungsaktivitäten und daraus resultierenden Veröffentlichungen. Die D3 gilt seitdem als die mit populärste Konzeptualisierung von aversiven Verhaltensdispositionen in der Persönlichkeitspsychologie, deren Wurzeln aber mitunter auch in der Rechtspsychologie und Klinischen Psychologie liegen. Für jedes der Merkmale liegen wiederum auch unterschiedliche Konzeptualisierungen und teils darauf basierende Operationalisierungen vor – gleichzeitig gibt es starke konzeptuelle (und empirische) Überlappungen, aber auch klare Unterschiede zwischen den drei Merkmalen.

Die dunkle Triade ist eine Konstruktgruppe, die über die psychologische Forschung hinaus auch im Bereich der populärwissenschaftlichen Literatur besondere Berücksichtigung gefunden hat in bekannteren Werken wie „Snakes in suits: When psychopaths go to work" (Babiak et al., 2006). Sie wird aber auch von nicht-wissenschaftlichen Medien regelmäßig thematisiert in Artikeln wie „Know The ‚Dark Triad' To Prevent Workplace Chaos" (Sarkis, 2019) und „Why Bad Guys Win at Work" (Chamorro-Premuzic, 2015). Darüber hinaus treten regelmäßig fiktive Persönlichkeiten in der Film- und Fernsehlandschaft auf, bei welchen Verhaltensweisen dargestellt werden, die als typisch für hohe D3-Ausprägungen gelten können. Letzteres wird zum Anlass genommen, um sich mit fiktiven Wesen aus der Popkultur auch wissenschaftlich-psychologisch auseinanderzusetzen, z.B. im (Fach-)Artikel „The antihero in popular culture: Life history theory and the dark triad personality traits." (Jonason et al., 2012).

Diese über die Grenzen der psychologischen Forschung hinausgehende „Popularität" der dunklen Triade mag eine Ursache dafür darstellen, dass bestimmte Annahmen bezüglich möglicher Fähigkeiten von D3-Personen[1] bestehen. Sozial-

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[1] Im Folgenden werden Personen mit hohen Ausprägungen auf wenigstens einem der Merkmale der dunklen Triade vereinfachend als „D3-Personen" bezeichnet.

aversive Personen werden wahrgenommen entweder als überschaubar elaborierte Kriminelle, aber häufig auch als hochgradig effiziente, manipulativ-versierte „predators" (Hare, 1993, p. xi). Handelt es sich dabei um einen psychologischen Stereotyp, ähnlich dem scheinbaren Mangel an sozialen Fertigkeiten der Hochbegabten zugeschrieben wird (Solano, 1987) oder verfügen D3-Personen tatsächlich über besondere Fähigkeiten, die sie dazu befähigen bestimmte Verhaltensergebnisse zu erzielen, sodass sie als „erfolgreich" bezeichnet werden könnten?[2]

Die vorgelegte Arbeit stellt eine Zusammenstellung von Einzelstudien dar, die sich um die Frage der Akkuratheit dieses möglichen Stereotyps drehen und sich ebenso auf konzeptuelle Aspekte der D3 beziehen. Während im Theoretischen Hintergrund (Kapitel 2) zunächst die Konzepte der dunklen Triade im Kontext der Persönlichkeitspsychologie erläutert werden, werden anschließend die Annahmen verschiedener Autoren zu sozialen, emotionalen und kognitiven Fähigkeiten und dem Erreichen von Erfolgskriterien in Bezug auf D3-Personen zusammengetragen. Letztere werden dann hinsichtlich ihrer theoretischen Plausibilität und im Lichte der existierenden Empirie beurteilt. Basierend auf diesen Inhalten werden die drei Kernfragestellungen der vorliegenden Arbeit erläutert (Kapitel 3) und danach pro Fragestellung die Methoden vorgestellt, die zur jeweiligen Beantwortung herangezogen wurden (Kapitel 4). Anschließend werden die sieben Einzelstudien in ihrer Manuskriptfassung vorgestellt (Kapitel 5-11). Zuletzt werden die Ergebnisse zur Beantwortung der drei globalen Fragestellungen zusammengefasst (Kapitel 12) und die Ergebnisse werden in die psychologische Befundlage integriert und kritisch diskutiert (Kapitel 13).

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[2] Ebenfalls vereinfachend wird im Folgenden davon gesprochen, dass „D3-Personen sind…/neigen zu…" – damit sollen keine Mittelwertsvergleiche im Sinne eines kategorialen Merkmals (D3 hoch vs. niedrig) beschrieben werden, sondern eine grundsätzliche Tendenz der D3-Merkmale mit bestimmten anderen Variablen zu kovariieren.

2. Theoretischer Hintergrund

Im Folgenden wird zunächst sozial-aversives Verhalten allgemein erläutert. Anschließend werden die einzelnen Merkmale der dunklen Triade beschrieben, in Bezug auf die Triade-Zusammenführung erläutert und mit anderen ähnlichen Merkmalen verglichen. Danach werden die bestehenden Annahmen zur Adaptivität der D3 dargestellt und unter Bezugnahme auf theoretische Überlegungen und bisherige Empirie geprüft. Abschließend werden die zusammengetragenen Informationen zur Herleitung der Fragestellungen genutzt.

2.1 Interpersonell-aversives Verhalten

Zur Beschreibung der D3[3] wird immer wieder herangezogen, dass es sich dabei um „socially-aversive" (Paulhus & Jones, 2015, S. 563; Wai & Tiliopoulos, 2012, S. 794) oder interpersonell „antagonistic" (Miller et al., 2010, S. 1530) Verhaltensdispositionen handele. Eine bekanntere Bestandsaufnahme von sozial-aversiven Verhaltensweisen stammt von Kowalski (2001a), noch vor der „D3-Gründung": In mehreren Kapiteln werden verschiedene aversive Verhaltensweisen vorgestellt, wie etwa Grenzüberschreitungen, Beleidigungen, gemeines Necken und Gerüchte Verbreiten. Es sollte dabei auf alltägliche interpersonell-aversive Handlungen fokussiert werden und nicht auf seltene Akte der physischen Gewalt. Eine allgemeine Definition von aversivem Verhalten gestaltet sich schwierig, Kowalski (2001b, S. 7) definiert *„aversive interpersonal behaviors* as behaviors by another individual that are encoded by a target (i.e., victim) as stressful." Außerdem würden vier Variablen bestimmen, ob Verhalten Stress auslöse: „(a) the degree to which the behavior interferes with basic psychological needs for belongingness, control, and self-esteem maintenance; (b) the social confrontation involved in the behavior; (c) the inappropriateness of the behavior; and (d) the ambiguity characterizing the behavior." (S. 7-8). Diese sehr breite Definition ist insofern problematisch, dass eben auch Verhaltensweisen eingeschlossen werden, die

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[3] Es sei noch angemerkt, dass diese Arbeit bei der Erklärung von sozial-aversivem Verhalten lediglich auf dispositionelle Persönlichkeitseigenschaften Bezug nimmt und nicht auf Einflüsse der Situation (für die *Person-Situation-Debatte* siehe Kenrick & Funder, 1998). Auch neuere Ansätze der Situation-Person-Interaktion (Asendorpf, 2017) werden nicht thematisiert.

vom Akteur nicht stresserzeugend intendiert waren und dass Verhaltensweisen ausgeschlossen werden, die einem Ziel schaden, vom Ziel selbst aber so nicht wahrgenommen werden. Fraglich ist ebenso, ob Verhalten, das von manchen Personen als aversiv wahrgenommen wird, für andere Personen gleichzeitig aber wiederum Vorteile mit sich bringt, auch als nicht-aversiv interpretiert werden sollte.

Eine allgemeine Definition von sozial-aversivem Verhalten als Basis für entsprechend sozial-aversive oder „dunkle" Persönlichkeitsmerkmale erscheint unwahrscheinlich. Es sei bereits hier angemerkt, dass kein klares definitorisches Kriterium dafür existiert, was ein Persönlichkeitsmerkmal „dunkel" macht (Marcus & Zeigler-Hill, 2015; Moshagen et al., 2018; Paulhus & Jones, 2015). Diese durchaus problematische konzeptuelle Unschärfe wird primär in Kapitel 11 (Studie 7) diskutiert werden. Nichtsdestotrotz wird im Rahmen dieser Arbeit – angelehnt an Kowalskis Definition – vereinfachend der Begriff „sozial-aversiv" verwendet werden, um Persönlichkeitsmerkmale zu beschreiben, die Verhaltensweisen umfassen, die die Schädigung anderer implizieren oder von anderen als stressauslösend wahrgenommen werden.

2.2 Die dunkle Triade der Persönlichkeit

In diesem Abschnitt wird zunächst (als klassische sozial-aversive Verhaltensdispositionen) auf die einzelnen Merkmale der D3 eingegangen, anschließend auf die dunkle Triade als konzeptueller Überbau. Sadismus als Teil einer „dunklen Tetrade" wird ausgeführt, die Suche nach dem D3-/D4-Kern wird beschrieben und Aspekte der Messung der D3 werden erläutert.

2.2.1 Psychopathie

Psychopathie (P) ist eine Persönlichkeitseigenschaft, die vor allem auf Cleckley's *The Mask of Sanity* (1941) zurückgeht. Beruhend auf umfangreichen Kasuistiken zeichnete er das Bild von durchschnittlich bis überdurchschnittlich intelligenten Manipulatoren, die affektiv kühl, aber emotional stabil sind, nicht langfristig planen können, nicht psychotisch sind, dafür aber impulsiv und antisozial. Er formulierte 16 Psychopathie-Aspekte, die starke Überschneidungen mit heutigen P-Konzepten aufweisen und in empirischen Untersuchung überwiegend auch zumindest als Korrelate von P identifiziert wurden. Cleckley vertritt hier die Annahme, dass hinter einer Fassade

eines scheinbar psychologisch unauffälligen Funktionsniveaus tiefgreifende pathologische Persönlichkeitsstrukturen liegen:

> In the psychopath this is not seen. The observer is confronted with a convincing mask of sanity. All the outward features of this mask are intact; it cannot be displaced or penetrated by questions directed toward deeper personality levels. The examiner never hits upon the chaos sometimes found on searching beneath the outer surface of a paranoid schizophrenic. (S. 368)

Psychopathen wurden dem folgend auch lange als ein distinkter Persönlichkeits-Typ begriffen, der klar in der Klinischen/Forensischen Psychologie verortet ist. Als Standard-Modell in der Psychopathie-Konzeptualisierung gilt bis heute das *four-factor-model of psychopathy* (Hare, 1990; Hare & Neumann, 2006, Mokros et al., 2017). Dabei wird angenommen, dass Psychopathie durch vier hierarchisch untergeordnete Facetten beschrieben werden kann, die wiederum jeweils auf zwei übergeordneten Faktoren laden („Faktor 1" und „Faktor 2").[4] Psychopathie kann demnach beschrieben werden als ein Merkmal, das (a) eine Tendenz beschreibt zur interpersonellen Manipulation anderer durch glatten/oberflächlichen Charme und pathologisches Lügen und ein übersteigert hohes Selbstwertgefühl (Facette *Interpersonell*, zugehörig Faktor 1), (b) einen Mangel an allgemeiner Emotionalität, interpersonellem Affekt, Reue und persönlicher Verantwortungsübernahme (Facette *Affektiv*, zugehörig Faktor 1), (c) eine Unfähigkeit Langeweile zu ertragen sowie den eigenen Lebensunterhalt selbstständig zu ermöglichen, ein hohes Stimulationsbedürfnis, ein Mangel an realistischen Zielen, ein Hang zur Impulsivität (Facette *Lebenswandel*, zugehörig Faktor 2), (d) ein seit der Jugend allgemeiner Hang zur Kriminalität (Facette *Antisozial*, zugehörig Faktor 2) und (e) viele, wechselnde Beziehungen und Sexualpartner (keine Faktor-Zuordnung). Eng verbunden (und gleichzeitig konzeptprägend im Sinne einer *operationalen Definition*) ist das bekannteste Messverfahren, die *Psychopathy Checklist – Revised* (PCL-R; Hare,

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[4] Trotz konzeptueller und empirischer Überlappungen sind Faktor 1 und Faktor 2 nicht ohne weiteres gleichzusetzen mit dem Konzept der *primären* und *sekundären Psychopathie* (siehe Lykken, 1995; Skeem, et al., 2007 und auch Kapitel 9).

1990). Es handelt sich um ein umfangreiches Interviewverfahren für ein klinisch-forensisches Setting zur Fremdbeurteilung (siehe auch Kapitel 2.2.7).

Das Konzept der P ist ähnlich den Konzepten der *antisozialen Persönlichkeitsstörung* des DSM-5 (American Psychiatric Association, 2013) und der *dissozialen Persönlichkeitsstörung* des ICD-10 (World Health Organization, 1992), ist selbst jedoch nicht klar als eigenes Störungsbild aufgeführt, wenngleich der Psychopathie-Begriff dort teils auftaucht. Psychopathie ist damit ein Merkmal, welches immer wieder zumindest verbal in Beziehung gesetzt wird mit (klinischen) Kategorien (unterstützt auch von entsprechenden Cut-Off-Messmethoden) und teils auch kategorial diskutiert wird (Hare, 1996), aber meist als ein eigentlich dimensionales Merkmal aufgefasst wird (Edens et al., 2006; Mokros et al., 2017). Die Prävalenz einer ausgeprägten Psychopathie (siehe Kapitel 2.2.7) in der Bevölkerung bewegt sich nach den meisten Schätzungen im unteren einstelligen Prozentbereich (Mokros et al., 2017) und liegt damit in etwa bei denen von Persönlichkeitsstörungen (Fiedler, 2007) – im forensischen Kontext ist die Prävalenz wenig überraschend deutlich höher (Mokros et al., 2017). Während das four-factor-model eher beschreibenden Charakter hat hinsichtlich der Konfiguration sehr verschiedener Verhaltens- und Erlebensdispositionen, die aggregiert eine Art „Psychopathen-Prototyp" ergeben, werden auch theoretische Modelle der P diskutiert, die kausal-erklärende Faktoren für eben diese Manifestation bemühen, z.B. Furchtlosigkeit (Fowles & Dindo, 2006), eine mangelnde Fähigkeit zur Perspektivübernahme, eine maladaptiv hohe Ausprägung von Sensation Seeking oder ein unflexibles Muster an kognitiven Schemata, die die Ausbeutung Anderer legitimieren und perpetuieren (Blackburn, 2006).

Ein alternatives Modell der Psychopathie stellt das *three-factor model of psychopathy* von Cooke und Michie (2001), die kriminell-antisoziales Verhalten explizit ausklammern. Andere P-Modelle sind meist kombiniert mit entsprechend darauf basierenden Operationalisierungen, stehen inhaltlich jedoch meist nicht im wesentlichen Wiederspruch zum four-factor-model. Zu nennen ist etwa das *Triarchic Model of Psychopathy* (Patrick & Drislane, 2015), welches P durch die drei Facetten *disinhibition* (Impulsivität, mangelnde Emotionsregulation), *meanness* (Ausbeutung und Übermächtigung anderer, Verachtung, Mangel an Empathie) und *boldness* (Kühnheit, soziale Durchsetzungsfähigkeit) abbildet.

Besonderes Interesse erfuhren in Vergangenheit bestimmte Subtypen oder Varianten der Psychopathie. Beispielsweise ist der „corporate psychopath" – also eine hoch psychopathische Person, die im Arbeitskontext sozusagen ihr Unwesen treibt – Gegenstand von Einzelfallstudien (Babiak, 1995; Boddy, 2017), größerer empirischer Studien (Babiak et al., 2010) und Monographien (Babiak et al, 2006; Furnham, 2010) geworden. Ebenso der *erfolgreiche Psychopath* (successful psychopath), welcher – zwar hoch psychopathisch – aber insofern „erfolgreich" ist, dass er/sie sich nicht offen kriminell verhält bzw. nicht inhaftiert ist (Gao & Raine, 2010; Hall & Benning, 2006; Ishikawa et al., 2001). Während erklärende Modelle der erfolgreichen Psychopathie genauer in Kapitel 2.4.2 erörtert werden, werden sie teils auch in Beziehung gesetzt mit dem Konzept des Heldentums. Während Psychopathen in ihrem antagonistischen Verhaltensstil zunächst wenig heldenhaft erscheinen mögen, meint Lykken (1995) gar „I believe, in short, that the hero and the psychopath may be twigs on the same genetic branch." (S. 118). In einer jüngeren Untersuchung von Patton et al. (2018) zeigten First-Responder (demnach Personen, die sich gefährlichen Situationen aussetzen, um ggfs. das Leben Anderer zu retten/schützen) in einigen P-Subfacetten moderat höhere Werte verglichen mit Personen aus der Normalbevölkerung. Ebenso korrelierten einige P-Subfacetten mit selbstberichtetem Heroismus. Demnach scheinen bestimmte Kontexte möglich, in welchen hoch psychopathische Personen sogar Verhaltensweisen zeigen können, die mit Vorteilen für ihr soziales Umfeld einhergehen.

2.2.2 Machiavellismus

Die Einführung des Begriffs *Machiavellismus* (M) in die Persönlichkeitspsychologie erfolgte durch Christie und Geis (1970), die in *Studies in Machiavellianism* Aussagen aus den Werken des italienischen Politikers und Philosophen Niccolò Machiavelli (1469–1527) aggregierten und darauf basierend ein psychologisches Merkmal und mehrere dazugehörige Operationalisierungen generierten. Ziel war die Identifikation von Eigenschaften von erfolgreichen Manipulatoren, inspiriert wiederum von bekannten politischen oder religiösen Anführern. Sie definierten M als ein Merkmal, das von vier Eigenschaften gekennzeichnet ist: (a) ein Mangel an Affektivität in interpersonellen Beziehungen verbunden mit fehlender Empathie und einem Wahrnehmen von anderen Personen als Objekte, (b) ein utilitaristisches und nicht normenorientiertes Verständnis von Moral

und ein damit einhergehendes Fehlen von konventionellen Moralvorstellungen, z.B. Ablehnung von Lügen und Täuschungen, (c) eine im normalen Maß ausgeprägte Psychopathologie, die ein akkurates Wahrnehmen der Realität nicht verhindert und (d) keine Orientierung an abstrakten Ideologien, sondern am unmittelbaren Ergebnis von Handlungen. Christie und Geis generierten und validierten in umfangreichen Studien mit Spielsituationen unter anderem den *MACH-IV*, den bis heute bekanntesten M-Test (siehe Kapitel 2.2.7).

Es gibt einige wenige andere Konzeptualisierungen von Machiavellismus, beispielsweise das *ABCD-Modell* von Rauthmann und Will (2011), das recht detailliert theoretisch angenommene Ausprägungen von Machiavellisten in den Domänen A = Affect, B = Behavior, C = Cognition und D = Desires auflistet. Collison et al. (2018) konzeptualisieren M – basierend auf Expertenratings für einen prototypischen Machiavellisten auf dem Fünf-Faktoren-Modell – als eine Verbindung aus (a) einer Tendenz zur Planung, (b) der Fähigkeit zum Belohnungsaufschub und (c) interpersonellem Antagonismus (Manipulationsneigung und Gefühllosigkeit).

Es zeigte sich schon häufiger, dass die Empirie zu M oft im Widerspruch steht zu den konzeptuell angenommenen Zusammenhängen zu Außenkriterien: Miller et al. (2017) bemerken eine deutliche Diskrepanz zwischen den Beschreibungen basierend auf Expertenratings für einen prototypischen Machiavellisten auf dem Fünf-Faktoren-Modell und der von ihnen gefundenen Empirie. Al Aïn et al. (2013) finden beispielsweise positiv-moderate Zusammenhänge zu selbstberichteter Angst und Depression. Auch Jones und Paulhus (2009, 2011) konstatierten, dass die Literatur zu Machiavellismus zum überwiegenden Teil auf unangemessenen Tests beruhe (MACH-IV) und fokussieren dabei primär auf die theorieinkonsistenten positiven Zusammenhänge zu Impulsivität.[5]

Die Autoren sprachen sich für eine konzeptuelle Neuausrichtung aus und definierten M als eine Mischung aus (a) langfristigen Zielen, (b) einer Tendenz zur Planung und Vorbereitung, (c) situationsabhängiger Adaptivität, (d) Impulskontrolle, (e) einer Tendenz zur Bildung von Allianzen und Aufrechterhaltung eines Rufs, bei

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[5] Eine unveröffentlichte Metaanalyse des Autors dieser Arbeit bestätigt die Zusammenhänge zwischen Machiavellismus und Impulsivität: $\bar{r}$ = .2634; *KI* = [.2434; .2833]; *k* = 25; *N* = 8270; FE model.

gleichzeitiger (f) Manipulationsneigung, Gefühllosigkeit und strategisch-berechnender Orientierung.

Seit jeher ein Thema ist die konzeptuell und empirisch schwierige Abgrenzung zwischen Psychopathie und Machiavellismus (Rolle der Impulsivität, Neigung zur Manipulation, Mangel an interpersonellem Affekt usw.): McHoskey et al. (1998) argumentierten gar für eine Interpretation der Machiavellismus-Befunde als Befunde zur subklinischen Psychopathie – eine Sichtweise die jüngst auch von Miller et al. (2017) oder Persson (2019) geteilt wurde. Miller et al. bringen gar die Möglichkeit von M als „folk concept" ins Spiel: ein Persönlichkeitskonstrukt, das zwar allgemein bekannt ist, das aber keine Entsprechung in der tatsächlichen Welt hat.

2.2.3 Narzissmus

Die Figur des Narziss aus der griechischen Mythologie ist der Namensgeber des psychologischen Merkmals *Narzissmus* (N), im Kern die unangemessen starke Selbstliebe. Eine klassische Definition von N stammt hierbei von Kernberg (1975), der konstatiert, dass...

> The main characteristics of these narcissistic personalities are grandiosity, extreme self-centeredness, and remarkable absence of interest in and empathy for others in spite of the fact that they are so very eager to obtain admiration and approval from other people." (S. 228)

Während in der Klinischen Psychologie die *Narzisstische Persönlichkeitsstörung* vor allem im DSM (American Psychiatric Association, 2013) eine lange Tradition hat, wird Narzissmus als eine nicht-pathologische, teils funktionale Variante dieser Persönlichkeitsstörung begriffen. Raskin und Hall (1988) erzeugten einen größeren Itempool (basierend auf den Störungskategorien der Narzisstischen Persönlichkeitsstörung zur Konstruktion des *Narcissistic Personality Inventory*; NPI) und identifizierten mit einer Hauptkomponentenanalyse sieben Komponenten, die sie als *Autoritätsanspruch* (authority), *Selbstgenügsamkeit* (self-sufficiency), *Überlegenheitsgefühl* (superiority), *Angeberei* (exhibitionism), *ausbeutende Manipulationsneigung* (exploitativeness), *Eitelkeit* (vanity) und *Anspruchsdenken*

(entitlement) bezeichneten, welches als eine Art induktive Konzeptdefinition verstanden werden kann.

In der Literatur wird neben diesem eher als funktional verstandenem *grandiosem Narzissmus* auch der *vulnerable Narzissmus* diskutiert, was eher einen Neurotizismus-lastigen, fragilen, aber stark überhöhten Selbstwert beschreibt (Pincus & Roche, 2011). Ein jüngeres übergeordnetes N-Modell von Crowe, Lynam, Campbell und Miller (2019) integriert die Perspektiven des grandiosen Narzissmus, vulnerablen Narzissmus und *narzisstischen Antagonismus* (ebenfalls diskutierte N-Variante) und benennt ein 3-Faktor-Modell mit (a) *Agentic Extraversion*, (b) *Narcissistic Neuroticism* und (c) *Self-centered Antagonism*.

Es existieren auch erklärende (nicht rein deskriptive) Theorie-Modelle des Narzissmus, etwa die *Self-Regulation Theory* (Morf, 2006; Morf & Rhodewalt, 2001). Hierbei wird angenommen, dass hoch narzisstische Personen primär an der Aufrechterhaltung ihres hohen Selbstwerts interessiert sind und versuchen potentiellen Gefährdungen wie Kritik oder Erfahrungen, die dem eigenen Selbstbild widersprechen, abzuwehren. Sie streben immerzu nach externer Bestätigung, erschweren dies jedoch durch einen oft unangemessenen interpersonellen Stil (z.B. Arroganz, Anspruchsdenken). Ebenso erlangte jüngst das *narcissistic admiration and rivalry concept* (NARC; Back et al., 2013) Bekanntheit, in dessen Rahmen beschrieben wird, wie ein Streben nach einem grandiosem Selbstbild zu funktionalen und dyfunktionalen sozialen Prozessen führt, und Varianten narzisstischen Verhaltens (admiration *oder* rivalry) perpetuiert. Ebenso konzipierten Krizan & Herlache (2018) das *Narcissism Spectrum Model*, ein Modell, das angelegt ist, um die klinische und nicht-klinische Perspektive auf Narzissmus in einem Modell zu integrieren. Während meist zwischen grandiosem und vulnerablem Narzissmus unterschieden wird, sehen Krizan und Herlache darin bereits sich teils wiedersprechende Inhaltsbeschreibungen (geht Narzissmus mit hohem oder niedrigem Selbstwert einher?). Sie definieren das Kernmerkmal von allen N-Varianten als „*entitled self-importance. In other words, narcissistic individuals are those who view their own needs and goals as more significant than others' and exhibit an inflated sense of importance and deservingness (synonyms include egotism and arrogance).*" (S. 4). Die Autoren nehmen dabei an, dass entitled self-importance der determinierende Kern unterschiedlicher Narzissmus-

Phänotypen sei – auf einem Spektrum zwischen grandiosem und vulnerablem Narzissmus.

2.2.4 Dunkle Triade

Die dunkle Triade der Persönlichkeit stellt eine verbale Etikettierung für P, M und N dar, die von Paulhus und Williams (2002) stammt. Als Anlass für die Zusammenführung zu einer „Triade" nennen Paulhus und Williams vorherrschende (aus ihrer Sicht nicht zutreffende) Annahmen, dass die Merkmale in nicht-klinischen Stichprobe nicht unterscheidbar seien. Die Autoren stellen die drei Merkmale als empirisch und konzeptuell überlappend („To varying degrees, all three entail a socially malevolent character with behavior tendencies toward self-promotion, emotional coldness, duplicity, and aggressiveness.", S. 557), aber doch in bedeutsamen Aspekten distinkte Merkmale dar. Sie begründen das teils durch kleine bis moderate Interkorrelationen[6] und unterschiedliche Korrelationsmuster zu relevanten Außenkriterien (Big 5-Persönlichkeitsfaktoren, Intelligenz, Over-claiming). Diese relativ spärliche Begründungsfigur verhinderte nicht, dass seitdem unter einem D3-Banner diese drei Merkmale gemeinsam in etlichen Studien untersucht wurden (Furnham et al., 2013). Entsprechend fokussierten viele Forschungsarbeiten eher darauf, basierend auf eigener Empirie induktiv einen D3-Begründungszusammenhang nachträglich zu generieren – etwa in Form der Suche nach dem „dunklen Kern" (siehe Kapitel 2.2.6). Unklar blieb dabei weiterhin, was das konstituierende, gemeinsame (und im besten Fall erklärende im Sinne einer D3-Theorie) Merkmal sein solle und weshalb nicht andere aversiv *erscheinende* Merkmale *spite*, *overconfidence* oder *authoritarianism* (siehe Zeigler-Hill & Marcus, 2016) dazugehören würden.

Die Merkmale der dunklen Triade wurden in einer mittlerweile kaum noch überschaubaren Zahl von Primärstudien mit interessierenden anderen Merkmalen und (selbstberichteten) Verhaltensweisen in Beziehung gesetzt, was im Rahmen dieser Arbeit nicht ausgeführt werden soll (siehe dazu etwa Bereczkei, 2018a; Fehr et al., 1992; Furnham et al., 2013; Jonason et al., 2012; Jones & Paulhus, 2011; Zeigler-Hill & Marcus, 2016). Zumindest angemerkt seien jedoch die mittlerweile umfangreichen

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[6] Die Begriffe „klein", „moderat", „groß" usw. werden in dieser Arbeit (einschließlich der Manuskripte) mit Bezug auf Cohen (1988) verwendet.

meta-analytischen Befunde. Muris et al. (2017) zeigen, dass die D3 moderat bis hoch interkorrelieren und alle negativ mit Verträglichkeit und Honesty-Humility in Beziehung stehen. P und M sind darüber hinaus negativ mit Gewissenhaftigkeit korreliert, während N positiv mit Extraversion und Offenheit in Beziehung steht. Die Metaanalysen von Vize, Collison et al. (2018) sowie von Vize, Lynam et al. (2018) kommen zu vergleichbaren Ergebnissen. Die Metaanalyse von O'Boyle et al. (2015) beschreibt die D3-Zusammenhänge zum Fünf-Faktoren-Modell zusätzlich auf Facettenebene. Die D3 ist damit relativ klar überlappt mit dem Konstrukt der Unverträglichkeit, während die restliche Varianz der jeweiligen D3-Merkmale sich jeweils etwas unterschiedlich auf die anderen vier Faktoren aufzuteilen scheint. Verschiedene Autoren (Collison et al., 2018; Lynam et al., 2011) griffen bereits die Idee auf, dass die D3-Merkmale jeweils auch alternativ als spezielle Konfigurationen der Fünf Faktoren beschrieben werden können und auch entsprechend gemessen werden sollten.

Im Rahmen der D3 werden die Merkmale P, M und N als subklinisch verstanden (Paulhus, 2014; Paulhus & Williams, 2002). Die Auffassung, man solle Persönlichkeitsmerkmale in subklinische/klinische Varianten aufteilen oder Merkmale (unterhalb eines gewissen „Cut-Offs") z.B. grundsätzlich anders messen, wird in dieser Arbeit nicht vertreten. Die Diskussion um klinische Persönlichkeitsmerkmale wurde schon oft geführt (Markon et al., 2005; Wiggins & Pincus, 1989). Es ist zwar einleuchtend, dass die D3-Merkmale – bei starker Ausprägung – Persönlichkeitsstörungen durchaus ähneln, jedoch erschiene es zum Beispiel auch wenig zielführend Neurotizismus als ein per se klinisches Persönlichkeitsmerkmal zu klassifizieren oder in pathologische und nicht-pathologische Ausprägungen einzuteilen. Die D3-Merkmale werden hier demnach als dimensionale Konstrukte begriffen, deren extreme Ausprägungen klinisch relevant sein können. Gängig sind nichtsdestotrotz die Kategorialität suggerierenden Begriffe „Psychopath", „Machiavellist" und „Narzisst".

Manche Autoren mutmaßen auch über die Existenz von Einzelpersonen, die hohe Ausprägungen auf allen drei Merkmalen gleichzeitig aufweisen (Furnham et al., 2013), während manche Autoren gar einen D3-Gesamtscore in Operationalisierungen implementieren (Jonason et al., 2010), was von anderen Autoren wiederum kritisch rezipiert wurde (Glenn & Sellbom, 2015). Aus Sicht des Autors dieser Arbeit ist dieses Vorgehen primär *konzeptuell* problematisch, denn erstens ist nicht klar, was die D3

inhaltlich darstellen soll. Zweitens stehen einige konzeptuelle Aspekte der D3 miteinander im Widerspruch: (a) Während P mit impulsivem Verhalten in Beziehung steht, ist M geprägt von kühl-strategischer Planung, (b) das narzisstische Streben nach positiver Evaluation, die Neigung zum Neid und die Abwertung Anderer (beim Ausbleiben von positiver Evaluation) steht im Gegensatz zur grundsätzlich taktischen und interpersonell unterkühlten Beziehungsbildung von Machiavellisten und (c) Psychopathen verfügen durchaus auch über ein grandioses Selbstbildung, dieses ist aber (anders als bei N) relativ unabhängig von den Bewertungen anderer (siehe dazu Jones & Paulhus, 2009, 2011).

2.2.5 Dunkle Tetrade und Sadismus

Paulhus (2014) plädiert für eine Erweiterung der dunklen Triade um eine zusätzliche Komponente, den *(Alltags-)Sadismus* (S), da „sadistisches" Verhalten in Laborstudien durch die D3 nur unzureichend erklärt werden konnte (Buckels et al., 2013; Chabrol et al., 2009). Als neue Bezeichnung für P, M, N und S wählte Paulhus (2014) den Begriff der *dunklen Tetrade* (D4). Paulhus und Dutton (2016) definieren Alltagssadismus als Vergnügen am Leiden Anderer und schließen auch „milde" Formen des Sadismus ein: „largely acceptable forms of subclinical sadism that are prevalent in modern culture" (S. 110). Alltagssadismus umfasst dabei z.B. auch den lustvollen Konsum von brutalen Filmen, das Betreiben von gewalttätigen Sportarten oder das Spielen gewalttätiger Videospiele – soll aber gleichzeitig abgrenzbar sein zu kriminellem/sexuellem Sadismus. Ob Alltagssadismus und sexueller Sadismus distinkte Merkmale darstellen oder bedeutsam überlappen, scheint noch nicht abschließend geklärt (Foulkes, 2019).

2.2.6 Struktur und Kern der dunklen Triade

Gegenstand vieler Untersuchungen ist die Suche nach dem „dunklen Kern" der D3 sowie die Prüfung der theoretisch angenommenen Struktur. Dabei ist anzumerken, dass theoretisch formulierte Annahmen zur D3 rar sind. Paulhus und Williams (2002) formulieren konzeptuelle und empirische Überschneidungen bei gleichzeitiger Unterscheidbarkeit wegen unterschiedlicher Korrelationen zu Außenkriterien, aber keine konkreten Strukturannahmen im Sinne eines Faktors höherer Ordnung, der die D3 verbindet. Erst die Diskussion um einen „dunklen Kern" – also eine konzeptuelle und

bestenfalls auch empirische Gemeinsamkeit – ließ einige Autoren bestimmte Modellannahmen formulieren. Es wird angenommen, dass die D3 (und auch die D4) einen gemeinsamen Kern hätten, aber in verschiedenen anderen relevanten Aspekten klar voneinander unterscheidbar seien (Furnham et al., 2013; Paulhus, 2014). Um welches Merkmal es sich bei diesem Kern handeln könne, wird meistens empirisch und nicht konzeptuell geprüft (etwa Hodson et al., 2018; Vize et al., 2020). Muris et al. (2017) vermuten als eine Ursache der moderaten Interkorrelationen auch bedeutsame inhaltliche Item-Überlappungen und weniger ein tatsächlich klar umschreibbares Merkmal.

In manchen der Studien wird auf einen möglichen Kern geschlossen lediglich auf Basis von hohen Korrelationen aller D3-Merkmale zu anderen Merkmalen, in wenigen Studien wird tatsächlich eine latente Struktur geprüft. Im Rahmen jener Studien wird als Strukturannahme häufig ein D3-Faktor höherer Ordnung mit hierarchisch untergeordneten D3-Faktoren (P, M, N) angenommen (Jonason & Webster, 2010; Jones & Neria, 2015; Vize et al., 2020), was bei drei Faktoren (falls nicht mit einer weiteren latenten Variable in Beziehung gesetzt) den gleichen Fit aufweist wie ein Modell mit drei latent interkorrelierten P-, M- und N-Faktoren. Hierbei zeigt sich auch ein mangelnder Fit der konzeptuell angenommenen Struktur (Bertl et al., 2017). Als empirischer Kern der D3 wird bei diesen Strukturprüfungen häufig „antagonism“ im Sinne von Unverträglichkeit (Vize et al., 2020), Honesty-Humility (Hodson et al., 2018; Lee & Ashton, 2014) (siehe auch Kapitel 2.3.1 und 2.3.2) oder gar der Faktor 1 der Psychopathie (Jones & Figueredo, 2013) identifiziert. Alternativ konzeptualisieren Watts et al. (2017) den D3-Kern als Bifaktor mit drei separaten Residualfaktoren – jedoch mit mangelhaftem Fit bei der Strukturprüfung. Eine Ausnahme vom rein empirisch geleiteten Ansatz bildet z.B. Paulhus (2014), der im Rahmen eines strukturierten Konzeptvergleichs zu der Annahme kommt: „In our view, the common feature that explains both the theoretical and empirical overlap is callousness—that is, lack of empathy toward others“ (S. 422). Moshagen et al. (2018) definierten ebenfalls (konzeptuell, aber gleichzeitig empirisch geleitet) „D“ als Kern mehrerer „dunkler“ Persönlichkeitsmerkmale – auch jenseits der D3 (siehe Kapitel 2.3.3). Bereits hier wird klar, dass eine Begründungsfigur zur gemeinsamen Untersuchung der D3-Merkmale nicht vorab konzeptuell argumentiert wurde. Vielmehr scheint man zu versuchen eine Zusammengehörigkeit der D3-Merkmale im Nachgang durch empirische (nicht

konzeptuelle) Argumente und die „Suche" nach einem dunklen Kern zu legitimieren. Ein möglicher Kern der D3/D4 wird im Detail in Kapitel 11 vorgeschlagen. Darüber hinausgehende kritische Aspekte der D3-Konzeptualisierung werden in Kapitel 14.1 diskutiert.

2.2.7 Tests zur Messung der Konstrukte der D3

Zur Messung der D3-Merkmale besteht eine mittlerweile hohe Zahl an Selbstberichtsverfahren. Für Psychopathie ist beispielsweise die *Self-report Psychopathy Scale* (SRP; Paulhus et al., 2016) zu nennen, die unmittelbar auf dem four-factor-model basiert. Andere bekannte Tests sind beispielsweise das *Psychopathic Personality Inventory-Revised* (PPI-R; Lilienfeld & Widows, 2005) oder die *Levenson Self Report Psychopathy Scale* (LRSP; Levenson et al., 1995), die bezüglich Inhaltsvalidität mit dem SRP durchaus vergleichbar sind. Zur Messung von Machiavellismus wird bis heute primär der bereits genannte MACH-IV verwendet (Christie & Geis, 1970), welcher das Merkmal M gleichzeitig in die Psychologie einführte. Die Items des Verfahrens sind Aussagen Machiavellis, die wiederum drei Subskalen zugeordnet sind (a) *morality*, (b) *tactics* und (c) *views*. Neben dem MACH-IV sind nur wenige Operationalisierungen bekannt, z.B. der MACH-VI von Paulhus und Williams (2009), der auf der oben genannten (siehe Kapitel 2.2.2) Konzeptspezifikation der Langzeitplanung beruht. Ebenso zu nennen ist das *Five Factor Machiavellianism Inventory* (FFMI, Collison et al., 2018), das auf Expertenratings eines prototypischen Machiavellisten auf dem Fünf-Faktoren-Modell beruht. Für Narzissmus ist das bekannteste Verfahren der oben genannte (siehe Kapitel 2.2.3) NPI. Darüber hinaus werden auch oft verwendet der *Narcissistic Admiration and Rivalry Questionnaire* (NARQ; Back et al., 2013) sowie für vulnerablen Narzissmus das *Pathological Narcissism Inventory* (PNI; Pincus et al., 2009). Zur gleichzeitigen Messung der D3-Merkmale existieren auch Kurzskalen wie das *Dirty Dozen* (Jonason & Webster, 2010), die *Short Dark Triad* (SD3; Jones & Paulhus, 2014) oder das *TOP* (Schwarzinger & Schuler, 2016). Weitere D3-Messverfahren sind beispielsweise bei Paulhus und Jones (2015) aufgeführt.

Einige wenige Tests basieren nicht auf dem Selbstbericht. Zunächst die oft als Goldstandard der Psychopathie-Messung benannte (Boduszek & Debowska, 2016) *Psychopathy-Checklist-Revised* (PCL-R; Hare, 2003), die ebenfalls auf dem four-factor-model beruht. Die Durchführung des PCL-R ist im forensischen Kontext möglich und

basiert auch einer Aktenanalyse und einem strukturierten Interview – anschließend wird der Proband von Interviewern (oder auch anderen Ratern) auf 20 Items eingeschätzt. Es existieren auch Varianten des PCL-R für spezielle Settings/Populationen, etwa die *Psychopathy Checklist – Youth Version* (PCL:YV; Forth et al., 2003) für den Einsatz bei Jugendlichen oder die Kurzversion des PCL-R, die auch in der Normalbevölkerung eingesetzt werden kann, die *Psychopathy Checklist – Screening Version* (PCL:SV; Hart et al., 1995). Eine interviewgestützte Fremdberichtsalternative zum PCL-R stellt das *Interpersonal Measure of Psychopathy* (IM-P; Kosson et al., 1997) dar, welches etwas stärker auf die Beobachtung konkreter Verhaltensweisen im Interview abzielt.

Mit der Operationalisierung der D3-Merkmale gehen unterschiedliche Probleme einher. Während für P und N Verfahren vorliegen, deren Güte überzeugend dokumentiert ist, kann dies nicht im gleichen Maße für M angenommen werden. Der MACH-IV ist gekennzeichnet durch eine geringe Messgenauigkeit (Kaestner et al., 1977), unklare Merkmalsstruktur (McHoskey et al., 1998; Corral & Calvete, 2000), der empirisch schwierigen Abgrenzbarkeit von selbstberichteter Psychopathie (Miller et al, 2017) und konzeptkonträre positive Beziehungen zu Impulsivität (Jones & Paulhus, 2009). Als Kernproblem sieht der Autor dieser Arbeit jedoch eine mangelnde Inhaltsvalidität: Bereits die Konzeptdefinition von Christie und Geis (1970) ist nicht angemessen in den Subskalen repräsentiert (die views-Skala besteht aus Zynismus-Items, die in der Konzeptdefinition nicht auftauchen) und Aspekte der pragmatischen Langzeitplanung werden zwar als eine Art natürliches Korrelat betrachtet, sind aber kein Bestandteil der Konzeptdefinition und werden in den Items nicht widergespiegelt. Selbst eine selbstberichtete Verhaltenstendenz zur Manipulation ist nicht in den Iteminhalten vertreten – es wird lediglich eine allgemeine Einstellung zu manipulativem Verhalten erfragt. Bereits vor über 20 Jahren wurde konstatiert: „The Mach-IV (and Mach-V) has now outlived its usefulness for many applications." (McHoskey et al., 1998, S. 207). Nichtsdestotrotz werden andere M-Tests beinahe nicht verwendet. Aus den benannten Gründen wurde in der vorliegenden Arbeit nicht der MACH-IV, sondern der konzeptuell überzeugendere MACH-VI (Jones & Paulhus. 2008, 2009, 2015) verwendet. Darüber hinausgehende kritische Aspekte der D3-Messung werden in Kapitel 13.1 diskutiert.

2.3 Beziehungen zu anderen sozial-aversiven Persönlichkeitseigenschaften

Neben den Mitgliedern der dunklen Triade werden auch andere Persönlichkeitseigenschaften herangezogen, um sozial-aversives Verhalten zu beschreiben. Im Folgenden werden diese kurz vorgestellt und mit der D3/D4 verglichen. Es werden hierbei jedoch nicht alle jemals diskutierten sozial-aversiv erscheinenden Merkmale im Einzelnen erläutert. Nicht eingeschlossen werden „kleinere" Einzelmerkmale (siehe dazu Zeigler-Hill & Marcus, 2016) oder Merkmale, die in der Differentiellen Psychologie kaum noch eine Rolle spielen, z.B. *Integrität* (Marcus et al., 1997; Ones et al., 2003).

2.3.1 (Un-)Verträglichkeit

Als Globalfaktor des Fünf-Faktoren-Modells (McCrae & Terracciano, 2005) und der Big 5 (Goldberg, 1990) ist (Un-)Verträglichkeit ein naheliegender Kandidat zur Beschreibung und Erklärung von sozial-aversivem Verhalten. Graziano und Eisenberg (1997) konzeptualisieren Verträglichkeitkeit als Disposition zum prosozialem Verhalten, welches sie definieren als „voluntary behavior intended to benefit another (regardless of whether the behavior is motivated by altruism or baser forms of motivation, such as rewards and social approval)." (S. 808). Costa et al. (1991) konzeptualisieren Verträglichkeit als Dimension mit den Endpunkten *Mitgefühl* (compassion) und *Antagonismus* (antagonism) mit sechs Subfacetten *Trust*, *Straightforwardness*, *Altruism*, *Compliance*, *Modesty* und *Tender-Mindedness*. Das wohl bekannteste Testverfahren zur Messung von Verträglichkeit (und der anderen vier Globalfaktoren) ist das *NEO Personality Inventory Revised* (NEO PI-R; Costa & McCrae, 1992). Unverträglichkeit stellt einen bedeutsamen Prädiktor für bestimmte Arten von sozial-aversivem Verhalten dar. In einer Metaanalyse zum Zusammenhang zwischen Kriminalität/antisozialem Verhalten und Persönlichkeit fand sich ein moderat negativer Zusammenhang (Miller & Lynam, 2001). Seit Beginn der D3-Forschung wird Unverträglichkeit als möglicher Kandidat des D3-Kerns diskutiert (Vize et al., 2020, Jakobwitz & Egan, 2006; Stead & Fekken, 2014). Konzeptuell gibt es vor allem Überschneidungen mit (geringer) Straightforwardness, Altruism und Modesty – jedoch nicht für alle D3-Merkmale im gleichen Maße. Es ist daher nicht davon auszugehen, dass die gemeinsame Varianz der D3 inhaltlich deckungsgleich ist mit geringer Verträglichkeit.

2.3.2 Geringe Honesty-Humility

Als Alternative zum klassischen Fünf-Faktoren-Modell erlangte seit einigen Jahren das HEXACO-Modell (Aston & Lee, 2007) Bekanntheit. Die Autoren arrangieren die inhaltliche Struktur des Fünf-Faktoren-Modell neu, „verschieben" dabei Persönlichkeitsaspekte zu jeweils anderen Globalfaktoren (siehe dazu Ashton, 2017) und schaffen einen sechsten Faktor: Honesty-Humility (HH). HH ist zum überwiegenden Teil aus „alter" Verträglichkeit generiert und geringe HH ist definiert als (a) eine manipulative Tendenz zum Bezirzen anderer Personen, (b) die Bereitschaft Regeln zu brechen für den eigenen Vorteil, (c) das Streben nach Reichtum und (d) die Ansicht einen besonderen Status inne zu haben (Lee & Ashton, 2013). Zur Messung von HH (und der anderen fünf Globalfaktoren) wird gemeinhin das *HEXACO Personality Inventory Revised* (HEXACO-PI-R; Lee & Ashton, 2004) verwendet mit den vier HH-Subskalen *Sincerity*, *Fairness*, *Greed Avoidance* und *Modesty*. Geringe HH wird ebenfalls häufig als D3-Kern diskutiert (Book et al., 2016; Hodson et al., 2018; Lee & Ashton, 2014), wobei auch hier zumindest aus konzeptueller Sicht unklar bleibt, weshalb nicht Unverträglichkeit geeigneter wäre zur Erklärung der gemeinsamen D3-Varianz.

2.3.3 Der „dark factor" der Persönlichkeit

Moshagen et al. (2018) konzeptualisierten den *Dark Factor of Personality* (D). Für D nehmen sie in Anspruch, dass es die konzeptuelle Grundlage für die verschiedensten dunklen Persönlichkeitskonstrukte darstellen könne. Sie definieren D „as the general tendency to maximize one's individual utility— disregarding, accepting, or malevolently provoking disutility for others—, accompanied by beliefs that serve as justifications." (S. 2). Der Ansatz für dunkle Merkmale einen theoretisch-erklärenden Kern/Faktor zu identifizieren, ist ein weitgehend neues Vorgehen. Einschränkend geben die Autoren aber auch an, dass nicht jedes dunkle Merkmale alle Aspekte von D beinhalten müsse („These differences between various dark traits notwithstanding, we propose that any dark trait relates to at least one (and typically several) of the defining aspects of D.", S. 3). Fraglich ist dabei, wie damit die Annahme eines *für alle dunklen Merkmale gemeinsamen* dunklen Kerns noch aufrechterhalten werden kann. Auf welcher Basis D *inhaltlich* konzeptualisiert wurde, bleibt überdies überwiegend unklar, die Autoren beziehen sich lediglich auf bestehende Diskussion zum D3-/D4-Kern und scheinen die dort benannten Merkmale in D zu aggregieren.

Um D auch empirisch zu identifizieren, sammelten die Autoren zunächst möglichst viele Persönlichkeitsmerkmale (auch jenseits der D4, nämlich *Egoism*, *Moral Disengagement*, *Psychological Entitlement*, *Self-Interest* und *Spitefulness*), die allgemein negativ konnotiert seien und mit moralisch fragwürdigem Verhalten in Beziehung stünden (siehe S. 2, 6). Anschließend wurden alle dunklen Merkmale in einer größeren Stichprobe erhoben und ein Bi-Faktor-Modell wurde getestet, bei dem angenommen wurde, dass die Indikatoren auf einem Generalfaktor und einzelnen Faktoren der erhobenen Merkmale laden. Die Autoren nehmen an, dass „the common general factor captures the variance that is shared across all items and hence directly represents their commonalities, whereas the specific factors reflect the remaining shared variance of the items of a particular scale, after controlling for the general factor." (S. 6). Dieser Generalfaktor wird anschließend von den Autoren als D bezeichnet. Obgleich D sehr hoch mit HH korreliert war, meinen die Autoren, dass sich D und geringe HH sich noch unterscheiden würden und begründen dies durch inkrementeller Validität bezüglich einiger selbstberichteter Außenkriterien (S. 22, 23). Inventare zur Erfassung von D wurden ebenso erstellt (D70, D35, und D16 erhältlich unter https://darkfactor.org/).

Aus Sicht des Autors ist der Versuch von Moshagen und Kollegen ausgesprochen begrüßenswert, dass eine konzeptuelle Annäherung an einen dunklen Kern bemüht wird. Jedoch bleibt weiterhin unklar, (a) nach welchem Rational Persönlichkeitsmerkmale als „dark" einzustufen sind, (b) wie genau die Definition von D generiert wurde (scheinbar nicht durch einen strukturierten Konzeptvergleich der untersuchten dunklen Merkmale und auch nicht induktiv durch eine Inhaltsanalyse der höchstladenden Items auf dem D-Bi-Faktor).

2.4 Die dunkle Triade: Eine adaptive Verhaltensdisposition?

Wie bereits eingangs erwähnt existieren verschiedene Auffassungen darüber, ob die dunkle Triade bedeutsam in Beziehung steht mit sozialen, emotionalen oder kognitiven Fähigkeiten und Kriterien des sozialen, beruflichen usw. Erfolgs. Zunächst gilt es *Erfolg* und *Adaptivität* zu definieren. Steinert et al. (2017) elaborieren in ihrem Theorie-Papier zur erfolgreichen Psychopathie das Konzept des Erfolgs und stellen fest, dass „successful behavior is behavior that results in outcomes that increase positive consequences for an individual or reduce negative consequences for the individual." (S. 47) schließen aber auch das erfolgreiche Lösen von Testaufgaben ein, wenn diese z.B.

mit Belohnung und Bestrafung gekoppelt sind. Sie unterscheiden darüber hinaus Erfolg bzgl. (a) langfristig vs. kurzfristig, (b) positiver Outcome anstreben vs. negativer Outcome verhindern und (c) normorientiert vs. kriterienorientiert (d.h. erfolgreicher als andere vs. Erfolgskriterium erreicht).

In dieser Arbeit wird Erfolg als das Erreichen von selbstgesteckten Zielen oder Verhaltensergebnissen, die allgemein positiv konnotiert sind, definiert. Es sei angemerkt, dass hiermit keine Erfolgskriterien eingeschlossen werden sollen, die sehr spezifisch und nur aus Sicht weniger Personen erstrebenswert sind (überspitzt etwa die korrekte Identifikation von Flugzeugenmodellen am Himmel), sondern allgemein erstrebenswert erscheinen, z.B. materielle Sicherheit, Qualität eines sozialen Netz, beruflich hohe Stellung, gesellschaftliches Ansehen… Adaptivität wird in dieser Arbeit begriffen als eine kontextabhängige Tendenz zum erfolgreichen Verhalten (siehe dazu auch Furnham et al, 2013). Im folgenden Abschnitt werden diese Annahmen zur Adaptivität dargestellt und es wird Bezug genommen auf theoretische Überlegungen und Empirie, um die Annahmen einzuordnen.

2.4.1 Bisherige Annahmen zum erfolgreichen Verhalten und Adaptivität

In bekannter populärwissenschaftlicher Literatur finden sich einige Annahmen zur allgemeinen Effektivität von sozial-aversiven Verhaltensweisen zur individuellen Zielerreichung, z.B. das (ebenfalls von Machiavellismus inspirierte) *The 48 Laws of Power* (Green, 1998) oder *Assholes – a theory* (James, 2012). Konkret werden Psychopathen als soziale, manipulativ-erfolgreiche Raubtiere begriffen (Babiak et al., 2006, Dutton, 2012; Hare, 1993). Psychopathen „easily get hired using charm and blatant lies." (Furnham, 2010, S. 108). Akhtar et al. (2013) meinen zu (noch subklinischen) Personen mit hohen P-Werten:

> …despite the negative connotation, these individuals are perfectly able to function normally and successfully in everyday life; in fact, they may often even achieve high social status. This is because manifestations of psychopathic traits may often be related to positive attributions, such as a person being perceived as intelligent, charming, ingenious, and entertaining. (S. 2)

Lilienfeld et al. (2015) schränken hingegen ein: Zwar sei das Konzept der successful psychopathy weit verbreitet, jedoch seien Annahmen zu erfolgreichen Psychopathen eher durch Fallberichte angetriebene Spekulationen, die empirisch darüber hinaus kaum belegt seien. Es gebe ebenso auch kein einheitliches Verständnis darüber, was Erfolg im Rahmen der „erfolgreichen Psychopathie" sei. In Bezug auf Machiavellisten wird angenommen, sie hätten „cognitive and social skills that enable them to efficiently exploit others." (Bereczkei, 2018b, S. 1). Christie und Geis (1970) halten sie für zielführend in Führungspositionen: „...relatively high-Mach executives should be more useful and successful. They would spend more time aggressively bargaining for funds or making arrangements for the organization's welfare with outside authorities." (S. 357). Von narzisstischen Personen wird angenommen, sie seien „often charming and socially facile while simultaneously insensitive to others' feelings, wishes, and needs. Some might report that they were initially attracted to such individuals..." (Morf & Rhodewalt, 2001, S. 177). Von Narzissten wird angenommen, dass „their extraverted behavior and desire to be liked can make them enjoyable to work with initially" und dass „narcissists tend to create drama and, thus, are entertaining to watch" (Young & Pinsky, 2006, S. 470). Des Weiteren gelte für Narzissten: „they do tend to be powerful; they essentially make the adaptive choice of 'getting ahead' at the expense of 'getting along'" (Tracy et al., 2011, S. 337). N sei ein "double edged sword" (Watts et al., 2013, S. 2379), das für Führungspositionen mit positiven und negativen Verhaltensergebnissen verbunden sei.

Häufig benannt wird die Idee einer kontextspezifischen Adaptivität: Die D3-Merkmale seien in vielen Kontexten zwar dysfunktional, es könnte jedoch Kontexte geben, in welchen D3-Personen erfolgreicher sind als Nicht-D3-Personen. Nach Wilson et al. (1996) ist Machiavellismus „best regarded as 1 of several social strategies, broadly similar to the 'defect' strategy of evolutionary game theory, which is successful in some situations but not others" (S. 1). Paulhus (2014) äußert sich zur D4:

In fact, evidence abounds that the behavior of dark personalities can be adaptive in limited contexts (dark niches). [...] Even psychopaths may flourish in the right cultural context—for example, in street gangs. The ideal niche for everyday sadists is in organizations that require enforcers— that is, individuals hired to punish others. Reflecting on the inevitable trade-offs involved in selecting job

applicants, Kets de Vries (1999) asked whether it is preferable to hire a "live volcano" or a "dead fish." More generally, it might be more enjoyable to spend time with one of the tetrad than a more tedious personality— an awkward, socially phobic alexithymic, perhaps? At least the tetrad members are socially engaged. (S. 423)

Paulhus und Williams (2002) meinen zur D3 allgemein „Which of the triad is most maladaptive? Our view is that no personality trait is universally adaptive or maladaptive." (S. 561), genau wie Thomaes et al. (2017): „As is true for all personality traits, the (mal)adaptiveness of dark traits may be context dependent; they are costly in some settings but may yield certain benefits in others" (S. 838), während Hare (1993) gar mögliche gesellschaftliche Vorteile der Psychopathie sieht:

However, many psychopaths never go to prison or any other facility. They appear to function reasonably well-as lawyers, doctors, psychiatrists, academics, mercenaries, police officers, cult leaders, military personnel, businesspeople, writers, artists, entertainers, and so forth-without breaking the law, or at least without being caught and convicted. These individuals are every bit as egocentric, callous, and manipulative as the average criminal psychopath; however, their intelligence, family background, social skills, and circumstances permit them to construct a façade of normalcy and to get what they want with relative impunity. Some commentators refer to them as "successful psychopaths." Others argue that individuals of this sort benefit society. Just as they are able to ignore society's rules, the argument goes, intelligent psychopaths are able to transcend the bounds of conventional thought, providing a creative spark for the arts, the theater, design, and so on. (S. 113)

Die *Life History Theory* (siehe etwa Del Giudice et al., 2016) ist ein Teilbereich der Evolutionstheorie. Im Rahmen evolutionspsychologischer Erörterungen werden hierbei Verhaltensweisen hinsichtlich ihrer evolutionären Adaptivität hin betrachtet – die dunkle Triade wird in diesem Zusammenhang immer wieder als „fast life history strategy" deklariert (Jonason et al, 2012). Der sozial ausbeuterische, unstete Lebensstil – vor allem für Psychopathen zutreffend, die teils nomadenhaft verschiedene soziale

Umgebungen „abgrasen" (für Fallberichte siehe Hare, 1993) – wird mit der D3 verbunden und als kontextabhängiger Vorteil begriffen, hierzu McDonald et al. (2012):

> Unpredictable environments with high mortality risk tend to produce fast life history strategies in which individuals mature early, produce more offspring, but invest less in each offspring. This strategy is adaptive because it increases the probability of producing at least some surviving offspring. [...] It is worth noting that although the outcomes associated with fast life strategies are often viewed by society as undesirable, life history theory views them as strategic responses to environmental conditions. Thus, behaviors associated with a fast life strategy may be adaptive with respect to individual fitness regardless of whether the behaviors impose costs on society. (S. 601-602)

Nicht unerwähnt soll bleiben, dass D3-Personen regelmäßig in unterschiedlichen Medien als fiktive Charaktere dargestellt werden, die sich beim Publikum nicht selten großer Beliebtheit erfreuen. Hierbei erweisen sich diese fiktiven D3-Personen häufig als überaus kompetent und fähig, in dem was sie tun – Jonason et al. (2012) untersuchten diese „D3-Antihelden" und beschreiben die widersprüchlich erscheinende Anziehungskraft, die diese Charaktere auf viele Medienkonsumenten zu haben scheinen (siehe auch Hall & Benning, 2006). Es versteht sich von selbst, dass Eigenschaftskonfigurationen bei fiktiven Charakteren keinen Rückschluss erlauben über das tatsächliche gleichzeitige Auftreten bestimmter Merkmale (z.B. hoch psychopathisch und gleichzeitig hochintelligent wie die Thomas Harris-Romanfigur Hannibal Lecter). Ähnliches gilt für psychopathische und gleichzeitig intelligente Mehrfachmörder wie Ted Bundy oder Ed Kemper (die aber auch wiederum zu Film- und Fernsehfiguren wurden). Die Darstellung von psychopathischen Personen in Film und Fernsehen ist in der Mehrzahl der Fälle nicht realitätsnah (siehe dazu Leistedt & Linkowski, 2014). Ob diese Mediendarstellungen nun einen Stereotyp-bildenden Effekt auf die Rezipienten haben oder nicht, Laien schreiben Psychopathen durchaus eine erhöhte Intelligenz zu (Edens et al., 2013).

2.4.2 Mögliche konzeptinhärente Ursachen für erfolgreiches Verhalten

Vor einer Prüfung von möglichen Zusammenhängen der D3 zu Außenkriterien ist zu überlegen, welche konzeptuellen Aspekte der Triade D3-Individuen dazu befähigen könnten, bestimmte Erfolgskriterien besser zu erreichen, in bestimmten Kontexten adaptiver agieren zu können oder welche Merkmalskombinationen D3-Verhalten besonders effektiv machen könnten.

Einige Aspekte der Psychopathie sind bezüglich möglicher (Mal-)Adaptivität zu diskutieren: Der angenommene glatte, oberflächliche Charme mag in umgrenzten sozialen Situationen (Partnersuche, Bewerbungsgespräche) von Vorteil sein, während dies bei vielen generischen Sozialsituation auch befremdlich auf das Gegenüber wirken kann und damit eher maladaptiv wäre. Die psychopathische Risikobereitschaft kann (per Definition) sowohl mit großem Erfolg, aber auch großen Niederlagen einhergehen. Ein verringerter interpersoneller Affekt mag für das (Nicht-)Erreichen von Erfolgskriterien überwiegend irrelevant sein, ist jedoch bedeutsam für das individuelle psychosoziale Funktionsniveau. Allgemein kriminelles Verhalten ist hinsichtlich der Funktionalität schwer einzuschätzen. Zwar können einzelne kriminelle Aktivitäten durchaus so verlaufen, dass sie z.B. der Bereicherung von Personen dienen – ohne mit rechtlichen Konsequenzen einherzugehen. Falls aber doch rechtliche Konsequenzen auftreten (z.B. Gefängnisaufenthalt, Geldstrafe), stehen diese vermutlich regelhaft in einem für den Täter ungünstigen Kosten-Nutzen-Verhältnis in Bezug auf die mit der Tatbegehung einhergehenden Vorteile. Die Kombination psychopathischer Verhaltensweisen ermöglicht bestenfalls einen ausbeuterischen Verhaltensstil gegenüber Anderen, der mit Vorteilen einhergeht („Ausbeute") und gepaart ist mit Indifferenz gegenüber negativen Konsequenzen dieses ausbeuterischen Stils (Schädigung anderer, eigene Nachteile durch soziale Normverletzungen, unveränderbar grandiose Selbstsicht).

Konzeptuell sind positive Verhaltensergebnisse für Machiavellismus durchaus nicht unplausibel. Christie und Geis (1970) konzeptualisierten M bereits mit dem Ziel manipulativ erfolgreiche Führungspersonen zu charakterisieren. Da die konzeptuell angenommene Tendenz zur Langzeitplanung (*long-terms goals* und *planning and preparation*, siehe Jones & Paulhus, 2011) durchaus Ähnlichkeiten mit der Ordnungsliebe-Facette der Gewissenhaftigkeit aufweist und globale Gewissenhaftigkeit der beste Persönlichkeits-basierte Prädiktor für beruflichen Erfolg darstellt (Barrick &

Mount, 1991), erscheint dieses M-Element als möglicherweise adaptiv. Die Tendenz zur (zumindest oberflächlichen) „Imagepflege" (*reputation* und *alliance building*, siehe Jones & Paulhus, 2011) ist darauf ausgelegt eine positive Fremdsicht trotz teils sozial-aversiver Handlungen aufrecht zu erhalten und erscheint erfolgsunterstützend.

Zu beachten ist jedoch wieder, dass konzeptuelle Aspekte von M in M-Operationalisierungen eben nur teils akkurat wiedergespiegelt werden (siehe Kapitel 2.2.7 und 13.1).

Narzisstische Verhaltensdispositionen erscheinen zum Erreichen von Erfolgskriterien eher wenig geeignet. Zwar mag ein stabiles Grandiositätserleben für viele Personen als durchaus erstrebenswert erscheinen, allerdings ist ein stetes Streben nach Bestätigung durch andere Personen in Kombination mit einem arrogant-angeberischem Verhalten in interpersonellen Kontexten vermutlich eher selten zielführend.

Der insgesamt sozial-aversive und unverträgliche interpersonelle Verhaltensstil der D3 erscheint für die meisten Kontexte eher wenig zweckdienlich, wenn nicht gar schädlich. Der Annahme des sozialen Austauschs der *Interdependenztheorie* folgend (Kelley & Thibaut, 1978) sind soziale Beziehungen Austauschbeziehungen: Wenn sie mit mehr Kosten als Vorteilen verbunden sind (was schließlich ein Kernaspekt von D3-Verhalten ist) werden sie vom „ausgebeuteten" Gegenüber eher beendet. In den meisten Berufsfeldern erscheint es für Personen wenig vorteilhaft von anderen Kollegen und Vorgesetzten (als Konsequenz von D3-Handlungen) als ausgesprochen sozial-aversiv wahrgenommen zu werden. Zwar mögen D3-Individuen kurzfristig einige wenige Ziele erreichen – langfristig würden sie unterstützende Kontakte verlieren, welche für ein berufliches Vorankommen oft notwendig erscheinen. Im privaten Bereich gilt Ähnliches: Verträglichkeit ist ein Freundschafts-förderliches Merkmal (Jensen-Campbell et al., 2002), weshalb es D3-Personen vermutlich schwer fallen sollte, ein funktionales breites soziales Netz aufzubauen. Einige wenige soziale Kontexte mögen existieren, in welchen sozial-aversives Verhalten in Teilen erwünscht ist und entsprechend mit positiven Verhaltensergebnissen verknüpft ist, z.B. manche Positionen in Wirtschaft, Militär und Polizei oder kriminelle oder terroristische Gruppierungen. Anders ausgedrückt: Kontexte, in welchen (zu) verträgliche Menschen scheitern, könnten für D3-Personen von Vorteil sein.

Bisher überwiegend unklar ist, ob die D3 erst in Kombination mit anderen Merkmalen (im Sinne eines Interaktionseffekts) – z.B. in Verbindung mit kognitiven oder sozialen Fähigkeiten – zu einer erfolgsversprechenden (oder auch besonders sozial-aversiv „wirksamen") Verhaltensdisposition wird. Möglich ist, dass fähige und gleichzeitig finstere Einzelpersonen in der Lage sind (a) Vorteile aus einem ausbeuterischem Verhaltensstil zu ziehen (z.B. Geld durch Betrug) und (b) gleichzeitig soziale, emotionale und kognitive Fähigkeiten so einzusetzen, dass die Konsequenzen der drohenden negativen Reaktionen minimiert werden (z.B. elaboriertes Verwischen von Spuren). Dies wird beispielsweise im Rahmen des *moderated-expression model* der erfolgreichen Psychopathie diskutiert: Hall und Benning (2006) stellten drei mögliche Erklärungen auf, weshalb manche hoch psychopathische Personen „erfolgreich" sind (im Sinne von nicht-kriminell oder auch kriminell, aber nicht strafrechtlich verfolgt): (a) Nicht-kriminelle Psychopathen sind weniger psychopathisch (subklinische Ausprägung, aber alle P-Aspekte vorhanden), (b) Nicht-kriminelle Psychopathen haben höhere Faktor 1- und maximal durchschnittliche Faktor 2-Ausprägungen, d.h. sie sind eher interpersonell und affektiv auffällig und weniger offen antisozial und (c) Nicht-kriminelle Psychopathie ist eine moderierte Manifestation der vollen Psychopathie. Bei Letzterem (moderated expression) wird angenommen, dass bei erfolgreichen Psychopathen das Merkmal P zwar vollumfänglich ausgeprägt ist, gleichzeitig die negativen Konsequenzen, die natürlicherweise mit P-Verhalten einhergehen, kompensiert werden können durch andere Variablen (im Sinne eines Moderatoreffekts): Benannt werden sozio-ökonomischer Status, Intelligenz, diverse „Talente", hohe Bildung, spezielle Sozialisation oder Persönlichkeitsaspekte, die quasi „zügelnden" Einfluss haben. Hall und Benning nehmen an, dass diese Personen gar als echt erfolgreiche (nicht nur nicht-kriminell) Psychopathen bezeichnet werden könnten. Lilienfeld et al. (2015) greifen die drei möglichen Erklärungen auf, ändern sie leicht ab und nennen sie *differential-severity model*, *differential-configuration model* und *moderated-expression model*. Steinert et al. (2017) elaborieren das moderated expression model weiter: Sie (a) konzeptualisieren Erfolg klarer, indem sie über die Einteilung kriminell/nicht-kriminell hinausgehen und Kategorien von positiven und negativen Verhaltensergebnissen erstellen, (b) spezifizieren, dass sich nur Merkmale jenseits des P-Konzepts als mögliche psychologische Moderatoren für die P-Erfolgs-Beziehung eignen (und keine P-Aspekte selbst, die möglicherweise Erfolg vorhersagen)

und (c) erläutern, dass mögliche Moderatoren entweder intrapersonelle Merkmale (körperliche Attraktivität, Intelligenz, Persönlichkeit usw.), Sozialisationserfahrungen oder aktuelle Kontextvariablen (Arbeitsumfeld, Normen im sozialen Netz usw.) sein können.

Ähnlich vermuten Davis und Nichols (2016) in ihrem Review zur emotionalen Intelligenz (EI), dass Interaktionseffekte für sozial-aversives Verhalten und EI bestehen: Hohe Fähigkeiten in Kombination mit aversiven Verhaltensdispositionen führen zu besonders extremen aversiven (effektiven?) Handlungen.

Im Rahmen dieser Arbeit werden auch Zusammenhänge zu Fähigkeitskonstrukten überprüft: Es ist denkbar, dass die D3 mit Merkmalen zusammenhängt, die sie besonders befähigen ihre ausbeuterischen Ziele zu verfolgen. Untersuchenswert erscheinen dabei die Konstrukte allgemeine, soziale und emotionale Intelligenz (für konzeptuelle Erläuterungen siehe jeweils Kapitel 5.2, 6.2 und 8.2). Theoretische Argumente dafür sind nur in kleiner Menge vorhanden. Erstens nehmen Konzeptualisierungen der D3 selten konkreten Bezug zu bestimmten Fähigkeitsausprägungen. Für Psychopathie und Machiavellismus wird gemeinhin ein Mangeln an Emotionalität (besonders in interpersonellen Beziehungen), für Psychopathie „sprachliche Gewandtheit" und für Psychopathie und Narzissmus oberflächlicher „Charme" angenommen. Für Psychopathie wird aber auch konkret beschrieben, dass damit keine „Charme-Fähigkeiten" gemeint sind, sondern eher ein stetes Streben danach charmant auf andere zu wirken (siehe Mokros et al., 2017). Zwar wird bei Cleckley (1941) behauptet über den gemeinen Psychopathen: „Psychometric tests also very frequently show him of superior intelligence." (S. 338), jedoch wird auch eingeschränkt, dass es sich beim intelligent wirkenden Auftreten von Psychopathen meist um eine Pseudo-Intellektualität handele. Bei keiner bisherigen D3-Operationalisierung ist die Messung von sozialen, emotionalen oder kognitiven Fähigkeiten impliziert. Zweitens wird bei Fähigkeitskonstrukten generell kein damit einhergehender interpersoneller Verhaltensstil angenommen und bisherige Befunde zeigen, dass zumindest allgemeine Intelligenz und Persönlichkeit überwiegend unverbunden sind (Ackerman & Heggestad, 1997; Furnham et al., 2005). Es soll betont werden, dass die D3-Individuen hohe Fähigkeiten zwar in besonderem Maße benötigen mögen – bei unfähig durchgeführten sozial-aversiven Handlungen (schlecht „getarnt", keine erfolgreiche Ausbeutung) erscheinen die negativen Konsequenzen für D3-

Personen verstärkt schädlich – daraus folgt aber nicht, dass D3-Personen diese Fähigkeiten auch tatsächlich besitzen: Möglicherweise sind D3-Personen auch ausgesprochen unfähige Ausbeuter. Insgesamt ist für die D3 kein besonderer Fähigkeitsbezug zu erwarten – mit Ausnahme der Domäne Emotion für P und M .

2.4.3 Bisherige Empirie

Hier sollen einige Befunde zum Erreichen (und Nicht-Erreichen) von Erfolgskriterien zusammengefasst werden.[7] Für Psychopathie finden sich einige Belege bzgl. dem Erreichen von Erfolgskriterien: Es deuten sich leichte Zusammenhänge zum Erkennen von Lügen an (Lyons et al., 2013), inhaftierte Psychopathen sind im Vergleich zu nicht-psychopathischen Straftätern eher in der Lage bedingte Haftentlassung zu erreichen (Porter et al., 2009) und im Gefangenendilemma erzielten Psychopathen höhere Gesamtpunktzahlen (Mokros et al., 2008). Fiktive psychopathische Personen werden als gering begehrenswert eingeschätzt (Rauthmann & Kolar, 2012). Machiavellismus ist selten mit erfolgreichem Verhalten verbunden: Wilson et al. (1996) finden in ihrem Review zu M keine oder negative Beziehungen zu Erfolgskriterien. In verschiedenen Untersuchungen, die Spielsituationen umfassen, sind Machiavellisten erfolgreicher (Christie & Geis, 1970). Fiktive machiavellistische Personen werden als gering begehrenswert eingeschätzt (Rauthmann & Kolar, 2012). Bezüglich Narzissmus finden sich einige Hinweise auf effektive Selbstdarstellungen: Narzissten werden bei kurzzeitigen Kontakten von anderen Personen als intelligenter, extravertierter, verträglicher und offener eingeschätzt als Nicht-Narzissten, später jedoch nicht mehr (Paulhus, 1998); sie werden als begehrenswert eingeschätzt (Dufner et al., 2013; Jauk et al., 2016) und sind bei Erstkontakten beliebter (Back et al., 2010). Fiktive narzisstische Personen werden als durchschnittlich begehrenswert eingeschätzt (Rauthmann & Kolar, 2012).

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[7] Befunde bzgl. adaptivem Verhalten im Arbeits- und Organisationskontext werden hier bewusst ausgeklammert, da auf diese in Studie 6 (Kapitel 10) eingegangen wird. Dasselbe gilt für Befunde zur emotionalen und allgemeinen Intelligenz (siehe Kapitel 5 und 6) sowie Lügenfähigkeit (Kapitel 7).

2.4.4 Zusammenfassung Theorie und Empirie

Insgesamt finden sich uneindeutige theoretische Argumente und wenige empirische Belege, dass die D3 besonders mit Fähigkeiten oder dem Erreichen von Erfolgskriterien verknüpft sind. Es finden sich aber auch nur wenige Belege, dass die dunkle Triade maladaptiv ist. Gleichzeitig existieren für D3-Personen (überwiegend) Annahmen, dass sie in manchen Domänen erfolgreicher sind als andere Personen. Diese Annahmen sind teils weit verbreitet: Lilienfeld et al. (2012) geben an, dass „ the view that psychopathy is associated with certain features of healthy functioning is widespread, if not ubiquitous, in the clinical literature." (S. 330). Die Diskrepanz zwischen Verbreitungsgrad der Annahmen, konzeptueller Plausibilität und empirischer Befundlage ist bemerkenswert und erfordert Klärung.

3. Fragestellungen

Grundlage dieser Arbeit sind drei in Teilen hierarchisch geordnete Fragestellungen: (a) Kovariieren die Konstrukte der dunklen Triade mit emotionalen und kognitiven Fähigkeiten, (b) wie steht die D3 mit verschiedenen Erfolgskriterien in Beziehung und (c) wie ordnet sich die dunkle Triade in bestehende Persönlichkeitskonzeptualisierungen ein, erscheint eine weitere Beforschung als gemeinsamer Triade-Verbund angemessen und ist eine konzeptuelle Erweiterung der dunklen Triade um die Komponente Sadismus sinnvoll? Im Folgenden werden diese Fragestellungen erläutert.

3.1 Fragestellung 1 – Fähigkeiten

Da teils angenommen wird, dass die D3 positiv mit erstrebenswerten Außenkriterien in Beziehung steht, stellt sich die Frage, ob D3-Personen über grundlegende Fähigkeiten verfügen, die sie im besonderen Maße zum Erreichen dieser Erfolgskriterien befähigen. Eine zentrale Variable zur Vorhersage von Erfolgskriterien stellt seit jeher Intelligenz dar, weshalb kognitive Fähigkeiten im Zentrum von Fragestellung 1 stehen. Obgleich Persönlichkeit und Intelligenz in der Regel unwesentlich kovariieren, erscheint eine Abklärung möglicher Beziehungen sinnvoll – auch in Bezug auf neue Intelligenzkonzepte (soziale Intelligenz, emotionale Intelligenz).

3.2 Fragestellung 2 – Erfolg

Aufbauend auf Fragestellung 1, wird im Rahmen dieser Arbeit geprüft, ob D3-Personen – abgesehen von ihrem Fähigkeitsniveau – aufgrund ihrer möglicherweise kontextabhängig-adaptiven Verhaltensdisposition besser darin sind „erfolgreich zu sein". Auch wenn Beziehungen von psychologischen Merkmalen pauschal zu „Erfolg im Allgemeinen" wenig sinnvoll erscheinen, ist es durchaus möglich, einzelne Erfolgsdomänen und die Bedeutung der D3 zu prüfen. Dabei sind unterschiedliche Erfolgskriterien denkbar, etwa das allgemeine Erreichen von Erfolgskriterien des akademischen, sozialen und beruflichen Lebens oder etwa auch das sehr konkrete zielführende Verhalten in klar umgrenzten Situationen. Ebenso gilt es aber auch immer wieder diskutierte Moderatoreffekte (moderated-expression model, welches im Rahmen dieser Arbeit auch auf M übertragen wird) durch andere Variablen, z.B.

Intelligenz, bzgl. P-/M-Beziehungen zu Außenkriterien zu prüfen. Diese Aspekte sind Gegenstand von Fragestellung 2.

3.3 Fragestellung 3 – Konzepte

Abschließend soll beurteilt werden, inwiefern eine weitere Beforschung der Merkmale der dunklen Triade (allein und im Verbund) angemessen erscheint. Hierbei steht weniger die Beziehung zu ausgewählten Außenkriterien im Fokus, sondern die Frage, ob die dunkle Triade selbst ein sinnvolles Konzept zur Beschreibung, Erklärung und Vorhersage von sozial-aversivem Verhalten darstellt. Dies ist Gegenstand von Fragestellung 3. Hierbei soll geprüft werden, ob die konzeptuellen und strukturellen Annahmen zur D3 zutreffen und wie die D3 im Hinblick auf andere Persönlichkeitsmerkmale empirisch und konzeptuell einzuordnen ist.

3.4 Ergänzende Bemerkung

Globale Ergebniserwartungen zu den drei Kernfragestellungen erscheinen auf dem obigen Abstraktionsniveau nicht zielführend, weshalb die Herleitung der konkreten Hypothesen in den jeweiligen Einzelstudien ausgeführt wird. Ganz grundsätzlich – und teils eben auch unabhängig von einem Review der empirischen Literatur oder konzeptueller Plausibilität (s.o.) – stehen in diese Arbeit grundsätzliche Annahmen zur Struktur und Adaptivität auf dem Prüfstand. Abhängig von dem jeweiligen Untersuchungsgegenstand wird in manchen Fällen diesen Erwartungen in der Hypothesenformulierung entsprochen, in manchen nicht und manche Arbeiten haben auch deutlich explorativen Charakter.

4. Methode

Im Folgenden wird erläutert, durch welche Methoden und durch welche Einzelstudien die einzelnen Fragestellungen beantwortet werden sollen.

4.1 Fragestellung 1 – Fähigkeiten

Hohe kognitive und emotionale Fähigkeiten prädisponieren (per Definition) Personen zum Lösen unterschiedlicher Probleme. Zu diesem Zweck wurde in Studie 1 (Kapitel 5) die Befundlage zum Zusammenhang zwischen der dunklen Triade einerseits und allgemeiner Intelligenz andererseits im Rahmen einer Metaanalyse zusammengefasst. Ebenfalls wurde in Studie 2 (Kapitel 6) eine Metaanalyse durchgeführt zum Zusammenhang der D3 mit selbstberichteter emotionaler Intelligenz (trait EI) und testbasierter emotionaler Intelligenz (ability EI).

4.2 Fragestellung 2 – Erfolg

Die D3-Beziehung zu sozialen Außenkriterien und allgemeinen Kriterien des Erfolgs stehen im Fokus der zweiten Fragestellung. In Studie 3 (Kapitel 7) wurde untersucht, ob die D3 mit Lügenfähigkeit in Beziehung stehen und ob allgemeine Intelligenz diese Zusammenhänge moderiert. In Studie 4 (Kapitel 8) wurde das Verhalten im Gefangenendilemma und dessen Erfolg in Beziehung gesetzt mit den Merkmalen der D3 – auch hier wurden mögliche Moderatoreffekte durch Intelligenz geprüft. Darüber hinaus wurde die Leistung in verbal dargebotenen Tests mit sozialem Aufgabeninhalt geprüft. In Studie 5 (Kapitel 9) wurde allein das Merkmal Psychopathie im Rahmen des typologischen Ansatzes untersucht. Hierbei wurden basierend auf einer moderat großen Stichprobe unterschiedliche Psychopathie-Typen identifiziert und hinsichtlich dem selbstberichteten Erreichen von sozialen, beruflichen und akademischen Erfolgskriterien und anderen Variablen verglichen. Zuletzt wurde in Studie 6 (Kapitel 10) ein systematischer Literaturreview durchgeführt zur Adaptivität der D3 im Arbeitskontext, speziell bezüglich des Erreichens von beruflichen Erfolgskriterien.

4.3 Fragestellung 3 – Konzepte

Abschließend sollen die in der Dissertation durchgeführten Studien kritisch eingeordnet werden, indem das Konzept der D3 selbst einer Prüfung unterzogen wird. Um das Konzept der dunklen Triade angemessen zu reflektieren, wurden die Beziehung zu Sadismus und die Erweiterung zur D4 zum Anlass genommen für eine Prüfung der Modellannahmen der D3. In Studie 7 (Kapitel 11) wurde ein meta-analytisch gestützter Literaturreview zum Zusammenhang der einzelnen Merkmale der D3 und geringer HH (als möglicher empirischer Kern der D3) in Bezug auf Sadismus durchgeführt. Es wird dabei unter anderem angenommen, dass Sadismus angemessen mit den Merkmalen der D3 und Honesty-Humility kovariieren sollte, um eine Aufnahme unter der Bezeichnung „dunkle Tetrade" zu legitimieren. Des Weiteren wurden die Strukturannahmen zur D4 im Rahmen einer metaanalytischen Strukturprüfung (meta-analytic structural equation modeling) bewertet und die prädiktive Validität von Sadismus wurde metaanalytisch untersucht. Ebenso wurden in einer moderat großen komplementären Primärstudie (ebenso Studie 7) die Merkmale der D4 und Honesty-Humility erhoben. Anschließend wurden die theoretischen Strukturannahmen der D3 geprüft. Es wird angenommen, dass ein D3-Kern einen Faktor höherer Ordnung darstellt. Ebenso wurde ein Modell, das um Sadismus erweitert wurde, geprüft – ein Higher-Order-Modell mit vier untergeordneten D4-Faktoren. Die Beziehung des D3- und des D4-Kerns zu Honesty-Humility (als oft diskutierter empirischer Kern) wurde ebenso geprüft.

5. Studie 1: Metaanalyse D3 und Intelligenz

5.1 Zitation, Anmerkungen und Autorenbeiträge

Titel: General Intelligence and the Dark Triad: A Meta-Analysis[8]

Autor: Moritz Michels

Das Manuskript wurde in *Journal of Individual Differences* zur Publikation angenommen (Michels, in press).

Autorenbeiträge;

- Die Studie und das Manuskript stammen von Moritz Michels.

Weitere Beiträge:

- Verschiedene theoretische und methodische Anregungen (bzgl. Durchführung und Manuskript) stammen von Ralf Schulze.
- Ein großer Teil der Primärstudien wurde von Markus Jansen und Daniel Weppert kodiert (nach einem Kodierhandbuch von Moritz Michels).

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[8] Im Folgenden (Kapitel 5 bis 11) werden die Manuskripte als in sich abgeschlossene Texte dargestellt und mit jeweils eigenem Literaturverzeichnis aufgeführt. Das betrifft ebenso die Verwendung von Überschriften und Subüberschriften. Alle Tabellen und Abbildungen befinden sich im manukriptspezifischen Anhang.

5.2 Manuskript der Studie 1

Abstract

The dark triad of personality (D3) – consisting of psychopathy, machiavellianism and narcissism – is a set of socially aversive personality traits that is regularly regarded as an adaptive behavioral strategy. Furthermore, D3-individuals are often assumed to carry out complex manipulative behavior in order to dominate their social environment. To exercise these complex manipulations in an effective manner it seems beneficial to have high cognitive abilities. A meta-analysis was conducted to examine possible relationships between intelligence and the dark triad. A total of 143 studies were identified to estimate the strength of relationships between the D3 on the one hand, and general, verbal and nonverbal intelligence on the other. The results indicate that none of the constructs of the dark triad are meaningfully related to intelligence. Only for Factor 2 psychopathy there was a small negative correlation with intelligence. The substantial heterogeneity regarding the observed effect sizes could not be explained with meta-regressions for the most part. There was no evidence for a publication bias. In total, the results challenge the notion that the dark triad is an adaptive set of personality traits that enables individuals to effectively manipulate their social surroundings.

Keywords: intelligence, psychopathy, machiavellianism, narcissism, meta-analysis

General Intelligence and the Dark Triad: A Meta-Analysis

Since Paulhus and Williams (2002) grouped three psychological constructs – *psychopathy*, *machiavellianism*, and *narcissism* – into an infamous conglomerate, the so-called *dark triad* of personality (D3) has become a prominent model to describe, explain and predict socially-aversive behavior. Psychopathy (P) is characterized by superficial charm, deceptive and manipulating behavior, a lack of remorse, empathy and emotionality, a tendency to criminality, as well as antisocial behavior in general (Hare, 1999). Machiavellianism (M) describes a lack of affect in interpersonal relations, a utilitarian worldview with no firm moral standards, a tendency to manipulate others, and a lack of psychopathology (Christie & Geis, 1970). Narcissistic (N) individuals tend to feel superior to others, brag about themselves, and intend to dominate their social environment (Raskin & Hall, 1981).

On a conceptual level, the constructs of the D3 share several features, like low interpersonal affect, a tendency of manipulation, the need to dominate others or a general tendency of indifference to the interests of others. This impedes a conceptual differentiation between the P, M and N, which is also reflected in its operationalizations. Consequently, the triad shows high empirical overlap (Muris, Merckelbach, Otgaar, & Meijer, 2017; Vize, Lynam, Collison, & Miller, 2018). Yet, some conceptual features of the dark triad are at odds with one another, e.g. in regards to the role of impulsivity for M and P (Furnham, Richards, & Paulhus, 2013; Jones & Paulhus, 2011; McHoskey, Worzel, & Szyarto, 1998). Recently, the dark triad has been expanded by the inclusion of *everyday sadism* to be described as the "dark tetrad" (Paulhus, 2014), but is also faced with theoretical "competition" due to the emergence of the *Honesty-Humility*-factor (HH) from the *HEXACO*-model by Lee and Ashton (2013). There is convincing empirical evidence that (low) HH is the "core" of the D3 and is best suited to explain the common D3-variance (Hodson, Book, Visser, Volk, Ashton, & Lee, 2018). Moshagen, Hilbig and Zettler (2018) demonstrated that "D" – the so-called *dark factor of personality* that partly consists of shared D3-variance – has a strong empirical overlap with low HH. A strong negative correlation regarding D3 and agreeableness has also been reported (O'Boyle, Forsyth, Banks, Story, & White, 2015) which makes (dis-)agreeableness another valid candidate for the D3-core.

Several authors have argued that the D3 is an adaptive set of personality traits that enables D3-individuals to manipulate their social surroundings in an effective

manner: Psychopaths are thought to be "smooth operators" and exploitative social predators that are able to reach powerful positions as managers or politicians (Babiak & Hare, 2006; Babiak, Neumann, & Hare, 2010; Furnham, 2010; Hare, 1999; Porter, ten Brinke, & Wilson, 2009), machiavellians are seen as a cold manipulators with complex plans to achieve their objectives (Bereczkei, 2018; Christie & Geis, 1970; Simonton, 1986; Wilson, Near, & Miller, 1998) and narcissist are claimed to be charming entertainers (Back, Schmukle, & Egloff, 2010; Jauk et al., 2016; Jonason, Webster, Schmitt, Li, & Crysel, 2012; Paulhus, 1998).

The dark triad and intelligence

It is not uncommon among D3-researchers to assume that the tendency to show manipulative behavior goes along with the actual ability to manipulate others effectively (Jonason & Webster, 2012; Nagler, Reiter, Furtner, & Rauthmann, 2014). Although the empirical support for this claim is sparse and some authors have recently challenged this view of highly adaptive D3-individuals (Jones & Paulhus, 2009; Lilienfeld, Watts, & Smith, 2015; Watts et al., 2013; Wright, Berry, Catmur, & Bird, 2015), it does not seem implausible at first. Consequently, one might deduce that either a) certain theoretical aspects of the dark triad lead to successful manipulations or b) that the D3 are then again positively related to other variables that are commonly connected to criteria of success. If one follows the logic of the latter aspect, intelligence seems to be a valid candidate for examination, since it has shown to be a relevant predictor of several criteria of success (Schmidt & Hunter, 1998; Sternberg, 1997; Strenze, 2007). Additionally, it seems conceptionally plausible that complex manipulative behavior is more likely to be successful if the manipulator has high cognitive abilities. One might even argue that D3-individuals actually "need" a certain level of intelligence to conduct their socially aversive behavior in an effective manner (Salekin, Neumann, Leistico, & Zalot, 2004). This might especially apply to social intelligence and emotional intelligence which can be conceived as sub-branches of intelligence (Conzelmann, Weis, & Süß, 2013; Mayer, Caruso, & Salovey, 2016). Currently, there is almost no empirical evidence on the D3-relations regarding social intelligence, but there have been meta-analyses on the dark triad and emotional intelligence (Megías, Gómez-Leal, Gutiérrez-Cobo, Cabello, & Fernández-Berrocal, 2018; Miao, Humphrey, Qian, & Pollack, 2019; Vize et al., 2018).

In this study a possible relation between the dark triad of personality on the one hand and cognitive ability on the other was examined in order to further inspect if D3-

individuals are able to function normally and if they are predisposed for (mal-)adaptive behavior due to their (low) intelligence. The method of choice was a systematic literature review in combination with a meta-analysis. In this study, the primary issue was the D3-relation to general intelligence. The D3-relations to potential sub-branches of intelligence were examined: *verbal* (to examine if D3-individulas might have superior verbal abilities that might support their manipulation tactics specifically in social situations) and *non-verbal* intelligence (to examine if D3-individuals might have special abstract abilities that might enable them to generate complex manipulative plans in advance).

      Theory-based expectations. For M and P there are a few theoretical/conceptual allusions that might constitute a relationship with intelligence. In the course of the first psychopathy concept, Cleckley (1941) describes the psychopath as an individual with "good 'intelligence'", although he mostly refers to psychopathic pseudo-intellectuality rather than actual high cognitive abilities. Most studies with the P-intelligence-relation as their main topic refer to Checkley's casuistic reports (Johansson & Kerr, 2005; Salekin et al, 2004; Sharratt, Boduszek, & Retzler, 2019; Vitacco, Neumann, & Wodushek, 2008) as the reason to examine to this relationship: Some individuals have shown psychopathic behavior and had high intelligence at the same time. Studies on cognitive features of psychopathy seem to suggest that there are very specific deficits or abnormalities in bottom-up and hemispheric processing (Hiatt & Newman, 2006) with no relation to general intelligence, but rather emotional deficits and impulsivity (Fowles & Dindo, 2006). Criminal behavior has been linked to lower intelligence (Bartels, Ryan, Urban, & Glass, 2010; Gendreau, Little, & Goggin, 1996) and since one crucial aspect of (secondary) psychopathy is a history of criminality, it might constitute a negative empirical connection between intelligence and P. Vitacco et al. (2008) expect no overall effect for intelligence and P, but presume that there might be different relations on the P-facet-level to intelligence (positive relations to primary P and negative relations to secondary P). The concept of "Machiavellian Intelligence" suggests that machiavellians possess special cognitive abilities – although the term is originally used in evolutionary psychology and not personality/social psychology (Whiten & Byrne, 1997). Nevertheless, Bereczkei (2018) refers to the concept and argues that machiavellians do have certain cognitive abilities that enable them to effectively exploit others. One might consider machiavellian behavior as "smart", since it (conceptionally) relies on careful

planning and complex manipulations, but note that the attempt to act in a complex way is not necessarily related to that specific ability. Furthermore, there is no convincing evidence that high-scorers on existing M-tests actually behave in a "machiavellian", i.e. carefully planned manner. Although narcissists themselves claim to have high cognitive abilities, they have shown to overstate their own intelligence more than others (Gabriel, Critelli, & Ee, 1994). Zajenkowski and Dufner (2020) state that self-perceived (high) intelligence plays a key role in narcissistic self-views: Narcissists attribute their successes to their (assumed) high intelligence and are eager to appear as intelligent individuals to others – although narcissism was unrelated to performance in IQ-tests. Nevertheless, it might be possible that individuals with high intelligence might "acquire" a form of narcissism as a consequence of their various successes in life which would result in a positive link between narcissism and intelligence. Beyond that, there is no theoretical reason to assume that there is a relationship between N and intelligence. Note that no D3-model specifically includes or mentions any relation to intelligence. Finally, there was no reason to expect that the D3-traits might be related to sub-branches of intelligence distinctively, e.g. M being related to verbal intelligence, but not non-verbal intelligence. Taken together, no relations between the dark triad and general intelligence can be expected on the basis of their concepts.

      Empirically-based expectations. Apart from aforementioned conceptional examination, note that work by Mischel (1968) already demonstrated that personality is at most moderately related to external criteria – consequently, meaningful relations seem unlikely in the first place. Various studies have shown that cognitive ability is often weakly related to personality. This has been shown for the Five-Factor-Model of personality (Ackerman & Heggestad, 1997; Furnham, Moutafi, & Chamorro-Premuzic, 2005), but also the HEXACO-model (Oh et al., 2014). Especially the latter finding is notable for this study: Since low Honesty-Humility seems to be the empirical (not theoretical) core of the dark triad and HH is unrelated to cognitive ability, it appears unlikely that there is an empirical connection between intelligence and the dark triad. Furthermore, there are already two meta-analyses on the D3-intelligence relation that find a small negative effect for psychopathy and intelligence (de Ribera, Kavish, & Boutwell, 2017) and no relation at all for the complete triad (O'Boyle, Forsyth, Banks, & Story, 2013). Both analyses either rely on D3-self-reports or include D3-tests that have not shown to be valid operationalizations. The meta-analysis by de Ribera et al. (2017)

included effect sizes for psychopathy that might not be suited for aggregation due to heterogeneous psychopath-vs.-nonpsychopath-comparisons. The meta-analysis by O'Boyle et al. (2013) had a comparably small study sample. Consequently, it seemed reasonable to conduct a new meta-analysis.

Hypotheses

Taken together, there are only weak conceptual and empirical arguments that might feed the expectation of a meaningful D3-intelligence-relation. Based on the theoretical relationships between the constructs as well as the available empirical evidence referred to in the previous sections, it was hypothesized that a) there is no relation for psychopathy and general, verbal and non-verbal intelligence. Furthermore, the author expected b) machiavellianism and c) narcissism each to be unrelated to general, verbal and non-verbal intelligence. The hypotheses were not preregistered.

Several authors show that the D3 is related to relevant criteria of success in a non-linear way and argue that there might be an optimal level of D3-constructs (Grijalva, Harms, Newman, Gaddis, & Fraley, 2015; Leary & Ashman, 2018; Zettler & Solga, 2013). In an exploratory analysis, it was additionally tested if there are meaningful non-linear relations with P and intelligence. To test for these relations it was necessary to analyze raw data from the studies.

Method

Literature search and study selection inclusion criteria

The systematic literature search was conducted in July 2017 and ended in April 2019. The databases *PsycINFO*, *PsycARTICLES*, *Psyndex*, *Medline*, *Psychology and Behavioral Sciences Collection* and *ISI – Web of Knowledge* were searched by using the following terms and their combinations ("dark triad" OR psychopathy OR psychopath OR psychopathic OR sociopath* OR narcissis* OR machiavellian*) AND (intelligen* OR "cognitive abilit*" OR "cognitive skill*" OR "mental abilit*" OR "cognitive competence*") to retrieve publications written in English and ("dunkle Triade" OR Psychopathie OR Psychopath OR psychopathisch* OR Soziopath* OR Narziss* OR Machiavelli*) AND (Intelligen* OR "Kognitive Fähigkeit*" OR "Kognitive Kompetenz*") for publications in German. In addition to searching the databases, reference lists of pertinent articles and the two recent meta-analyses by de Ribera et al. (2017) and O'Boyle et al. (2013) were inspected in order to identify additional relevant publications. Figure 1 shows a *PRISMA*

flow diagram (Moher, Liberati, Tetzlaff, Altman, & The PRISMA Group, 2009) documenting the literature search results.

The total number of potentially relevant publications identified through full text search for screening was 9636 (set B). Since the author was unable to properly assess such a high number of studies, a subset of B – the set A – was identified by using a regular search strategy (no full-text search; only title, keywords and abstracts were considered; $n = 1446$). 500 studies with a DOI-number and 100 studies without a DOI-number were randomly selected from the complement of A ($n = 8190$) to check if the complement embodied a substantial amount of studies that were relevant. Only 3 studies were relevant. Consequently, the remaining studies from the complement of A were not screened for relevance. The studies from set A were screened for relevance and 301 studies were identified as potentially relevant. After the exclusion of duplicates and the inclusion of studies from additional sources that were not embodied in Set B ($n = 43$ studies from the meta-analyses, $n = 5$ identified by chance) and the 3 studies from the complement of A, 302 full-text articles were assessed for eligibility.

To be included in the meta-analysis, studies had to provide sufficient information for an effect size and the associated standard error that indicated the strength of association between at least one of the D3-constructs on the one hand and general, verbal or nonverbal intelligence on the other. Furthermore, to ensure a minimum psychometric quality of the instruments used in the included studies, the reliability of both instruments used to estimate the strength of the association had to reach a level of at least .60. Most of the studies provided Pearson correlations as effect sizes. Nevertheless, it is common that psychopathy is dichotomized: a "psychopath-group" is often compared with a "non-psychopath-group". To be included these particular studies had to fulfil a few conditions that were derived from the *Psychopathy-Checklist-Revised-*Manual (PCL/PCL-R; Hare, 2003): These studies were eligible if a) a PCL-R-Cut-Off of 30 points was used for the psychopath-group, b) the non-psychopath-group had a PCL-R-mean lower than 16 or a PCL-R-Cut-Off of 20 points and c) the intelligence-test-mean and standard deviation was provided for both groups. In a few cases ($n = 2$) comparison-studies with other psychopathy-tests than the PCL-R were accepted due to comprehensible reasoning regarding the comparison, e.g. test scores at least in the upper and lower quartiles of published norms for their respective age groups (Anderson & Stanford, 2012). Since a lot of studies were excluded as a consequence, some of these

studies were coded nevertheless (but separate from the other studies) to be included in a sensitivity analysis (n = 38). For each included comparison-study a pointbiserial correlation was calculated in order to aggregate the results with the studies that reported Pearson correlations.

Subsequently, 170 studies were excluded: Some effect sizes were based on the same sample and published in different papers (n = 4), some effect sizes could not be aggregated to be used for the meta-analysis due to miscellaneous statistical and methodological reasons (n = 55), several studies made it impossible to calculate an effect size due to an inadequate group comparison regarding psychopathy (n = 75), some studies used inadequate D3- or intelligence-tests (n = 24), some studies were "grey", unpublished literature (n = 8) or the studies were simply irrelevant for the research question (n = 4). Fortunately, some authors of the primary studies were contacted (see below) and were able to provide effect sizes (or raw data); these studies could be integrated in the analysis (n = 11). The final sample for the meta-analysis (n = 143) comprised 15 effect sizes for narcissism, 15 effect sizes for machiavellianism and 192 effect sizes for psychopathy (Pearson correlations: k = 137; pointbiserial correlations: k = 55). The information on the included studies and the reference list can be found in the dataset for this meta-analysis which is uploaded to the Open Science Framework and can be inspected by using the following link: https://osf.io/ws6kj/?view_only=27a66b43cdeb4e709953269bde2ab4a2.

Coding studies

A coding manual was used to extract the relevant information from the research reports by two independent coders. All discrepancies were inspected and resolved by the author of this study. When effects sizes (based on identical sample sizes) were only available for subscales of the tests, they were aggregated to a single effect size by simply determining the arithmetic mean of the effect sizes (only if effect sizes for every subscale were available). When studies reported more than one effect size based on different tests (e.g., one effect size for the *Psychopathic Personality Inventory* (PPI) and also one for the PCL), then the effect size based on the PCL was preferred for P since the PCL is considered to be the gold standard test for P (Boduszek & Debowska, 2016). The operationalizations of intelligence were categorized into three groups: a) *non-verbal intelligence* (e.g., the *Raven Progressive Matrices Test*; Raven, 1981), for tests or subtests whose content was predominantly non-verbal, b) verbal intelligence (e.g., the *Quick*

Word Test; Borgatta & Corsini, 1964), for tests or subtests whose content was predominantly verbal and c) general intelligence (e.g., the *Wechsler Adult Intelligence Scale*; Wechsler, 2012), for tests that incorporated at least two subtests with verbal and also non-verbal content. The complete coding rational can be found in the dataset for this meta-analysis.

Method of meta-analysis

The meta-analytic model used for the psychopathy-intelligence relation is the *random-effects model* (RE model). For the intelligence-relation with N and M it appears to be more reasonable to use the *fixed-effect model* (FE), since the heterogeneity variance that plays an important role in the alternative RE model cannot be estimated with sufficient precision to avoid biased results if less than 30 studies are used to aggregate correlations in meta-analyses (Schulze, 2004). Additionally, it is difficult to argue that the available studies on N and M are a random sample from a well-defined universe of studies on that specific topic. Hence, the fixed-effect model was used because it is appropriate for the intended inference and does not suffer from statistical result distortions under the given circumstances in this meta-analysis. As a result, for the intelligence-relations to N and M, the inference needs to be restricted to the set of studies included in the meta-analysis – while for P-intelligence inference about the average effect in the entire population of studies is possible. However, the results for both models are reported. For the aggregation of effect sizes the minimum variance unbiased estimator as proposed by Olkin and Pratt (1958) was used. All computations were conducted with the package *metafor* (Viechtbauer, 2010) in R using the inverse sampling variance as weights.

Collecting raw data

Since the data from the primary studies only reported linear effect sizes it is not possible to draw any conclusions regarding possible non-linear relations. To examine those kinds of relations, it was indispensable to gain access to raw data. In August 2019 90 studies from the systematic literature search were identified as potentially relevant. The focus was on the intelligence-psychopathy-relation since there were only a few studies for N and M regarding intelligence and the D3-tests in these studies on N and M were too heterogeneous – consequently, raw data from these studies could not have been pooled into a single data set.

The included studies had a sample size of at least n = 100 with the PCL (or any of its variants) as the measure for psychopathy. 55 studies did not report any effect sizes, but included relevant operationalizations, 35 studies included information regarding an effect size and had been included in the meta-analysis from the beginning. The author contacted the authors, provided information on the intentions and asked for raw data regarding the P-intelligence-relation. It was specifically mentioned that nothing else but the PCL- and intelligence-scores were needed and there were no intentions of using the data for anything else than calculating an effect size. If the authors were unable to provide the relevant data, they were asked to report the Pearson correlation regarding the P-intelligence-relation (if it had not been stated in the paper already).

The author of this study contacted the authors via e-mail. A valid e-mail address for 3 authors could not be found. 11 e-mail-accounts seemed to be inactive since mail delivery failure messages were received. Several authors responded to the message: 6 authors provided Pearson correlations and 7 authors sent the requested raw data. As a result 11 additional studies could be included in the meta-analysis (see Figure 1). Some scale scores from raw data had to be transformed in order to aggregate them in one data set: a) the *PCL-Short-Version*-scores (PCL-SV; Hart, Cox, & Hare, 1995) were adjusted to the PCL-R-equivalent (possible values between 0-40) and b) the intelligence scores from the *Shipley Institute of Living Scale* (SILS; Shipley, 1940) and the *Leistungsprüfsystem 2* (LPS-2; Kreuzpointner, Lukesch, & Horn, 2013) were transformed to IQ-values in accordance with norm values from Zachary, Paulson and Gorsuch (1985) and the LPS-2-manual. The included data sets stem from studies by Caldwell and Van Rybroek (2005), Copestake, Gray and Snowden (2013), Hale, Goldstein, Abramowitz, Calamari and Kosson (2004), Jumper, Babula and Casbon (2012), Kennealy, Hicks and Patrick (2007), Köhler, Neubert Hinrichs and Huchzermeier (2016) and Snowden, Gray, Smith, Morris and MacCulloch (2004) and comprised a total sample size of N = 966. Additional information regarding the studies can be retrieved from the dataset.

Results

The overall effect sizes are depicted in Table 1. All mean effect sizes are close to $\bar{r}$ = 0 with a tendency of negative effect sizes for P. Most relations are non-significant and none constitute a small effect size. The k for M and N is considerably lower than the k for P. The mean effect sizes resulting from the FE model or the RE model are very similar for

almost all relationships. Note that there seem to be no meaningful differences between general, verbal and nonverbal intelligence.

The overall effect sizes at the facet-level of psychopathy are depicted in Table 2. The results show that the aspects of psychopathy that reflect an impulsive, haphazard and thrill-seeking lifestyle, and a penchant for criminality (Factor 2, similar to secondary psychopathy) are negatively related to intelligence, whereas the interpersonal aspects of P, e.g. a tendency to manipulate others with superficial charm and a feeling of grandiosity, (Facet 1) seem to be completely unrelated to intelligence.

Additionally, overall effect sizes were calculated with no distinction for general, verbal and nonverbal intelligence. If studies reported more than one effect size for different intelligence-branches that were based on the same sample, the effect size for general intelligence was chosen, otherwise the effect size for verbal intelligence. For psychopathy, there was a negative effect size of ($\bar{r}$ = -.0751; CI = [-.0999; -.0502]; k = 152; N = 34253; RE model). There were non-significant effects for machiavellianism ($\bar{r}$ = .0238; CI = [-.0216; .0691]; k = 15; N = 1901; FE model) and narcissism ($\bar{r}$ = .0249; CI = [-.0133; .0630]; k = 13; N = 2634; FE model).

Sensitivity analysis

In the course of a meta-analysis many decisions have to be made by researchers that regularly influence the overall results. The exclusion of studies in the aforementioned systematic literature review might be considered too "rigorous" by some. An additional sensitivity analysis was conducted for a set of studies that had been excluded from the main analysis due to an inadequate group comparison regarding psychopathy (e.g. psychopathy-group-formation based on psychopathy test scores in that specific sample, see above). There was an average effect size of $\bar{r}$ = -.1989 (k = 32; N = 1574; RE model) for general intelligence and an average effect size of $\bar{r}$ = .1298 (k = 4; N = 199; FE model) for verbal intelligence. These findings seem to be slightly at odds with the results from the main analysis. Nevertheless, the inclusion would have been almost inconsequential and would lead to a weighted average effect size of $\bar{r}$ = -.0898 (CI = [-.1220; -.0576]; k = 141; N = 20703; RE model) for general intelligence – which would still be very close to zero.

Moderator analyses

To quantify the heterogeneity of effect sizes I^2-values were calculated (Higgins & Thompson, 2002) and are shown in Table 1. The relations regarding psychopathy

showed a substantial proportion of variance in observed effect sizes that is due to heterogeneity. The confidence intervals for M and N were relatively large due to the low number of studies available. Consequently, the I^2-values for M and N are not informative.

A meta-regression was conducted with the following independent variables: (a) proportion of females in the sample, (b) mean age of the sample, (c) country in which the study was conducted, (d) sample type, (e) operationalization of intelligence, (f) operationalization of D3-constructs and (g) sample mean of the D3-test compared to norm values. The possible categories of these variables are shown in the dataset (e.g., for the variable "subjects" there were the categories "offender", "kid", "community", "patient" and "student"). The moderator analysis was exploratory, since there were no priori hypotheses regarding possible moderator effects.

Although there is no empirically or conceptually substantiated minimum k to conduct meta-regressions (Borenstein, Hedges, Higgins, & Rothstein, 2009), its results should be interpreted with caution when the number of effect sizes is low. Therefore, the minimum k to conduct a meta-regression in this study was set to ten studies. The overall results are presented in Table 3. Some of the predictors showed significant moderator effects. A consistent pattern of moderators does not exist, although the operationalizations of intelligence and P seem to be potential moderators for the psychopathy-intelligence relation. Note that the number of effect sizes dropped substantially in some cases (e.g., D3-level) since studies with no information regarding the moderator variables had to be excluded from the model. Consequently, subgroup analyses were inconclusive for most variables. A subgroup analysis for the psychopathy-intelligence-relation regarding P-tests showed the combined effect sizes for the PCL ($\bar{r}$ = .0817, k = 78, RE model) were incomparable to other P-tests (that were not part of the PCL-test-"family", e.g., the PCL-SV) since the number of effect sizes that were based on other tests was very low ($k < 6$).

Note that it is impossible to attribute the moderator effects to specific moderators only due to their mutual confounding and their potential confounding with other known and/or unknown variables that might be the actual cause for the heterogeneity in observed effect sizes. For example, the PCL-test is commonly used only in forensic samples, whereas psychopathy-self-reports are predominantly used outside of prison. It is unknown if differences in effect sizes might exist due to the test itself or

real differences in the samples. However, even if there are differences in effect sizes they appear to be very small.

Taken together, the results from the moderator analyses are limited and should be interpreted with great caution.

File-drawer-analysis

To test for a possible risk of publication bias, a fail-safe-N-analysis and tests for funnel-plot-asymmetry were conducted. The results can be seen in Table 4. The fail-safe-N by Rosenthal (1979) is only high ($> 5 \times k + 10$) for the relations regarding P. For M and N the fail-safe-N is zero (except for N-nvI), since the overall meta-analytic effects were insignificant in the first place. Due to decreasing power of the tests to distinguish chance from real asymmetry, the tests for funnel-plot-asymmetry (Egger, Smith, Schneider, & Minder, 1997) were only conducted when at least ten studies were available as recommended by Sterne, Egger, and Moher (2008). None of tests for funnel-plot-asymmetry showed significant results as can be seen in Table 4. Consequently, the author refrained from doing further analyses, for example a trim-and-fill-analysis (Duval & Tweedie, 2000).

Although there was no reason to suspect a possible publication bias in the first place (almost no study in the meta-analysis had the D3-intelligence-relation as its main topic which would have indicated a lively discussed topic and therefore the risk of a publication bias), none of the results indicated a potential bias. However, the most convincing argument against a publication bias (in the sense of the withholding of studies with non-significant results) might be that almost all effect sizes in the analysis were very small and mostly non-significant. One can assume that there is indeed a negative relationship for psychopathy and intelligence with the notion that it is probably too small to be of any practical significance.

Analysis of raw data

Seven data sets were aggregated (total N = 966). The PCL-scores were rather high with M = 25.14 (SD = 8.07) and the average IQ was comparably low with M = 93.41 (SD = 13.21). The isolated single data sets mostly showed correlations around r = -.1. Surprisingly, the psychopathy-intelligence-relation in the aggregated data set was r = -.322 (p < .001, 95%-CI [-.377; -.264], two-tailed test) which was considerably different from the meta-analytic results and might be due to range restriction in the isolated samples. Tests for linear and non-linear relationships were conducted: R^2 (with the PCL-

value as the independent variable) was estimated for the optimal linear, quadratic and cubic regression models. The linear regression model explained $R^2 = .104$ of the variance in IQ-values while the nonlinear regression models did not explain a meaningful additional amount of variance (quadratic: $R^2 = .112$; cubic: $R^2 = .113$). Therefore, linear models seem quite adequate to display the P-intelligence-relation.

Discussion

The meta-analysis showed that the D3 and intelligence are at most weakly related. Whereas the psychopathy-intelligence-relation is negative, for M and N there seems to be no relation at all. It should be noted that the study sample for M and N is considerably lower compared to P. Two of three expectations were corroborated. Whereas M and N were (as expected) not related to cognitive abilities, the relation for psychopathy and intelligence was significant but very small. The cause for the effect might be the overlap between P and criminality: the latter has shown to be negatively related to intelligence. This becomes particularly evident considering the small negative relation between intelligence and the P-Factor 2 (the aspect of psychopathy that comprises norm-violating behavior). Since criminality is part of many P-test-items, it would be inadequate to interpret this overlap as confounding. Furthermore, intelligence is negatively related to impulsivity (Schweizer, 2002; Vigil-Coleț & Morales-Vives, 2005) and aggression (Ackerman & Heggestad, 1997) – two conceptual features of Factor 2 psychopathy. Alternatively, the negative P-intelligence-relation might be due to range restriction in the primary studies and might disappear in the course of a secondary analysis of all raw data – yet the analysis of raw data mentioned above suggests the opposite. Nevertheless, the results indicate that D3-individuals do not have superior cognitive abilities that might enable them to show complex manipulative behavior. On the other hand, they do not seem to have relevant cognitive deficits as well. If one assumes that D3-individuals can indeed be more successful in some contexts than others (an assumptions that should be scrutinized in the first place), this analysis demonstrates that this possible success is not a consequence of high cognitive abilities.

Surprisingly, the reanalysis of the raw data showed a moderate negative relation with intelligence: it is unclear if the study sample coincidently showed a moderate effect or if the meta-analytic results might have to be reinterpreted. A reanalysis of the original data from the primary studies might have shown similar results due to an underestimation of effect sizes due to range restriction in the isolated studies. But note

that an overestimation of the effect in this meta-analysis is also possible due to range restriction. On the other hand, e.g. Watts et al. (2016) found similar results as in this meta-analysis regarding P-intelligence and did correct for range restriction using a formula for correcting correlation estimates by Hunter and Schmidt (1990), which did not alter their overall results. However, the results from a P-gI-meta-analysis with $k >$ 100 might be more credible than the reanalysis of only 7 datasets. The reanalysis of raw data did not raise any reason to further inspect the D3-relations to intelligence in regards to non-linear relationships.

Limitations of the meta-analysis

A few limitations of this meta-analysis should be considered: First, the combined effect sizes remained heterogeneous even after moderators have been taken into account. As a result, the reported overall effects may be quite different in subpopulations not under investigation in the present study. Second, the number of studies for M and N was very small, so that the inference had to be restricted to the types of studies under investigation and cannot be further generalized due to the use of the FE model. Third, the selection of tests for M and N that were used in the primary studies was narrow – which also made possible subscale-analyses for M and N impossible. This does not apply for P and most of the studies used the PCL (which is considered the "gold standard"-measure for psychopathy). Forth, a more fine-grained analysis of intelligence-subdimensions on the basis of an overarching model of intelligence – preferably the *Cattell-Horn-Carroll theory* (Carroll, 1993) – would have been desirable. Since the number of effect sizes per effect-size-category (e.g. P-gI) would have dropped substantially, a rather rough separation into verbal and non-verbal was the pragmatic consequence. Lastly, no grey literature was included in this analysis: Since there was no specific search for unpublished studies on the research question, a substantial body of literature might have been missed – nevertheless, the grey studies that were identified did not differ in methodology nor in the reported effect size. Consequently, there was no reason to include them.

Concluding remarks

The results relativize the assumption that the dark triad of personality related to special abilities and is therefore an adaptive set of traits. None of the three traits is positively related to intelligence – D3-individuals do not have special cognitive abilities that fuel the effectiveness of their manipulative endeavors. For some readers these

results might raise a question: If D3-individuals are not smarter than others, how are they capable to effectively manipulate others? The author does not regard this as a valid question, since it implies that D3-individuals are indeed more successful in some areas of activities. In fact, there is no convincing empirical evidence that shows that D3-individuals are indeed "getting ahead". A plausible requirement for high cognitive abilities to show certain behavior (e.g. successful manipulations) does not constitute the actual presence of such high abilities. Although the dark triad and intelligence are basically unrelated, it has yet to be explored if there are interaction effects for D3-intelligence in regards to meaningful external criteria: At least for the psychopathy-criminality-relation intelligence is often discussed as a potential moderator (Hall & Benning, 2006; Heilbrunn, 1982; Vitacco et al., 2008). Taken together, a meaningful D3-intelligence-relation was not expected and none was found. No further research is needed.

Acknowledgements

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The references for the studies of this meta-analysis are not depicted here, but within the dataset (https://osf.io/ws6kj/?view_only=27a66b43cdeb4e709953269bde2ab4a2).

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Appendix

Table 1

Overall relationships between the dark triad and intelligence

Relation	k	N	$\bar{r}_{FE}$	95% CI (FE)	$\bar{r}_{RE}$	95% CI (RE)	I^2	95% CI
P-gI	109	19129	-.0687	[-.0827; -.0546]	-.0635	[-.0933; -.0336]	71.8581	[60.9400; 79.7704]
P-vI	47	16749	-.0996	[-.1144; -.0847]	-.0784	[-.1268; -.0299]	88.6153	[82.3225; 93.2156]
P-nvI	36	10743	-.0671	[-.0859; -.0484]	-.0203	[-.0700; .0294]	77.4833	[55.3071; 86.3980]
M-gI	2	337	.0758	[-.0315; .1830]	.0758	[-.0315; .1830]	0.0000	[0.0000; 99.8407]
M-vI	9	1235	.0047	[-.0515; .0609]	.0047	[-.0515; .0609]	0.0702	[0.0000; 86.2028]
M-nvI	4	329	.0422	[-.0679; .1523]	.0422	[-.0679; .1523]	0.0000	[0.0000; 86.2169]
N-gI	3	168	.0450	[-.1106; .2005]	.0450	[-.1106; .2005]	0.0000	[0.0000; 93.7032]
N-vI	10	1919	-.0172	[-.0620; .0275]	-.0229	[-.0966; .0508]	51.6779	[0.0000; 90.6688]
N-nvI	2	774	.1120	[.0423; .1818]	.0999	[-.0039; .2038]	44.9483	[0.0000; 99.9459]

Notes. gI = general intelligence; vI = verbal intelligence; nvI = non-verbal intelligence; k = number of independent effect sizes; N = aggregate sample size; $\bar{r}_{FE}$ = overall effect size for a FE model; $\bar{r}_{RE}$ = overall effect size for a RE model; 95% CI = 95% confidence interval for ρ (FE/RE model) or I^2; I^2 = proportion of variance in observed effect sizes that is due to heterogeneity.

Table 2

Overall relationships between psychopathy facets and intelligence

Relation	K	$\bar{r}_{FE}$	95% CI (FE)	$\bar{r}_{RE}$	95% CI (RE)
Facet 1	17	-.0322	[-.0618; -.0027]	-.0072	[-.0713; .0570]
Facet 2	17	-.1945	[-.2228; -.1661]	-.1560	[-.2308; -.0812]
Facet 3	17	-.2343	[-.2620; -.2065]	-.2020	[-.2876; -.1163]
Facet 4	17	-.2027	[-.2312; -.1743]	-.1718	[-.2293; -.1143]
Factor 1	38	-.0674	[-.0875; -.0474]	-.0327	[-.0810; .0155]
Factor 2	38	-.1664	[-.1861; -.1468]	-.1432	[-.1871; -.0992]

Notes. Facet 1 = Interpersonal Manipulation; Facet 2 = Callous Affect; Facet 3 = Erratic Lifestyle; Facet 4 = Anti-Social Behaviour; Factor 1 = Facet 1 and Facet 2; Factor 2 = Facet 3 and Facet 4.

The Facet/Factor-structure is derived from common models of psychopathy (e.g. Hare, 2003). The *Self-report Psychopathy Scale –Forth Edition* (SRP-4; Paulhus, Neumann, & Hare, 2016) and the PCL-tests are based on this model.

Table 3

Moderator analysis

moderators	P-gI	P-vI	P-nvI	N-nvI
F	.0032 (103)	.0010 (41)	.0010 (33)	.2352 (7)
age	.0523 (84)	.0899 (26)	.0121 (29)	.6907 (5)
nationality	.1714 (105)	.0980 (46)	.3818 (36)	.5555 (10)
sample type	.1755 (108)	.2265 (47)	.0727 (36)	.3888 (10)
I-test	.0249 (109)	.4983 (47)	.4862 (36)	.4210 (10)
D3-test	.1894 (109)	.4854 (47)	.3909 (36)	.2777 (10)
D3-level	.0228 (43)	.1666 (15)	.0344 (12)	-

Notes. F = proportion of females in the sample; age = mean age of the sample; culture = the participants' cultural background; I-test = operationalizations of intelligence; D3-test = operationalizations of D3; D3-level = sample mean of the D3-construct compared to norm values.

The values in the cells show the amount of heterogeneity explained in the D3-intelligence-relation by the moderators (*Q*-statistic for test of moderators / total *Q*-statistic). A "-" in a cell indicates no variance in the variable hence no moderator analysis was possible. Studies with NAs were omitted from model fitting. The *k* that the moderator analysis is based on is in each case shown in parentheses. All outcomes are based on the fixed-effect model.

Table 4

Fail-safe-N analyses and Egger's regression test for funnel-plot-asymmetry

Relation	$\bar{r}_{FE}$	FSN_{RT}	$5 \times k + 10$	FSN_{ORW}	p_{Egger}
P-gI	-.0687	1120	555	0	.9086
P-vI	-.0996	824	245	0	.1086
P-nvI	-.0671	25	190	0	.6490
M-gI	.0758	0	20	0	-
M-vI	.0047	0	55	0	-
M-nvI	.0422	0	30	0	-
N-gI	.0450	0	25	0	-
N-vI	-.0172	0	60	0	.2981
N-nvI	.1120	1	20	0	-

Notes. According to Rosenthal (1979), a publication bias seems unlikely if the fail-safe-N is higher than 5 × k + 10. FSN_{RT} = Fail-safe-N by Rosenthal (1979) with target significance level α = .01; FSN_{ORW} = Fail-safe-N by Orwin (1983), tested for $\bar{r} \leq$ -.1 and $\bar{r} \geq$ .1), p_{Egger} = p-value for Egger's regression test for funnel-plot-asymmetry (not applied for overall effect sizes based on less than 10 effect sizes, based on the RE model for P and the FE model for N).

Figure 1

PRISMA flow chart for the systematic literature search

Set B
Records identified through database searching through full text search (n = 9636)

Additional records identified through other sources
(n = 48)

Complement of A
(studies in B that were not in A)

(n = 8190)

Set A
(subset of B) Records identified through database searching through regular search
(n = 1446)

Random sample with DOI-numbers

(n = 500)

Random sample without DOI-numbers

(n = 100)

Records excluded from Set A

(n = 1145)

Potentially relevant records after screening

(n = 301)

Full text assessed and relevant

(n = 3)

Abstract screened and potentially relevant

(n = 0)

Potentially relevant records after duplicates removed

(n = 251)

Full-text articles excluded, with reasons (n = 170)
- Grey literature (n = 8)
- Identical sample (n = 4)
- Effect size not available/usable (n = 55)
- Inadequate group comparisons for P (n = 75)
- Inadequate D3- or intelligence-tests (n = 24)
- Irrelevant (n = 4)

Full-text articles assessed for eligibility
(n = 302)

Studies included in quantitative synthesis
(n = 132)

Studies that were included in a sensitivity analysis

(n = 38)

Studies with no effect size whose authors provided the relevant information
(n = 11)

Final study sample for the meta-analysis

(n = 143)

Number of effect sizes for **psychopathy** (k = 192)

- Pearson product-moment correlation   (k = 137)
- Pointbiserial correlation   (k = 55)

Number of effect sizes for **machiavellianism**

(k = 15)

Number of effect sizes for **narcissism**

(k = 15)

6. Studie 2: Metaanalyse D3 und EI

6.1 Zitation, Anmerkungen und Autorenbeiträge

Titel: Emotional Intelligence and the Dark Triad: A Meta-Analysis

Autoren: Moritz Michels & Ralf Schulze

Eine Version des Manuskripts wurde veröffentlicht in *Personality and Individual Differences* (Michels & Schulze, 2021).

Die vorliegende Arbeit basiert auf der Masterarbeit von Moritz Michels („Emotionale Intelligenz und die dunkle Triade – eine Metaanalyse", Februar 2017, Bergische Universität Wuppertal). Das vorliegende Manuskript stellt eine grundlegende Neuausrichtung dar: mehrfach aktualisierte Literaturrecherche, vollständig neue Einleitung und Diskussion, vollständig neue (methodisch von der Masterarbeit verschiedene) Auswertung.

Autorenbeiträge;
- Die Idee der Studie stammt von Moritz Michels.
- Der Literaturbeschaffung und die Erstellung des Datensatzes stammen von Moritz Michels.
- Die Auswertung stammt von Ralf Schulze.
- Einleitung, Methoden und Diskussion stammen von Moritz Michels und Ralf Schulze.
- Der Auswertungsteil wurde überwiegend von Ralf Schulze geschrieben.

Weitere Beiträge:
- Ein Teil der Primärstudien wurde von Patrick Paschke kodiert (nach einem Kodierhandbuch von Moritz Michels).

6.2 Manuskript der Studie 2

Abstract

The dark triad is commonly conceived of three subclinical socially aversive and exploitative personality traits: psychopathy, machiavellianism, and narcissism. These traits have been linked to certain abilities that may facilitate the attainment of goals in social interactions, one of which may be emotional intelligence. Emotional intelligence encompasses the abilities to perceive emotions correctly, to understand the regularities of emotional functioning, and to regulate one's own and others' emotions. However, it has alternatively also been conceptualized as a set of emotion-related personality characteristics assessed with self-reports (Trait emotional intelligence). The aim of this study was to examine the possible relationships between the dark triad and emotional intelligence. A meta-analysis with a total of 109 effect sizes ($6 \leq k\text{s} \leq 30$) culled from 71 studies was conducted. Of the resulting six most relevant combined effect sizes ($1561 \leq N\text{s} \leq 8127$), five were small and negative ($-.23 \leq \bar{r}\text{s} \leq -.13$). Only the correlation between narcissism and emotion-related personality characteristics was small and positive ($\bar{r} = .15$). In total, the results indicate that the dark triad constructs are only weakly related to emotion-related traits, either conceptualized as abilities or personality characteristics.

Keywords: emotional intelligence, psychopathy, machiavellianism, narcissism, meta-analysis

Emotional Intelligence and the Dark Triad: A Meta-Analysis

The dark triad of personality (D3) is a research area that enjoys growing popularity since psychopathy, machiavellianism, and narcissism – three personality traits considered to be socially aversive – were grouped into a set of three by Paulhus and Williams (2002). Psychopathy (P) is characterized by superficial charm, deceptive and manipulating behavior, a lack of remorse, empathy, and emotionality as well as antisocial behavior in general (Hare, 1999). The most prominent model to conceptualize P is the *four-factor-model of psychopathy* (Hare & Neumann, 2006). It describes P as a trait of four highly intercorrelated factors (a) interpersonal manipulation, (b) callous affect, (c) erratic lifestyle and (d) antisocial behavior. Psychopathy's history lies within clinical psychology: P has primarily been shaped by early casuistic work by Cleckley (1941) and closely resembles the concept of the antisocial personality disorder from the DSM-5. Machiavellianism (M) – a personality construct whose name refers to the writings of the philosopher Niccolò Machiavelli – describes a lack of affect in interpersonal relations, a utilitarian worldview with no firm moral standards, and a lack of psychopathology (Christie & Geis, 1970). More recent concepts and measures of M have focused on manipulative long-term planning and a tendency of gratification delay in order to achieve one's goals (Collison et al., 2018; Jones & Paulhus, 2011). Narcissistic (N) individuals tend to feel superior to others, brag about themselves, and intend to dominate their social environment by exploitation (Raskin & Hall, 1981). Narcissistic individuals are motivated by a strong need for admiration through others (Morf & Rhodewalt, 2001) and tend to overstate their abilities and their attractiveness (Gabriel et al., 1994). Similar to P, narcissism is also represented in clinical psychology in its most extreme form as the narcissistic personality disorder. Currently, the D3 seems to be the most popular model to describe a broad spectrum of socially aversive behavior. Given the construct descriptions, the D3 (to varying degree) appear to share several features, like low interpersonal affect or empathy, a tendency of manipulation, disregard of the well-being of others or the need to dominate others (see also Paulhus, 2014). The three constructs are positively intercorrelated at a medium level which has been shown in two recent meta-analyses (Muris et al., 2017; Vize et al., 2018). There has also been an ongoing dynamic debate about the question as to what extent the three constructs can be distinguished from one another both empirically and conceptionally (Furnham et al., 2013; Jones & Paulhus, 2011; McHoskey et al., 1998).The dark triad has

been expanded by the inclusion of (everyday) sadism to be described as the "dark tetrad" (Paulhus, 2014) and the dark sphere of personality might even encompass many more psychological constructs (see Moshagen et al., 2018; Zeigler-Hill & Marcus, 2016). The dark triad traits have repeatedly been mentioned along with life history theory (from evolutionary ecology) and have been described as "fast life history strategies in which individuals mature early, produce more offspring, but invest less in each offspring" (McDonald et al., 2012, p. 601), while some see this framework as an explanation for possibly adaptive behavior styles of dark personalities (see Jonason et al., 2012).

Although the D3 has originally been conceptualized as "subclinical" (see Furnham et al., 2013, Paulhus & Williams, 2002), many researchers doubt that clinical cut-offs are a reasonable procedure in personality psychology (see Markon et al., 2005). Accordingly, we consider the full spectrum of the D3 and do not limit our study to subclinical measures.

The core of the Dark Triad

A controversial topic of discussion appears to be the nature of the "core" of the D3. Several authors have proposed different core constructs that may be suited best to explain the common D3-variance, for example, agreeableness (Vize et al., 2020) or callousness (Paulhus, 2014). Note that most authors do not opt for one or another candidate due to conceptual arguments, but rather conduct an empirical search for a common core that is inspired by known high correlations with other variables. More recently, Moshagen et al. (2018) identified "the dark factor of personality" (D) as the core of the D3 and other personality traits that appear to have undesirable and problematic tendencies. They conceptualized D as "the general tendency to maximize one's individual utility – disregarding, accepting, or malevolently provoking disutility for others –, accompanied by beliefs that serve as justifications" (Moshagen et al., 2018, p. 658). It was shown that D is highly negatively correlated at -.80 with Honesty-Humility (HH) from the HEXACO-model by Lee and Ashton (2013), who defined HH as a sixth global personality factor. According to Lee and Ashton (2013), HH encompasses manipulative behavior, the will to bend rules for personal gain and a desire for wealth and status, which highlights many similarities with D. Additionally, Hodson et al. (2018) provided meta-analytic evidence that the common factor of the D3 and HH overlaps almost completely at -.95. Furthermore, there is also evidence that each D3-construct is

highly correlated with low HH (Muris et al., 2017). Most importantly, structural equation modelling studies showed that a higher-order D3-"core"-factor highly correlates with HH (Vize et al., 2020). Although some authors argue that a dark core might be "more than a mere inversion of honesty/humility" (see Volmer et al., 2019, p. 101), there is good reason to argue that the (empirical) common core of the dark triad is indeed almost identical to HH or that HH is at least clearly a good proxy for D (Moshagen et al., 2018, p. 677). Consequently, we regard low scores on HH as essentially representing high scores on the D3-core in this study and implement it accordingly.

The Dark Triad and Emotional Intelligence

In line with the general characterizations of the constructs constituting the D3, several authors have argued that the D3 is connected to a set of social and emotional abilities that are relevant for attaining the goal of manipulating others: Psychopaths are thought to be exploitative social predators that are able to reach powerful positions as managers or politicians (Babiak & Hare, 2006; Babiak et al., 2010; Furnham, 2016; Hare, 1999; Porter et al., 2009), machiavellians are seen as a cold manipulators with complex plans to achieve their objectives (Bereczkei, 2018; Christie & Geis, 1970; Wilson et al., 1998), and narcissist are claimed to be charming entertainers (Back et al., 2010; Jonason et al., 2012; Paulhus, 1998).

Conceptualizations of Emotional Intelligence. To investigate a possible connection between D3 and interpersonal abilities, many researchers (Austin et al., 2007; Jauk et al., 2016; Visser et al., 2010) have turned to emotional intelligence (EI). These studies mainly report small to moderate negative relations between EI and the D3, which is in line with prior meta-analyses on this issue (see below). However, there is an important schism in the field of EI that needs to be considered:

Mayer et al. (2016) define EI as the "ability to reason validly with emotions and with emotion-related information, and to use emotions to enhance thought" (Mayer et al., 2016, p. 296). According to their model, it encompasses the problem-solving areas to (a) perceive emotions accurately (Perception; e.g., identify deceptive or dishonest emotional expressions from others, identify emotions in one's own physical states, feelings, and thoughts, express emotions accurately when desired), to (b) use emotions to enhance thought (Facilitation; e.g., generate emotions as an aid to judgment and memory, generate emotions as a means to relate to experiences of another person), to

(c) reason validly with emotions and with emotion-related information (Understanding; e.g., understand how a person might feel in the future or under certain conditions (affective forecasting), appraise the situations that are likely to elicit emotions, label emotions and recognize relations among them), and to (d) manage emotions (Management; e.g., manage one's own and others' emotions to achieve a desired outcome, engage with emotions if they are helpful and disengage if not). Obviously, EI includes the ability to perceive, understand, and manage or manipulate others' emotions, within this framework, which makes at least these components of EI valid candidates to investigate the relationship between D3 and these interpersonal abilities. Congruously with this conceptualization of EI as a set of abilities, only maximum performance tests have been deemed appropriate as a type of EI assessment, it should be noted, however, that extant measures are not without problems (e.g., Roberts et al., 2008; Schulze et al., 2007).

As an alternative to the ability conceptualization of EI, many authors propose to view EI as a set of personality characteristics (see Neubauer & Freudenthaler, 2005; Pérez et al., 2005) rather than an ability. In tandem with such alternative conceptualizations, the assessment approach is also fundamentally different in that almost exclusively self-reports are used (see Pérez et al., 2005).

Since both approaches are vastly different in concepts and operationalizations, it appears mandatory to clearly differentiate between them in principle, and when relationships between EI and other variables are investigated, in particular. In order to make this distinction, the term "ability emotional intelligence" or "ability EI" (AEI) will be used for the ability approach with maximum performance measures. The label "trait emotional intelligence" or "trait EI" (TEI) will be used for the personality approach to EI using typical performance in the form of self-reports. Although designating TEI as an "intelligence" can be considered as misleading, the term TEI will be used here as it has been established in the pertinent literature. It should be noted however, that TEI is covered entirely by established personality factors (see, e.g., Anglim et al., 2020) and does not represent an intelligence in the classical sense.

The relationship of the D3 and AEI. Despite the fact that descriptions or characterizations of the D3 as given above allude to emotion-related abilities (e.g., empathy in particular), it is not immediately obvious what implications follow with respect to AEI. This is the case because there are no consistent and sufficiently precise

theoretical statements to be found in the D3 literature that make clear whether the attributes used to characterize N, M, or P, refer to behavioral tendencies only or human abilities. In particular, empathy can be considered as a behavioral tendency (assessed with self-reports) or as an ability (assessed with maximum performance tests) but the two conceptualizations must not be confused theoretically or empirically (Murphy & Lilienfeld, 2019). Insofar as "lack of empathy" as a common characteristic of the D3 is meant to designate a deficit in behavioral tendency, there appears to be no theoretical justification for an association between the D3 and AEI. If, on the other, "lack of empathy" points towards a lack of the ability to empathize with others, there might indeed be a negative correlation between the D3 (M and P in particular) and AEI. Such a relationship might be particularly pronounced for the subfactors Perception and Understanding of AEI, which are abilities conceptually most closely related to empathy.

The relationship of the D3 and TEI. At least small to medium relationships can be expected between the D3 and TEI, mainly because both domains share a number of common correlates[9]. Given the fact that both D3 and TEI are correlated with the same variables, they might correlate with each other without much direct construct overlap between the two domains or causal connections.

One common correlate may be the general factor of personality (see van der Linden et al., 2010). At a very global level, it has been reported that TEI and a global factor of personality are extremely highly correlated at about .85 (van der Linden et al., 2017). In addition, there is evidence that a global personality factor also appears to be negatively related to M and P (Kowalski et al., 2016). Hence, at least weak correlations can be expected between TEI and these two members of the D3 based on previous evidence at a very global factor level. Such high-level correlations appear to have a firm empirical basis and may suffice to justify the expectation of a negative correlation between the D3 and TEI but, of course, they do not constitute a substitute for a theoretical explanation of a correlation between members of the D3 and TEI.

Another common correlate is the personality factor agreeableness. It has been reported that agreeableness in particular is positively related to TEI (van der Linden et al., 2017). A strong negative correlation regarding the D3 and agreeableness has also been reported (Muris et al., 2017; O'Boyle et al., 2015). Both correlations are also

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[9] We describe the magnitude of effect sizes in accordance with the guidelines provided by Cohen (1988).

somewhat plausible from a more conceptual perspective both for TEI and the D3. For example, the Trait Emotional Intelligence Questionnaire (TEIQue; Petrides, 2001) encompasses the subfactors Sociability and Emotionality, which describe the tendency to form positive relationships with others. On the other hand, the D3 are characterized by disagreeable tendencies towards socially questionable behavior. Consequently, a negative D3-TEI-relationship can be expected both on theoretical and empirical grounds.

Yet another plausible common correlate of both the D3 and TEI, also at least partly due to their common mode of assessment, is socially desirable responding (SDR). Individuals who describe themselves as socially aversive (i.e., high in P and/or M) do not appear to fall victim to a tendency of socially desirable responding. Given this particular lack of a response tendency, such individuals would score rather low on self-reported emotional intelligence as compared to individuals low in P and/or M. The case is different for N, though. Narcissists have a general tendency to overstate their abilities more than others (Gabriel et al., 1994). It is therefore likely that they describe themselves as more highly emotional intelligent (Petrides et al., 2011). However, the case might be different for vulnerable narcissism (Nvul). This pathological conceptualization of N is focused on fear for disappointment and threats against one's own positive but unstable self-image (Pincus et al., 2009), it resembles the personality construct neuroticism. We regard N and Nvul as two variants of narcissism which overlap to some degree, but are distinct – Nvul is not treated as a sub-branch of N in this study.[10] Consequently, a separation for N/Nvul seems adequate. Note that pathological narcissism is not considered to be part of the traditional D3 (Paulhus & Williams, 2002). Hence, N and Nvul will be differentiated with respect to AEI and TEI relationships in what follows.

Vize et al. (2018) reported D3-EI-relations in a rather small meta-analysis. However, they did not distinguish between TEI and AEI in their analyses. Just recently, Miao et al. (2019) conducted a meta-analysis where the TEI/AEI-distinction was made. They found relations between N and TEI/AEI close to zero, whereas P and M were both

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[10] Many authors distinguish between vulnerable narcissism and grandiose narcissism (see Krizan & Herlache, 2018) and sometimes narcissistic entitlement as a common core. In our study, we refer to grandiose narcissism only as "narcissism" or simply "N".

weakly negatively related to TEI and AEI. Their approach is quite similar to the present study, although there are aspects that remained unaddressed in their study. Firstly, the authors did not differentiate between narcissism and vulnerable narcissism. Secondly, the D3-facet-structure for the specific traits (e.g., psychopathy-facets) were not considered. Thirdly, the D3-core (in the form of HH) and its relation to EI was not examined. In addition, the study sample was smaller than the one under investigation here. Consequently, the present expanded meta-analysis seems warranted. Note that we acknowledge the findings from both meta-analysis, but in regards to formulating our hypotheses we lay emphasis primarily on conceptual reasoning.

Hypotheses

To summarize, the expected linear relationships between the D3 and EI are: (a) the constructs of D3 are unrelated to AEI or, in the case of P and M in particular, only weakly negatively related at the subfactor level of AEI (Perception and Understanding), (b) P and M are negatively related to TEI, and (c) (non-pathological) N is positively related to TEI. Using HH as a proxy for the core of the D3, it can be expected that (d) HH is negatively related to TEI and unrelated to AEI. With regards to Nvul, there is no specific a priori expectation concerning the direction or strength of the relationship with TEI other than that it may be different from the relationships of N and TEI. The hypotheses were not preregistered.

<div align="center">

Method

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Literature search and study selection inclusion criteria

The systematic literature search started in July 2016 and ended in February 2020. The databases *PsycINFO*, *PsycARTICLES*, *Psyndex*, *Medline*, *Psychology and Behavioral Sciences Collection* and *ISI – Web of Knowledge* were searched by using the following terms and their combinations: (*"dark triad" OR psychopath* OR narcissis* OR machiavellian* OR "Honesty-Humility" OR HEXACO*) *AND ("emotional intelligence" OR TEIQue OR MSCEIT)* to retrieve publications written in English and (*"dunkle Triade" OR Psychopath* OR Narziss* OR Machiavelli**) *AND "Emotionale Intelligenz"* for publications in German. Figure 1 shows a *PRISMA flow diagram* (Moher, Liberati, Tetzlaff, Altman & The PRISMA Group, 2009) documenting the literature search results. In addition to searching the databases, reference lists of pertinent articles and the two recent meta-analyses by Vize et al. (2018) and Miao et al. (2019) were inspected in order to identify additional relevant publications. The total number of potentially relevant publications

identified for screening was 556. After a screening of these publications, 38 were excluded because they were books with no indication of relevance (n = 21), they were written in another language than German or English (n = 16) or they were not retrievable (n = 1). All the remaining 518 studies were read in full length and checked for eligibility.

To be included in the meta-analysis, studies had to provide sufficient information for an effect size and the associated standard error that indicated the strength of association between at least one of the D3-constructs or Honesty-Humility on the one hand and AEI, an AEI facet, and/or TEI on the other. Furthermore, to ensure a minimum psychometric quality of the instruments used in the included studies, the reliability of both instruments used to estimate the strength of the association had to reach a level of at least .60. When using these criteria, a total of 71 studies were included in the meta-analysis and 447 studies identified as potentially relevant were excluded, mainly because no D3-component and neither AEI nor TEI were measured simultaneously. All of these 71 studies provided Pearson correlations as effect sizes. Note that the study set is considerably larger compared to the included studies by Miao et al. (2019) (n = 38).

Coding

A coding manual was used to extract the relevant information from the research reports by two independent coders. Overall, the agreement was 94% (83 initial disagreements for 1399 coding decisions) for a subset of 45 studies. All discrepancies were inspected and resolved by the authors of this study.

Effect sizes. Pearson correlations (r) were used as effect sizes. When effects sizes (based on identical sample sizes) were only available for subscales of the tests, they were aggregated to a single effect size by determining the simple arithmetic mean of the effect sizes. When studies reported more than one effect size based on different tests (e.g., one effect size for the Psychopathic Personality Inventory (PPI) and also one for the Psychopathy Checklist (PCL)), then the effect size based on the PCL was preferred for P. In the case of N, the Narcissistic Personality Inventory (NPI) was preferred over other available tests since both tests appear to be the most commonly used or preferred choices in applications.

Reliability estimates. If available, reliability estimates were extracted from the original studies. In all cases, some form of internal consistency estimate (mostly Cronbach's Alpha) was provided based on single occasion data.

Moderators. The following study characteristics were used as potential moderators: (1) Gender. As a continuous indicator, the ratio of number of females to the total sample size was computed. Higher values therefore indicate more women, ranging from zero to one. (2) Age. The mean age of the sample was also recorded as a continuous variable. (3) Culture. The place where the study was conducted was coded by using the following categories: Asia, Australia, Europe, North America. (4) Sample Type. The categories of this variable were Students, Offenders, and others. Offenders were explicitly coded because many studies in research on P use offenders as participants. (5) EI test. The test used to assess either AEI or TEI was coded. The most often used test for AEI was the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer et al., 2002) and for TEI the TEIQue, respectively. (6) D3 test. The test used to assess P, M, N, or Nvul was coded. Again, the full list of tests can be gathered from the supplement. (7) D3 level. For any D3 test, the sample mean was extracted from the studies and compared to norm data for the test used, if available. The value was categorized as "low", if the estimate was more than one standard deviation below the norm value. It was categorized as "medium" within one standard deviation of the normative mean and "high" if the sample mean was more than one standard deviation above the mean, respectively.

The choice of moderators was at least co-determined simply by availability (1 through 4 in particular). Nevertheless, moderators 5 and 6 are of main interest from a theoretical viewpoint since different tests in both areas are designed to assess vastly different constructs (e.g., TEI and AEI tests). This latter class of moderators can reasonably be expected to explain heterogeneity of effects. However, even their potential moderating effects are not clear cut from a theoretical stance and we explicitly refrain from HARKing. Thus, it should be noted that the moderator analyses in this study are only exploratory and any effects reported need to be directly tested in primary studies.

All information on the included studies can be found in the dataset for this meta-analysis. It has been uploaded to the Open Science Framework (OSF) and can be inspected by using the following link: https://osf.io/3hn4j.

Method of meta-analysis

The approach advocated and detailed by Schmidt and Hunter (2015) was used to synthesize the effect sizes in this study. Most computations were conducted as so-called

"bare-bones" meta-analyses, where no artifact corrections (e.g., due to measurement errors in the variables) are applied to the effect sizes. For the aggregation of effect sizes the minimum variance unbiased estimator as proposed by Olkin and Pratt (1958) was used (see also Schulze, 2004, 2007). The weights in the aggregation process were specified as inverse estimator variances, where the average correlation of the studies was used to compute the weights (Schmidt & Hunter, 2015). This was done in order to avoid the use of highly inaccurate estimates of estimator variances that occur particularly when sample sizes in the primary studies are small.

Where indicated, artifact-corrected effect size estimates are also provided. Only measurement errors in both variables were corrected for. Since reliability estimates were often not available from all primary studies, the artifact distribution approach was used instead of individual corrections (Schmidt & Hunter, 2015). The corrected estimates are provided for comparison purposes only, to show to what extend the reported correlations might have been attenuated by measurement errors. It should be noted that, beyond this purpose, the interpretation of the corrected correlations is limited and hinges on a series of assumptions that cannot be tested and that may not even be plausible in specific instances in this meta-analysis (see Borsboom & Mellenbergh, 2002).

All computations were done using the psychmeta package in R by Dahlke and Wiernik (2019). For the computation of the Fail-Safe-N results, the metafor package by Viechtbauer (2010) was used, functions of which are also called from within psychmeta for the purpose of moderator analyses.

Results

The overall effect sizes for the correlations between the D3 and AEI, TEI as well as HH are depicted in Table 1. Some combinations (e.g., Nvul and AEI) are missing in Table 1 due to the lack of available studies. For comparison, mean effect sizes corrected for measurement errors in both variables are also shown in additional rows in Table 1, together with estimates for Tau^2 and corresponding confidence intervals. Mean effects are, of course, somewhat higher than uncorrected estimates but they do not affect the pattern of results. The estimates of Tau^2 and their confidence interval limits show practically no difference to the uncorrected estimates because differences rounded off at the third decimal. Hence, the focus will be placed on uncorrected estimates in what follows.

The mean effect size estimates are predominantly small, approaching a medium size in some cases, and negative, except for the correlations between N and TEI as well as HH and TEI. As can be seen from inspection of the confidence intervals, the latter small positive correlations are significantly different from zero at the .05-level, as is true for all other correlations. Somewhat surprisingly, a clear pattern of different correlations between AEI or TEI on the one hand and the D3 on the other is not evident in Table 1. In fact, the correlations between ability tests for EI and the D3 are very similar to correlations between self-reports of EI and the D3. Note that the results are very similar to the results reported by Miao et al. (2019).

Whereas the overall correlations are very similar in value for M, P, and Nvul, the positive correlations for N-TEI as well as HH-TEI are different. It was indeed expected that these correlations are positive in value instead of negative, but the absolute value of the estimates is rather small. This is particularly noteworthy in the case of HH given the fact that this variable is supposed to represent the commonality of the D3. Note also that both the estimates for the heterogeneity variance $\hat{\sigma}_\rho^2$ and corresponding confidence intervals as well as the additional statistics I^2 and Q consistently indicate heterogeneity in most of the relationships with TEI shown in Table 1. In contrast, most relationships with AEI appear to be homogeneous. Unfortunately, it is also the case that the number of available studies is very small for the relationships with AEI so that these estimates have to be interpreted with great caution.

The apparent homogeneity of correlations between AEI and the D3 at the overall score level does not preclude differences in correlations at the subfactor level of both AEI and the D3. In order to investigate potential differences in correlations between the AEI factors, separate meta-analytic aggregations were conducted. Analogue analyses were not possible for TEI because correlations were not available at the subfactor level for TEI in the original studies.

Table 2 provides the resulting estimates for the correlations between the D3 and the subfactors of AEI. When inspecting the results in Table 2, it is important to note from the outset that the number of independent effect sizes is very low for these analyses. As a consequence, some of the estimates for the confidence interval limits are out of bounds. Hence, again, interpretations have to be made with great caution. Overall, most correlations in Table 2 are small or medium in the case of Managing Emotions. The correlations with N are essentially zero for both Understanding and Managing

Emotions. For Psychopathy, however, both variables from the domain of AEI show medium negative correlations whereas the correlations for both Perceiving Emotions and Facilitation Thought are only small. A similar pattern can be observed for M.

An even finer grained analysis can be provided for P, where four subfactors are differentiated in the four-factor model of psychopathy (Hare & Neumann, 2006). Again, due to lack of available evidence in the primary studies, analogue analyses were not possible for M and N. In Table 3, the correlations between the subfactors of AEI and the subfactors of P are depicted. For comparison reasons, the estimates are also provided for the total scores of AEI and P for this subset of studies. It can be seen that, consistent with the results reported in Tables 1 and 2, all estimates for the effect sizes are negative and quite similar overall. However, the correlations appear to be somewhat elevated for Managing Emotions as compared to the other factors of AEI. With respect to P, no clear pattern emerges at the subfactor-level, when taking into consideration the uncertainty associated with the estimates as expressed by the confidence intervals widths.

Moderator analyses

The results presented in Table 1 indicated considerable heterogeneity in effect sizes, mostly for the effects sizes of TEI and the D3. A series of meta-regressions was conducted in order to explain at least part of the observed heterogeneity in effect sizes with available study characteristics as described in the method section. There were no specific a priori hypotheses associated with the moderators used in this meta-analysis, so the moderator analyses should be considered to be exploratory.

Given the fact that the number of available studies is rather small for the relationships between the D3 and both AEI as well as TEI, the moderator analyses were conducted separately for the relationships with the highest number of independent effect sizes at the global level, given that $k \geq 10$, namely P-TEI, P-AEI, M-TEI, and N-TEI. The use of separate models for each moderator was done in order to avoid overfitting the meta-analytic data with many (confounded) moderators. In addition to disregarding the potential redundancy among the moderators, this might also result in an inflated Type I error. As it turned out, however, this does not appear to be a problem in the present case given the fact that only few moderators reached significance at the .05-level as tested with the global moderator test (Q-statistic). The selected results for these significant moderators are presented in Table 4.

As can be seen in Table 4, the relative number of females in the sample did moderate the relationship P-TEI. The effect can be interpreted such that the correlation between P and TEI is higher, the less females are included in the sample. This effect might be confounded with the type of sample, because student samples tend to include more females than males and the opposite is true for offenders as samples, but the latter categorical variable did not contribute significantly to explaining the heterogeneity in the P-TEI relationship. The moderator effect of age for the relationship M-TEI is also quite strong, explaining 43% of the observed variance in effect size, although the estimate of the effect coefficient appears to be small. In both cases, however, substantial heterogeneity variance remains after taking the moderators into account.

A very interesting result in Table 4 is given by the moderating influence of the psychopathy test both for the relationship between P and TEI as well as P and AEI. In the case of the former relationship, there appear to be two groups of tests: PCL and PPI on the one hand and all other tests on the other. Given the estimate of -.25 for the intercept, that is, for the reference test Dirty Dozen, the conditional estimates for the PCL and PPI are more closely to zero rather than -.22, which is the overall effect size as shown in Table 1. A similar pattern can be seen for the relationship between of P and AEI in Table 4. However, in this case, only the PCL markedly differs from the rest of the tests, whereas the PPI is more similar in effect to the other tests. Hence, the main finding of these exploratory moderator analyses is that the PCL differs from the other P measurements with respect to its strength of relationship with TEI and AEI. Overall, however, the available predictors left most of the heterogeneity variance unexplained.

File-drawer-analysis

To test for a possible risk of publication bias that may result in erroneous conclusion for significance tests concerning the overall relationships shown in Table 1, a fail-safe-N-analysis was conducted. The results of the fail-safe-N analysis can be seen in Table 5. According to Rosenthal (1979), a publication bias seems unlikely if the fail-safe-N is higher than $5 \times k + 10$. As judged by this statement, the fail-safe-N values reported in Table 5 are high ($> 5 \times k + 10$) for all overall effect sizes but N-AEI and HH-TEI. The fail-safe-N by Orwin (1983), however, is rather low in all cases when estimated with a target absolute value of .10. Given the fact that k is not high for many of the relationships under investigation and the rather small effects it is not surprising that it

would not take many studies with an average null effect to reduce the observed mean effect sizes to the target values.

Discussion

It was hypothesized that (a) P, M, and N are unrelated to AEI, (b) P and M are negatively related to TEI, (c) (grandiose) narcissism is positively related to TEI, and (d) HH is negatively related to TEI. Two of four expectations were corroborated by the results: firstly, contrary to the expectations, M, N, and P negatively related to AEI, significantly around -.20 in the case of M and P. The correlations were not markedly different at the subfactor level for Perception and Understanding as might be expected. Note that the deficits primarily seem to lie in the domain of Managing Emotions – an ability that appears to be most relevant for the manipulation of others. Due to the lack of available evidence, the relationship between Nvul as well as HH and AEI could not be estimated. Consistent with the expectations, P and M are negatively related to TEI, and N is positively correlated with TEI whereas the correlation of Nvul and TEI is negative. HH as a proxy of the core of the D3 is not negatively, but shows a small positive correlation with TEI. Again, due to lack of evidence, the overall effect for the HH-AEI relationship could not be estimated. In sum, people who have higher scores on P and M tend to describe themselves as less emotionally intelligent and also show lower AEI. People with higher scores in N ascribe to themselves higher emotional intelligence but they do not appear to have lower AEI scores as is the case for P and M, though there is tendency towards this end. An explanation for the discrepancy of effect sizes for N-TEI and N-AEI could be distorted self-views, since it is well known that narcissists' self-descriptions are positively biased (see Gabriel et al., 1994). In contrast, people high in Nvul also describe themselves as less emotionally intelligent.

With regards to the results reported here, it must be admitted that some results were quite surprising. There is no convincing theoretical reasons to explain the observed small negative correlation around -.20 between the D3 and AEI. Beyond our somewhat daring argument that draws on the lack of empathy ascribed to individuals high in P or M an even more speculative explanation of the relationship could refer to an analogy to Cattel's investment theory (1963). First, assume that individuals with low scores on the D3 tend to engage more in prosocial, agreeable behavior than individuals high on D3. In cases where such a higher engagement is paired with high AEI, such individuals are more likely to gain correct domain specific knowledge for successful

agreeable behavior. That is, they learn when and how to be appropriately sympathetic or cooperative, for example, by engaging in this kind of behavior and using appropriate emotional management strategies. In contrast, individuals with high levels on the D3-constructs would develop lower prosocial knowledge by lack of their engagement. As a result, a negative relationship between knowledge-ladden AEI tests, like the MSCEIT, and the D3-tests could emerge, in particular for the subscale managing emotions. Such a result pattern was indeed reported in this meta-analysis (see Tables 2 and 3). Despite a potential plausibility of this explanation, it was admittedly generated post hoc only and there was no evidence presented in this meta-analysis to actually support the described chain of processes beyond the mere significant correlations.

Yet another angle of interpreting the results could be to refer to the clinical roots of at least P and N. Personality disorders are generally considered to be patterns of poor social functioning. Note that we expected P and M to be negatively related to AEI to some degree at the facet level, since both sides include deficits in terms of empathy. It remains somewhat speculative, though, to generalize mechanisms relevant for clinical disorders to the samples under investigation in the primary studies in the present meta-analysis.

It is important to mention, though, that the AEI-results for this meta-analysis were almost entirely based on studies that used the MSCEIT as an instrument to assess AEI– a test that has been heavily criticized for various reasons, including the consensus-based scoring method (Conte, 2005; Wilhelm, 2005). The negative relation between the D3-constructs and AEI found in this meta-analysis might be due a mono-method effect of the MSCEIT and may not reflect profound AEI-deficits for the D3-constructs unless replicated with different measures.

For the D3-TEI relationships it is also important to reiterate the role of socially desirable responding. Since high EI can be considered to be desirable for the vast majority of people and many TEI-tests (e.g., TEIQue, Petrides, 2001) include items with such desirable content, it is not surprising that TEI and SDR are indeed positively related (Mesmer-Magnus et al., 2006). Individuals who openly describe themselves as psychopathic show lower SDR (Ray et al., 2013). Thus, the relationship between P and TEI might simply be due to the common correlate SDR. However, for M the evidence for this relationship with SDR is more inconclusive (McHoskey et al., 1998). It should also be noted that for N the relationship with SDR has been reported to be positive (Ludeke

& Makransky, 2016). It is quite possible that the D3-TEI-relationship would be strongly reduced or even vanishes if SDR was partialled out. This proposition has yet to be tested.

Although there were only data regarding the relation for HH (as the D3-core) with TEI and not AEI and its facets, it was also surprising to see that HH seems to be almost unrelated to at least TEI. It may be the case that the core of the D3-constructs is only weakly related to TEI and the unique parts of each member of the D3 are more strongly related to TEI. A test of this speculation may be as interesting as investigating the relationships at a facet-level of TEI. Unfortunately, there appears to be no clear consensus yet as to what facets are comprised by an overarching TEI.

Limitations of the meta-analysis

There are several limitations of this meta-analysis worth considering. Firstly, we hoped to find a more varied set of tests for every relevant construct to ensure that P, M, N, AEI, and TEI were operationalized as broadly as possible. Unfortunately, this was not the case which severely hampers generalizations of the results across different measurement approaches. This especially applies to AEI and M: almost all studies were conducted with the use of the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer et al., 2002) for AEI and the MACH IV (Christie & Geis, 1970) for M. Secondly, and related to the first issue, a substantial body of literature might not have been captured by our search strategy. Although the search terms that were used to identify potentially relevant studies were very broad, we only included two names of EI-operationalizations and none regarding the D3-tests.

Thirdly, from a more technical viewpoint, the number of available studies was not very large, specifically for the analyses at the subfactor level and moderator analyses, but also for some of the bivariate relationships under investigation at the global level. Disregarding issues that this might have caused with statistical significance tests or the length of confidence intervals reported, the low number of studies causes problems of an even more fundamental nature. Although, in general, a random effects model of meta-analysis, like the one used here, may be the more attractive and plausible choice, it might also become problematic in practice with regards to the reliability of the estimators when the number of available studies is low (cf. Slaney et al., 2018; Schulze, 2007). For example, the heterogeneity variance (Tau^2) that plays an important role in the random-effects model cannot be estimated with sufficient precision if the number of

studies that are used to aggregate correlations in meta-analyses is very low (Schulze, 2004). In addition, the justification for an unconditional inference to a population of possible studies can be considered to be very weak when the number of studies is as low as it is the case for some of the analyses reported here. Note that this does not imply a bias in the mean effect sizes as reported here but is a caveat as to what type of inferences are justified for the results reported in this meta-analysis. After all, the studies synthesized in this (and most other) meta-analysis appear to be best considered as simply a convenience sample of available studies.

Concluding remarks

For many years, D3-reseachers have speculated about deceptive capabilities and "dark niches" (Paulhus, 2014, p. 423) where socially-aversive personalities could flourish (see also Furnham et al., 2013). However, in conclusion, the main result of this meta-analysis is that individuals high on any of the D3-constructs do not seem to have special emotional manipulative abilities, but rather deficits, if anything. In addition, relative to others, they also ascribe to themselves weaker behavioral tendencies and competencies in the domain of human emotions, but narcissist seem to be the exception here. These relationships, albeit weak, between EI and the D3-constructs are not yet well understood from a more theoretical viewpoint. It appears that more theoretical work is needed particularly, but not exclusively, in the domain of the so-called "dark" personality traits to facilitate such a better understanding.

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Appendix

Table 1

Overall relationships between the D3, AEI, TEI, and HH

Relation	k	N	$\bar{r}$	95% CI	Tau^2	95% CI	I^2	Q (df, p)
P-TEI	30	8127	-.22	[-.29, -.16]	0.025	[0.014, 0.047]	88.07	243.19 (29, <.001)
			-.25	[-.33, -.18]	0.025	[0.014, 0.047]		
P-AEI	13	3079	-.18	[-.26, -.11]	0.012	[0.004, 0.040]	75.63	49.24 (12, <.001)
			-.23	[-.32, -.13]	0.012	[0.004, 0.040]		
M-TEI	20	6614	-.23	[-.30, -.17]	0.016	[0.008, 0.038]	85.65	132.42 (19, <.001)
			-.29	[-.37, -.21]	0.016	[0.008, 0.038]		
M-AEI	6	1561	-.23	[-.33, -.14]	0.005	[0.000, 0.049]	60.51	12.66 (19, .027)
			-.31	[-.43, -.18]	0.005	[0.000, 0.049]		
N-TEI	21	6824	.15	[.07, .23]	0.026	[0.014, 0.061]	90.45	188.45 (18, <.001)
			.18	[.08, .28]	0.026	[0.014, 0.061]		
Nvul-TEI	6	1688	-.29	[-.52, -.05]	0.047	[0.017, 0.299]	94.06	83.83 (5, <.001)
			-.37	[-.67, -.07]	0.047	[0.016, 0.299]		
N-AEI	6	1859	-.13	[-.21, -.05]	0.002	[0.000, 0.030]	43.96	8.92 (5, .112)
			-.16	[-.25, -.07]	0.003	[0.000, 0.030]		
HH-TEI	7	4119	.10	[.02, .18]	0.006	[0.001, 0.035]	77.67	26.87 (6, .036)
			.12	[.03, .22]	0.006	[0.001, 0.035]		

Notes. k = number of independent effect sizes; N = aggregate sample size; $\bar{r}$ = overall effect size; 95% CI = 95% confidence interval; Tau^2 = estimate of heterogeneity variance; I^2 = proportion of variance in observed effect sizes not accounted for by sampling error. For each relationship, the second row shows estimates based on artifact corrections (measurement error only). Hence, in the second rows, Tau^2 is the heterogeneity variance after sampling error and estimated artifact variance have been removed.

Table 2

Relationships between the D3 and the subfactors of AEI

Relation	k	N	$\bar{r}$	95% CI
Psychopathy				
Perceiving Emotions	7	1248	-.12	[-.28; .04]
Facilitating Thought	6	1218	-.17	[-.30; -.03]
Understanding Emotions	7	2147	-.24	[-.35; -.12]
Managing Emotions	7	2147	-.33	[-.46; -.21]
Machiavellianism				
Perceiving Emotions	3	529	-.09	[-.30; .11]
Facilitating Thought	2	342	-.11	[-1.12; .89]
Understanding Emotions	4	1458	-.15	[-.24; -.07]
Managing Emotions	5	1704	-.25	[-.45; -.06]
Narcissism				
Understanding Emotions	2	1178	-.04	[-.30; .22]
Managing Emotions	2	1178	.05	[-1.03; 1.15]

Notes. k = number of independent effect sizes; N = overall sample size; $\bar{r}$ = overall effect size; 95% CI = confidence interval for ρ. For the correlations between N and Perceiving Emotions as well as Facilitation of Thought only a single study was available.

Table 3

Overall relations for both subfactors of psychopathy and AEI

	Psychopathy	P1	P2	P3	P4
Ability EI	-.19 (6)	-.13 (6)	-.20 (6)	-.08 (6)	-.19 (6)
	[-.33, -.05]	[-.31, .05]	[-.31, -.09]	[-.15, -.01]	[-.27, -.10]
PE	-.17 (4)	-.18 (4)	-.16 (4)	-.08 (4)	-.12 (4)
	[-.43, .09]	[-.33, -.03]	[-.37, .05]	[-.21, .05]	[-.42, .17]
FE	-.22 (4)	-.23 (4)	-.18 (4)	-.09 (4)	-.17 (4)
	[-.33, -.11]	[-.32, -.13]	[-.29, -.07]	[-.13, -.05]	[-.32, -.02]
UE	-.15 (4)	-.12 (4)	-.15 (4)	-.05 (4)	-.13 (4)
	[-.26, -.04]	[-.28, .02]	[-.20, -.10]	[-.19,.09]	[-.21, -.05]
ME	-.33 (4)	-.28 (4)	-.31 (4)	-.19 (4)	-.23 (4)
	[-.48, -.17]	[-.44, -.12]	[-.48, -.15]	[-.24, -.19]	[-.33, -.16]

Notes. PE = Perceiving Emotions; FE = Facilitating Thought; UE = Understanding Emotions; ME = Managing Emotions; P1 = interpersonal manipulation (P-facet 1); P2 = callous affect (P-facet 2); P3 = erratic lifestyle (P-facet 3); P4 = antisocial behavior (P-facet 4). The psychopathy subfactors are based on the *four-factor-model of psychopathy*. The number of independent effects sizes (k) are shown in parentheses. A 95% confidence interval is shown below the effect size estimates.

Table 4

Moderator analyses

DV	Moderator	k	R^2	Tau^2	Q_{model}	Q_{resid}	Estimate
P-TEI	F	23	.31	0.015	9.12	104.48	-0.33 [-0.55, -0.12]
					(1; .003)	(21; <.001)	
	Psychopathy test	30	.33	0.018	17.69	144.14	-0.25 [-0.52, 0.02]
					(5; .003)	(24; <.001)	
	LSRP						-0.03 [-0.31, 0.26]
	PCL						0.28 [-0.04, 0.59]
	PPI						0.25 [-0.07, 0.56]
	SD3						0.02 [-0.38, 0.42]
	SRP						0.08 [-0.21, 0.39]
P-AEI	Psychopathy test	13	.42	0.009	10.28	17.85	-0.18 [-0.39, 0.02]
					(4; .03)	(8; <.002)	
	LSRP						-0.04 [-0.34, 0.25]
	PCL						0.11 [-0.11, 0.34]
	PPI						-0.10 [-0.37, 0.16]
	SRP						-0.16 [-0.42, 0.10]
M-TEI	Age	12	.43	0.009	7.15	47.30	-0.01 [-0.02, -0.00]
					(1; .008)	(10; <.001)	

Notes. DV = relationship between D3 and EI; k = number of independent effect sizes; R^2 = amount of variability in effect sizes explained; Tau^2 = residual heterogeneity variance; Q_{model} = overall test for moderator with *df* and *p* in parentheses; Q_{resid} = test of residual variance in effect sizes with *df* and *p* in parentheses; Estimate = moderator parameter estimates; with 95% confidence interval. Moderators are (with reference category in brackets for categorical moderators): F = proportion of females in the sample; age= mean age of the sample; Psychopathy test (Dirty Dozen). For P-AEI no data based on the SD3 was available.

Table 5

Fail-safe-N analyses

Relation	FSN_{RT}	$5 \times k + 10$	FSN_{ORW}
P-TEI	3285	160	21
P-AEI	431	75	11
M-TEI	2566	110	25
M-AEI	175	40	7
N-TEI	1171	115	14
Nvul-TEI	292	40	10
N-AEI	83	40	0
HH-TEI	65	45	0

Notes. FSN_{RT} = Fail-safe-N by Rosenthal (1979); FSN_{ORW} = Fail-safe-N by Orwin (1983). FSN_{ORW} was tested for target values ≥ .1 for N-TEI and HH-TEI and ≤ -.1 for all other relationships.

Figure 1

PRISMA flow chart for the systematic literature search.
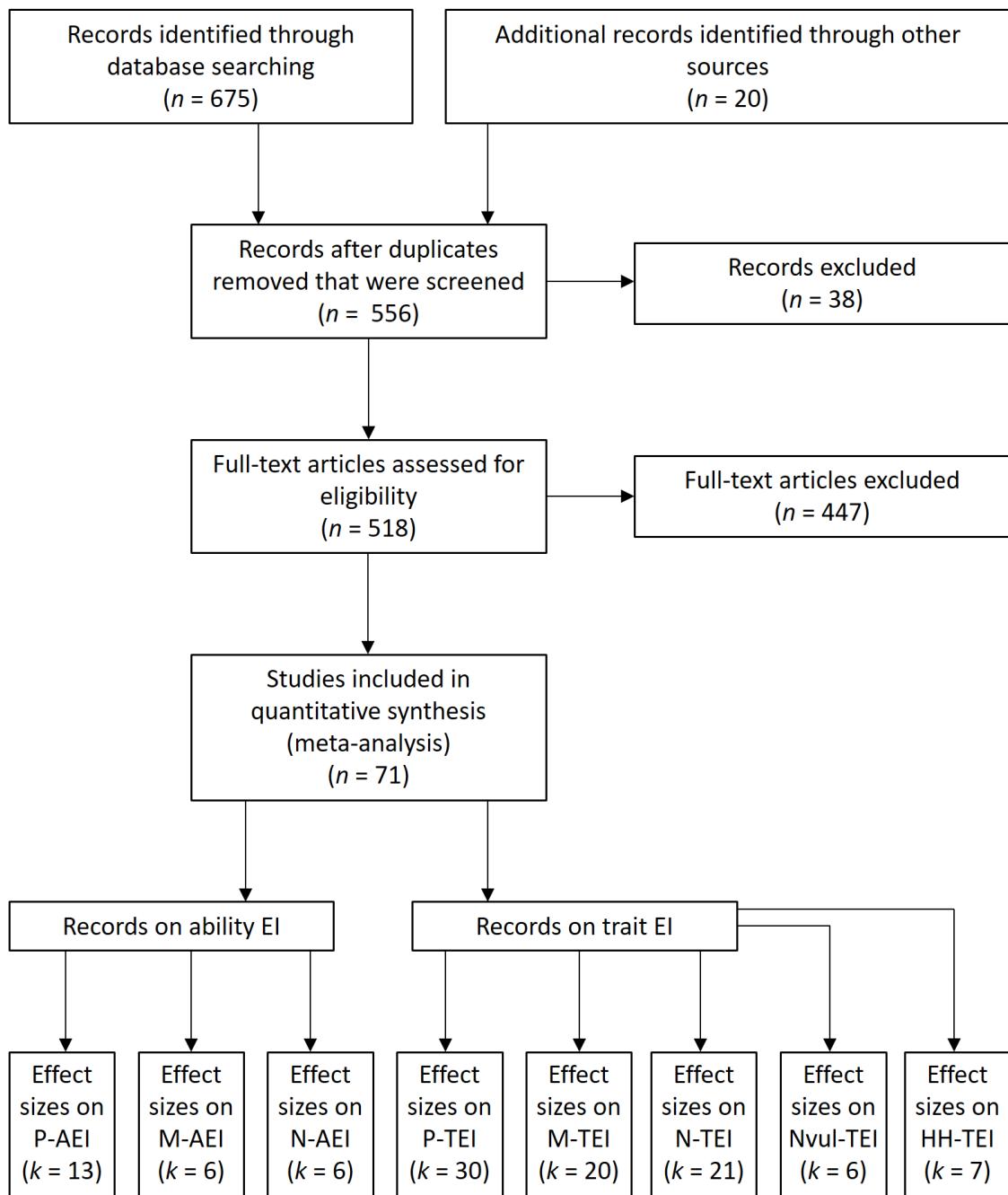
7. Studie 3: D3 und Lügenfähigkeit

7.1 Zitation, Anmerkungen und Autorenbeiträge

Titel: The Ability to Lie and its Relations to the Dark Triad and General Intelligence

Autoren: Moritz Michels, Günter Molz & Frederic Maas genannt Bermpohl (FMgB)

Eine Version des Manuskripts wurde veröffentlicht in *Personality and Individual Differences* (Michels et al., 2020).

Autorenbeiträge:
- Die Idee, das Konzept, die Planung und die Organisation der Studie sowie die Datenaufbereitung und Auswertung stammen von Moritz Michels.
- Die Testungen wurden zu gleichen Teilen von Moritz Michels, FMgB und Melanie Stevens durchgeführt.
- Das Manuskript stammt zum weit überwiegenden Teil von Moritz Michels; Günter Molz und FMgB unterstützen den Prozess mit Anregungen.
- FMgB unterstützte maßgeblich bei der Literaturrecherche zum Thema Lügenfähigkeit.
- Günter Molz verantwortete technische Belange (Ausleihe Videogeräte).

Weitere Beiträge:
- Karolin Werner und Melanie Stevens wirkten maßgeblich bei der Rekrutierung von Versuchspersonen und Dateneingabe von schriftlichen Materialien mit.
- Das Rating der Videos wurde von wissenschaftlichen Hilfskräften und Praktikanten des Lehrstuhls der Methodenlehre und Psychologischen Diagnostik geleistet.

Anmerkungen:
- Die Beschreibung der D3-Batterie, die Vorab-Instruktionstexte für die Probanden und die Rater-Instruktionen sind in Anhängen A und B einsehbar.

7.2 Manuskript der Studie 3

Abstract

The dark triad of personality (D3) – psychopathy, machiavellianism, and narcissism – is commonly conceived to be related to manipulative and deceptive abilities and is often regarded as an exploitative behavioral strategy. Some authors argue that the effectiveness of this strategy is moderated by other variables, e.g. intelligence. In our study participants prepared three short stories about personal incidences: two had to be true and one had to be non-factual. The subjects told their stories in a laboratory setting while being videotaped. The *SRP-4*, the *MACH VI* and the *NARQ* were used to measure the dark triad. General intelligence was assessed with the *WAIS-IV*. Subsequently, raters judged which of the three stories was the non-factual one. In conclusion, participants' lying ability was operationalized by the number of raters not succeeding to identify the non-factual story. We tested if (a) the D3 and (b) intelligence were correlated with lying ability, and (c) the D3-lying-ability-relation was moderated by intelligence. The results indicated that neither the dark triad nor general intelligence are meaningfully related to lying ability and that general intelligence did not moderate the D3-lying-ability-relation. Our results challenge the view that the D3-traits enable individuals to exploit their social environment effectively.

Keywords: intelligence, dark triad, manipulation, lying ability

The Ability to Lie and its Relations to the Dark Triad and General Intelligence

Lying is a frequent part of social interaction (DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996) and has been examined extensively in psychological research. Although lying is often regarded as a nefarious act, it has also been described as a "social lubricant" (Vrij, 2008, p. 12). Lying can be defined as "an act that is intended to foster in another person a belief or understanding which the deceiver considers to be false" (Zuckerman, DePaulo, & Rosenthal, 1981, p. 3). Consequently, lies are neither errors in memory, i.e., due to misremembering or "false memories" (Vrij, 2008), nor untrue statements made when delusional (e.g., due to distorted perception of reality in acute psychosis). Further, a lie does not necessarily need to be successful or put the receiver(s) at a disadvantage (Vrij, 2008).Using sarcasm is not lying either as the deceiver regularly aims at it being uncovered. The mere concealment of information however does not constitute a lie either, since – although deceptive in nature – this might not be regarded as an "act". There are a few prolific liars who are responsible for a major share of lies that are told (Serota & Levine, 2015), but there is evidence that most people lie approximately one to two times a day (DePaulo et al., 1996; Serota, Levine, & Boster., 2010).

Surprisingly, little research on what constitutes a "good liar" and which people have a high ability to lie is available. We define *lying ability* (LA) simply as the ability to tell lies successfully. A lie is successful when the receiver's belief is in accordance with the sender's aim after the sender told the lie. Several traits have been discussed as possible factors contributing to an increase in lying ability: Vrij, Granhag and Mann (2010) propose that individuals who (a) seem likable and trustworthy, (b) can avoid the stereotype of how liars are generally thought to behave, (c) are verbally skilled and intelligent and do not feel guilt or fear during the act of lying, and (d) actually prepare their lie and use concrete strategies to deceive, are more likely to be good liars. Nevertheless, the authors concede that these assumptions are hardly backed up by empirical evidence yet. A systematic literature review on LA and what constitutes a good liar by Semrad, Scott-Parker and Nagel (2019) was unfortunately mostly inconclusive due to a lack of convincing empirical evidence. While some is known about the characteristics of good liars, there has been extensive research on the perception of lying – especially regarding the accuracy of deception detection. In their prominent study, Bond and DePaulo (2006) found that people identify 47% of lies correctly as lies

and 61% of truths correctly as true stories. This demonstrates that lie detection is rather difficult and in this study we aim to identify personal factors of the deceivers that might explain differences in deception detection accuracy. In our study we focus on the *dark triad of personality* (Paulhus & Williams, 2002) and general intelligence as potential beneficial factors for successful lying.

The dark triad

The dark triad is a set of three personality traits – psychopathy, machiavellianism, and narcissism – that currently poses as a popular concept to describe, explain and predict socially-aversive behavior. Psychopathy (P) is characterized by superficial charm, deceptive and manipulating behavior, a lack of remorse, empathy, fear, and emotionality as well as antisocial behavior in general (Hare, 1999). The *four-factor model of psychopathy* conceptualizes P as a combination of four facets and two higher-order factors (Hare & Neumann, 2006): *Interpersonal Manipulation* (IPM), *Callous Affect* (CA), *Erratic Lifestyle* (ELS), and *Anti-Social Behaviour* (ASB) with IPM and CA representing *Factor 1* (primary psychopathy) and ELS and ASB representing *Factor 2* (secondary psychopathy). P is a trait that is primarily of interest for forensic psychologists (in regards to predicting criminal careers) and has just recently been introduced to personality psychology as well. Machiavellianism (M) – a personality construct whose name refers to the writings of the philosopher Niccolò Machiavelli – describes a lack of affect in interpersonal relations, a utilitarian worldview, and a lack of psychopathology (Christie & Geis, 1970). Machiavellians are thought to be sneaky manipulators that are cold, pragmatic, unimpulsive and goal-oriented. It has been shown that M has high empirical overlap with P which might be the result of problematic measurement of M (i.e. MACH-IV; Christie & Geis, 1970): McHoskey, Worze and Szyarto (1998) go as far interpreting the research on M as research on subclinical psychopathy. Jones & Paulhus (2009) state that P and M should be differentiated. They refine the M-concept by the including aspects of long-term planning and reputation management. We strongly agree and consequently use a conceptionally appropriate measure for machiavellianism in our study. Narcissistic (N) individuals tend to feel superior to others, brag about themselves, and intend to dominate their social environment (Raskin & Hall, 1981). Narcissism is thought to be motivated by a strong strive for positive evaluations by others, but should be examined separately from *vulnerable* (or *pathological*) *narcissism* that has been linked to neuroticism and the

narcissistic personality disorder from the DSM-V (Miller et al., 2018). Back et al. (2013) conceptualize two forms of N: *narcissistic admiration* (grandiose phantasies, interpersonal charm,…) and *narcissistic rivalry* (aggression, devaluation of others,…).

There is substantial theoretical overlap and all three D3-traits are moderately intercorrelated (Muris, Merckelbach, Otgaar, & Meijer, 2017). Other concepts of socially aversive behavior dispositions (e.g. *D*, low *honesty-humility* or *everyday sadism*) have shown to be highly correlated with the D3-traits (Moshagen, Hilbig, & Zettler, 2018), but there is no integrative framework on what makes a personality traits "dark" (Marcus & Zeigler-Hill, 2015). Several authors have argued that the D3-traits are probably related to special manipulative abilities and criteria of success: Psychopaths are described as flashy and skilled "human predators" (Hare, 1999, p. 207), machiavellians are supposed to be able to "successfully exploit others, especially in unpredictable and risky situations" (Bereczkei, 2017, p. 44) and narcissists are claimed to have "agentic interpersonal skills (e.g., confidence, charmingness)" (Back et al., 2013, p. 1014). These claims are sometimes backed up by empirical evidence, but are rarely derived from the D3-concepts themselves. The aim of this study is to examine if these assumptions are valid for lying ability.

Some D3-features may be meaningful for the success of telling a lie: Psychopathy is thought to comprise a tendency of low interpersonal affect, a lack of remorse for acting deviantly, frequent lying, and manipulation. Machiavellianism similarly implies a tendency of manipulation and deception. Both P and M go along with the goal of pretending to be a friendly, trustworthy individual, which might lead to higher lying ability according to Vrij et al. (2010). Also, the mere tendency to lie might make D3-individuals good liars due to practice, since the lying can probably be improved by training (Van Bockstaele, Verschuere, Moens, Suchotzki, Debey, & Spruyt, 2012). Note, however, that it is yet unknown if possible manipulative abilities of D3-individuals are the results of their manipulative behavioral style. Additionally, high moral standards, fear and guilt might impede individuals to lie effectively, since they might feel particularly uncomfortable while trying to tell something untrue and show inferior performance (Zuckermann et al., 1981). Conceptionally, this does not apply to psychopaths and machiavellians: They are not thought to be bothered by immoral acts (Egan, Hughes, & Palmer, 2015) or the fear of being caught and might not be "held back" in performing successfully. Therefore, D3-individuals might not have to take self-

regulatory countermeasures that demand cognitive capacities and impede their overall lying performance.

Intelligence

Lying is considered to be a cognitively demanding task (Vrij, Mann, Fisher, Leal, Milne, & Bull, 2008; Zuckermann et al., 1981), as it makes use of several cognitive capacities simultaneously and goes beyond simply remembering an actual event. First, producing a lie itself consumes cognitive capacities (Vrij, Fisher, Mann, & Leal, 2008), i.e., a non-factual story has to be constructed in a way that makes it believable to others and "remembered" correctly. Additionally, liars have to conceal the truth while lying, which again requires cognitive performance. They might also have to react spontaneously to questions from the receiver that they might not have anticipated which demands a quick but appropriate response. Moreover, liars often query whether the targets believe them whereas people who tell the truth normally expect to be believed (Vrij, Hartwig, & Granhag, 2019). Therefore, liars monitor the receiver's behavior for cues to assure themselves that the receiver believes the lie while also checking their own behavior to avoid giving cues that they expect to be revealing.

The relation for LA and intelligence has yet to be examined in detail. Surprisingly, Wright, Berry and Bird (2012) – whose study is similar to ours as it assessed actual lying behavior in a laboratory setting, but it used a group discussion instead – found no significant relationship with either cognitive ability or emotional intelligence regarding (non-self-reported) lying ability. However, Atkinson (2019) found working memory to be positively related to lying performance. In total and mostly due to conceptual reasoning, we expect intelligence to be positively related to LA. Furthermore, we expect it to moderate the P-/M-LA-relation: There is conflicting evidence about the moderating role of high cognitive abilities regarding D3-relations to antisocial behavior: It seems to enable D3-individuals to act antisocially (Côté, DeCelles, McCarthy, Van Kleef, & Hideg, 2011), while reducing their tendencies to act openly in these antisocial ways (Wall, Sellbom & Goodwin, 2013). These findings are in line with the *moderated-expression model* for successful psychopathy proposed by Hall and Benning (2006). We expect the simultaneous presence of high P or M with high intelligence to enable individuals to show particularly high LA above our expected main effects.

Hypotheses

All in all and based on the aforementioned theoretical and empirical arguments, we expected that (a) machiavellianism and total psychopathy, (b) the P-facets IPM and CA (c) general intelligence and (d) Verbal Comprehension and Working Memory were positively related to lying ability and (e) intelligence would moderate the P-/M-LA-relation. We conducted exploratory analyses regarding the role of narcissism. The hypotheses were not preregistered.

Method

Participants and procedure

In our study we recruited $N = 55$ participants (mostly students from a German university). They prepared three short stories about a personal incidence in advance: two had to be true and one had to be non-factual. The participants were instructed via E-mail that preparation time for the three stories should take about 60 minutes in total and the stories themselves should have a length of 3-5 minutes. The choice of the stories' topics were up to the participants, but the described personal incidences should be memorable – positive or negative – e.g., an accident, an argument with a close person, a theft or another stressful incidents, or a successful party, a relaxing vacation day, or a bonding experience with another person. The time frame in which the stories took place should not be longer than 24 hours and have a clear ending and beginning. In a similar manner, the participants were instructed to generate a non-factual story in addition to the two factual ones. The non-factual story was supposed to be a completely made-up story and not just a variation of an actual incident. Additionally, the participants' stories should not be adapted from another person's life. Further, they were told not get any help generating the stories. The participants were asked to tell their non-factual story in a way that it should not be distinguishable from the presentation of the two factual stories by other individuals. Since it is rather difficult (if not impossible) to determine if a story is true or false by only seeing one story – deception/truth detection accuracy lies slightly above chance (Bond & DePaulo, 2006) – we had to establish a "baseline" to make it possible to identify the false story by comparing the statements with one another and identify the one story that was different to the other two (Vrij, 2008). Thus, the raters were able to get acquainted with the participants' style of storytelling and might have been able to recognize deviations in the performance in telling the confabulated story. Following the *Undeutsch hypothesis*, raters should be able to distinguish the

confabulated story from the truthful ones as they would differ in certain verbal criteria (Amado, Arce, & Fariña, 2015).

The subjects narrated their stories in a laboratory setting while being videotaped. Afterwards, they wrote down which story was non-factual and sealed their written answer in an envelope to ensure that the interviewers were unaware of which story was fabricated, so that the participants would not be influenced by them. The subjects were also asked to estimate the time they needed to prepare all three stories. Five participants were excluded from our analysis: Two participants told at least one story that was not in line with the instructions that were given in advance and three participants told stories that were known to more than one rater that judged the stories in the aftermath. Six participants told stories that were known by exactly one rater; we included these participants nonetheless and adjusted the lying ability score (see below). The final sample size for the study was N = 50 (60% female).

After all stories were videotaped 13 raters who were academic assistants and interns from the department (age: M = 22.67, SD = 3.36; 62% female) watched each video. We balanced for possible sequence effects by using the latin-square-technique. The raters were informed that one of the three stories was fabricated and only stated which story they thought was confabulated. Subsequently, we calculated the proportion of raters that were successfully deceived by the participant (number of raters that were successfully deluded, i.e., raters chose a true story as the wrong one divided by the number of raters that judged the subjects' stories) – the "lying ability score". The participants deluded 61% of the raters on average, which is unsurprising in the light of Bond and DePaulo's (2006) analyses. The internal consistency for LA (with the raters' judgments [correct/incorrect] posing as item scores) was α = .62.

Instruments

Dark triad. We assessed the dark triad of personality with three prominent measures: *The Self-report Psychopathy Scale –Forth Edition* (SRP-4; Paulhus, Neumann, & Hare, 2016) was used to measure P. It is a 64-self-report-questionnaire that has shown to be the self-report equivalent of the *Psychopathy Checklist-Revised* (PCL-R; Hare, 2003) – the gold standard to measure psychopathy. It comprises the four facets *Interpersonal Manipulation*, *Callous Affect*, *Erratic Lifestyle,* and *Anti-Social Behaviour* and has shown to be a valid measure for P (Boduszek & Debowska, 2016). In our study the SRP-4 had a good internal consistency (α = .88). Machiavellianism was measured with the

Machiavellianism Scale VI (MACH VI; Jones & Paulhus, 2008), a 9-item-test that poses an alternative to the prominent MACH IV (Christie & Geis, 1970). While the MACH IV has shown to be related to impulsivity (Jones & Paulhus, 2009) – a result that is inconsistent with the concept of M – the MACH VI has shown to be unrelated to impulsivity and focuses on more adaptive manipulative strategies like reputation maintenance and long-term planning. Unfortunately, reliability of the MACH VI was very low in our study (α = .52) – the results should only be interpreted with great caution. We measured N with the *Narcissistic Admiration and Rivalry Questionnaire* (NARQ; Back, Küfner, Dufner, Gerlach, Rauthmann, & Denissen, 2013), a 18-item-self-report that measures N based on two dimensions which are partly contradictory: *Admiration* and *Rivalry*. Both sub-dimensions have shown to be distinctively related to relevant external criteria and are only (latently) intercorrelated by r = .61 (Back et al., 2013). Although most authors argue against it, both scales were aggregated in this study. In our current study the NARQ was a reliable measure to assess N (α = .85). We used a 6-point Likert scale for each D3-component.

      Intelligence. We measured general intelligence and its sub-components with the German adaption of the *Wechsler Adult Intelligence Scale – Fourth Edition* (WAIS-IV; Petermann, 2012). The WAIS-IV has shown to be one of the best tests to measure intelligence in adults that are currently available. The WAIS-IV is conducted in an individual setting and usually takes about 90 minutes. We conducted the ten so-called "core tests" to generate IQ-values for the four sub-facets *Verbal Comprehension*, *Perceptual Reasoning*, *Working Memory,* and *Processing Speed*. The internal consistency was low (α = .71) with the overall (already normed) core test scores posing as items (i.e., 10 items), but note that reliability is generally calculated differently for the WAIS-IV.

<center>**Results**</center>

Descriptive statistics and correlational analysis

      The descriptive statistics regarding our final sample (N = 50) are depicted in Table 1. The whole trial took about two hours and the participants were remunerated with either test person hours (required for their degree in psychology) or a small amount of money.

      The intercorrelations between the study variables can be observed in Table 2. Lying ability correlates with almost no study variables significantly. There are small positive relations between LA on the one hand and P (r = .144, p = .160, 95%-CI [-.095;

1], one-tailed test) and general intelligence ($r = .145$, $p = .157$, 95%-CI [-.093; 1], one-tailed test) on the other hand. There were small non-significant positive relations between Verbal Comprehension and Working Memory regarding LA. The strongest relations could be observed with P and two of its facets: While lying ability seems to be unrelated to primary psychopathy (no significant relation with IPM or CA), there seems to be a relation with secondary psychopathy: We found a non-hypothesized positive significant, moderate relation between LA and ASB ($r = .301$, $p = .034$, 95%-CI [.025; .534], two-tailed test). LA was unrelated to M ($r = -.023$, $p = .563$, 95%-CI [-.257; 1], one-tailed test) and N ($r = -.088$, $p = .544$, 95%-CI [-.357; .195], two-tailed test). Note, that a post-hoc-power-analysis showed unsatisfying results, e.g. for P-LA the achieved power was only .26.

Moderator analysis

In this study, intelligence was examined as moderator of the relation between the D3 traits and LA. First, the values for P, M, and intelligence were z-standardized. The results of the moderator analyses are depicted in Table 3. It can be observed that there were no significant interaction effects for P-intelligence or M-intelligence in regards to predicting LA. Thus, intelligence was not found to be a significant moderator of any of the proposed P-/M-LA relationships.

<div align="center">

Discussion

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None of our hypotheses were corroborated: Lying ability does not seem to be meaningfully related to the dark triad or intelligence. Furthermore, we did not find any relevant moderator effects. Several authors argue that the D3 is related to special manipulative abilities (e.g., Babiak & Hare, 2006; Back, Schmukle, & Egloff, 2010; Bereczkei, 2017). The dark triad is indeed conceptionally connected to the use of lies and D3-tests have also shown to predict deceptive behavior (Azizli et al., 2016; Jones & Paulhus, 2017). Furthermore, D3-individuals tend to describe themselves to be successful deceivers (Austin, Farrelly, Black, & Moore, 2007; Giammarco, Atkinson, Baughman, Veselka, & Vernon, 2013; Wissing & Reinhard, 2019). That being said, the D3 has often not shown to be a relevant predictor of actual successful manipulative behavior (Semrad & Scott-Parker, 2020; Wright, Berry, Catmur, & Bird, 2015) and some authors have questioned the view of adaptive, successful D3-individuals (Lilienfeld, Watts, & Smith, 2015; Wilson, Near, & Miller, 1998). Our findings are in notion with these recent results. Surprisingly, secondary psychopathy seems to be positively related

to LA whereas primary psychopathy is not which we are unable to explain at this point. Cognitive ability was also not meaningfully related to LA. This might be an interesting finding since – in forensic psychology and *Criteria-Based Content Analysis* – intelligence it is often thought to be related to the ability to generate "high-quality" non-factual statements (which is slightly different from what we define as successful lies), although it has rarely been examined (Volbert, Stellar, & Galow, 2010).

Limitations of our study

First of all, our study suffered from low power and possibly from range restriction regarding the D3 due to our student sample (e.g., possible maximum score for the SRP is 384 compared to a mean of 140.64 (*SD* = 28.15) in our sample). Reliability for the MACH-VI was extremely low, which makes it difficult to interpret the study results. However, the main issue of our study might be our operationalization of LA: Since lying ability has been rarely measured by not using self-reports, our procedure was new and untested. Confounding might have played a major role: The raters' decisions on which story is fabricated can most likely not be explained only by LA, but also might depend on other variables like sex, age, motivation, content of the stories or emotional states. Additionally, participants were not specifically motivated to lie successfully (e.g. by an incentive). Furthermore, we did not control the participants' preparation time and reliability for LA was rather low. Consequently, our procedure should not be interpreted as an actual test of LA, but rather an external criterion of successful deceptive behavior. Furthermore, Vrij (2008) presumes that lies are told "without forewarning" which is not the case in our study since the raters were informed that they had to expect a fabricated story. Note that in our study, it is possible that the way we measure LA, we measured some kind of "narrative" ability instead: Participants had to prepare stories in advance, did not have to lie spontaneously and probably thought they had to enrich their stories with compelling, but also convincing details which is not very different from what a writer of fiction does. However, we do assume that in everyday life the option of planning, preparation and "story-telling" is not uncommon for individuals who are willing to lie and is therefore an appropriate design element for our study. Although this study comprises lies in a more playful and innocent setting compared to the "field" in real life, it comes with the advantages of laboratory settings. We were unable to check the objective factuality of the participants' stories and a problem might arise from our definition of lying which implicates that lies only have to

be contrafactual in the eyes of the sender: If a participant would tell a story they think is untrue, but the story is objectively true (which is known by the receiver), the participant would technically tell a successful lie. In this case a high LA score would be due to the participant's distorted perception of reality and the receiver's (objectively true) knowledge, but independent from an actual *ability*. Although thought-provoking in theory, we had no reason to believe that this specific scenario occurred in our study. Lastly, the number of raters was only 13 which is a very small number, but note that in order to prevent bias from different levels of "lying detection ability" it was necessary that all videos were examined by the same raters (which took several hours).

Concluding remarks

There are many assumptions regarding the manipulative abilities of socially-aversive individuals that are rarely backed up by empirical evidence not relying on self-reports. Although D3-individuals might need high manipulative skills, it is unclear whether they actually have them. We recommend that future research on the dark triad should more often imply observable behavior which might lead to a more accurate perception of D3-individuals' skills.

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Appendix

Table 1

Descriptive statistics

Variable	α	CIα	*M*	*SD*	range
Age			25.28	9.24	[18; 56]
Intelligence (WAIS-IV, IQ)			104.20	9.96	[86; 134]
Verbal Comprehension			105.60	9.23	[83; 127]
Perceptual Reasoning			100.54	12.52	[76; 133]
Working Memory			100.36	12.44	[77; 128]
Processing Speed			107.96	11.71	[86; 143]
Psychopathy (SRP-4)	.88	[.83; .92]	140.64	28.15	[83; 223]
Interpersonal manipulation	.78	[.69; .87]	41.12	9.98	[20; 67]
Callous Affect	.78	[.69; .86]	32.88	9.53	[17; 56]
Erratic Lifestyle	.75	[.66; .85]	43.40	1.96	[24; 70]
Anti-Social Behavior	.69	[.57; .80]	23.24	8.25	[16; 59]
Machiavellianism (MACH VI)	.52	[.32; .70]	31.72	5.34	[20; 46]
Narcissism (NARQ)	.85	[.79; .91]	45.68	1.74	[26; 84]
Narcissistic Admiration	.77	[.68; .87]	27.06	6.01	[12; 40]
Narcissistic Rivalry	.84	[.77; .90]	18.80	6.65	[10; 44]
Lying ability score	.62	[.47; .77]	0.61	0.21	[0.15; 0.92]
Preparation time (in minutes)			47.70	33.91	[5; 200]

Notes. Study sample *N* = 50. CIα = 95% confidence interval for α.

Table 2

Correlation matrix for the study variables

Variable	1	1a	1b	1c	1d	2	2a	2b	2c	2d	3	4	4a	4b
1 Intelligence (WAIS-IV, IQ)														
1a Verbal Comprehension	.61**													
1b Perceptual Reasoning	.81**	.33*												
1c Working Memory	.76**	.36*	.50**											
1d Processing Speed	.45**	-.04	.15	.24										
2 Psychopathy (SRP-4)	-.17	.18	-.09	-.20	-.34*									
2a Interpersonal Manipulation	-.09	.25	-.14	-.09	-.22	.78**								
2b Callous Affect	-.10	.17	-.11	-.10	-.21	.74**	.70**							
2c Erratic Lifestyle	-.20	.06	.01	-.25	-.39**	.71**	.24	.24						
2d Anti-Social Behaviour	-.10	.05	-.04	-.11	-.15	.68**	.33*	.20	.51**					
3 Machiavellianism (MACH VI)	-.10	-.08	-.06	-.14	.01	.17	.33*	.32*	-.18	.05				
4 Narcissism (NARQ)	.04	.05	-.01	.23	-.10	.41**	.43**	.40**	.27	.07	-.02			
4a Narcissistic Admiration	.13	.01	.11	.32*	.00	.28*	.27	.13	.32*	.07	-.17	.83**		
4b Narcissistic Rivalry	-.06	.06	-.12	.08	-.16	.41**	.45**	.52**	.15	.05	.13	.86**	.44**	
5 Lying ability score	.15	.13	.16	.11	-.10	.14	-.01	-.11	.25	.30*	-.02	-.09	-.01	-.13

Notes. Lying ability (score) = number of raters that were successfully deluded / number of raters that judged the subjects' stories.

* $p < .05$, ** $p < .01$, two-tailed tests.

Table 3

Moderator analysis for intelligence regarding the P-/M-LA-relation

	b	$SE\ b$	β	R^2	F
P-LA				0.081	1.354
				(0.021)	(df = 3; 46)
Psychopathy	0.0358	0.0295	0.1743		
Intelligence	0.0210	0.0319	0.1021		
intelligence x psychopathy	-0.0366	0.0295	-0.1898		
M-LA				0.091	1.539
				(0.032)	(df = 3; 46)
machiavellianism	0.0118	0.0299	0.0576		
Intelligence	0.3387*	0.1667	1.6490		
intelligence x machiavellianism	-0.0103	0.0055	-1.5223		

Notes. b = regression weights, *SE b* = standard error for *b*, *β* = standardized regression weights, *R²* = coefficient of determination (adjusted *R²* in brackets).

* *p* < .05, ** *p* < .01

8. Studie 4: D3, soziale Aufgaben und das Gefangenendilemma

8.1 Zitation, Anmerkungen und Autorenbeiträge

Titel: The Dark Triad and Social Effectiveness:

     A Study on Complex Social Tasks and the Prisoner's Dilemma

Autoren: Moritz Michels

Autorenbeiträge;

- Das Manuskript stammt von Moritz Michels.

Weitere Beiträge:

- Die Teilnehmerrekrutierung und die Laborerhebungen wurden von Sarah Titze, Anna-Lena Sternkopf und Grit Titgemeyer durchgeführt.

Anmerkungen:

- Das Testmaterial der komplexen sozialen Aufgaben ist in Anhang C einsehbar.

8.2 Manuskript der Studie 4

Abstract

The dark triad of personality (D3) is described as a socially-aversive conglomerate of three personality constructs: psychopathy, machiavellianism and narcissism. The triad is assumed to be a defective behavioral strategy and is also often thought to be beneficial for the individual in certain contexts. In this study the D3 was examined in regards to behavior in the well-known prisoner's dilemma (PD). It was tested if the D3-traits were related to (a) the overall defection rate, (b) the defection-/cooperation-behavior in the last PD-round and (c) the total gain in the PD game. Additionally, possible moderator effects of intelligence were examined. It was also studied if D3-individuals were better at solving complex (verbally presented) social situations. The results indicated that the D3 was almost unrelated to defection and gain in the prisoner's dilemma. However, narcissism and psychopathy were positively related to defection in the last round of the PD. None of the hypothesized moderator effects were significant. Solving complex social tasks was not related to any of the D3-traits. The results are not in line with the notion of strategically-flexible and successful D3-individuals.

Keywords: intelligence, dark triad, manipulation, prisoner's dilemma

The Dark Triad and Social Effectiveness: A Study on Complex Social Tasks and the
Prisoner's Dilemma

The *dark triad of personality* (D3; Paulhus & Williams, 2002) is a prominent
model of three socially-aversive traits: *Psychopathy* (P), *machiavellianism* (M) and
narcissism (N). While P can be described as a combination of manipulative behavior
towards others, a lack of empathy and emotionality, a maladaptive high level of
sensation-seeking and a tendency to violate norms and laws (Hare & Neumann, 2006),
M is characterized by careful, pragmatic long-term planning and a cold-manipulative
interpersonal style (Christie & Geis, 1970; Jones & Paulhus, 2008). N describes a strong
desire to be admired by others, mixed with a strong sense of entitlement and the need to
dominate one's social surroundings in the form of rivalry (Back et al., 2013). Moderately
intercorrelated (Muris et al., 2017) and united by a common empirical core (most likely
disagreeableness or honesty-humility; Muris et al., 2017; Moshagen et al., 2018) the
dark triad has regularly been examined in terms of the prediction of manipulative and
socially-aversive behavior: All three traits predict cheating in a coin flipping task (Jones
& Paulhus, 2017), counterproductive work behavior (O'Boyle et al., 2012) or online
trolling (Buckels et al., 2014).

On top of these well-documented unpleasant behavioral tendencies, several
researchers have claimed that the dark triad is an effective behavioral strategy in
specific contexts: Hare (1993) describes psychopaths as flashy and skilled "human
predators" (p. 207), machiavellians are supposed to "successfully exploit others,
especially in unpredictable and risky situations" (Bereczkei, 2018, p. 44), while
narcissists are claimed to have "agentic interpersonal skills (e.g., confidence,
charmingness)" (Back et al., 2013, p. 1014). The aim of this study was to further
examine the behavioral tendencies of D3-individuals, as well as question the
effectiveness of their behavior.

Many of these assumptions at least allude to abilities in the domain of social
interaction – consequently, a critical evaluation of these assumptions in the domain of
social/emotional abilities appears reasonable.

Social and emotional abilities

The concept and measurement of abilities that are specifically relevant to social
and emotional interaction are a long discussed topic in psychology (see Weis & Süß,
2005; Wilhelm, 2005). Considering the many different (often controversial) approaches,

the focus here lays on the more prominent models. The emotional abilities of D3-individuals have been investigated in several studies – often under the umbrella of *emotional intelligence* (EI) which can be defined as the "ability to reason validly with emotions and with emotion-related information, and to use emotions to enhance thought" (Mayer et al., 2016, p. 296). Meta-analytic results suggest negative relations with ability emotional intelligence (measured with maximum performance test) and partly trait emotional intelligence (measured with self-reports) (Miao et al., 2019) which might be explained by the conceptionally assumed emotional deficits of D3-indidividuals.

The case is different for social abilities or *social intelligence* (SI) in particular: SI can be described (following a potential-based approach) as a set of cognitive abilities that are necessary to show social competent behavior (Weis & Süß, 2005). Possible cognitive sub-dimensions are *social understanding*, *social memory*, *social perception*, *social flexibility* and *social knowledge* (Conzelmann et al., 2013). As of today, there is almost no research on how the D3 is related to SI. Sacco et al. (2016) report a mixed results for the relation between psychopathy and self-reported social intelligence – however there is no known data for any dark triad trait and SI measured by maximum-performance tests and not self-reports. Due to the lack of easily available and psychometrically sound tests for SI a standardized criterion in the form of verbally presented tasks with complex social content was developed for this study.

Aspects from both D3- and EI-/SI-conceptualizations give little reason to assume any relation between the constructs. At best, negative relations appear to be likely due to the emotional ineptitude of D3-individuals (lack of empathy, callous affect). Nevertheless, many researchers assume the D3 to be related to successful social behavior (see above). Note however, one should not confound the ability to act effectively in social situations with a specific disposition of behavioral patterns in social situations (e.g. agreeableness vs. antagonism). Consequently, it is difficult to anticipate the direction of an effect (data on this matter is sparse) and in this study no specific effect direction for a D3-relation to social abilities is hypothesized.

The prisoner's dilemma

The *prisoner's dilemma game* (PD) is a hypothetical decision scenario from the discipline of game theory. Although often applied in economic research, it has regularly been implemented in psychological studies as well (see Van Lange et al., 2013). In a PD,

two players are opposed to each other, playing for points. They are playing at least one round where each player has the possibility to "cooperate" with the other player or to betray him/her ("defect"). As a consequence (and depending on the pay-off-matrix), the players gain different amounts of points – depending on their respective behavior. If both cooperate, both gain a medium amount of points. If both defect, both gain a small amount of points. If one player defects and one cooperates, the defector gains a lot of points and the cooperator gains very few points. An interesting moment in a repeated PD is the last round of interaction: in this round it is (depending on the gain matrix) almost never the case that cooperation is a rational thing to do, since the opponent will not be able to retaliate later on. Many researchers have examined this *end game behavior* and found a substantial drop in cooperative behavior (Morehous, 1966; Selten & Stoecker, 1986) and individual differences might account for some of the behavioral variance. Traits and abilities have accounted for variance in behavior in economic games, e.g. cooperative behavior has been linked to intelligence (Jones, 2008), agreeableness (Kagel & McGee, 2014) and honesty-humility (Zettler et al., 2013).

P and M have been described as a behavioral strategy that is equivalent to a "defect"-strategy in evolutionary game theory (Rauthmann & Kolar, 2013). Following the expectations that D3-individuals are indeed successful manipulators, they might have the advantage of appearing cooperative while not shying away from exploiting others or showing a tactical mix of cooperation and defection. It is possible that D3-individuals are more eager to "test" their opponents by defecting and observe how the opponent reacts. There is various evidence regarding the behavior and success of D3-individuals in economic games: Malesza (2018) found P and M to be predictors of defection behavior in a PD, but not N. Mokros and colleagues (2008) reported that psychopaths were more likely to show defective behavior and also gained more points compared to non-psychopathic participants. Malesza and Poland (2020) found both grandiose and vulnerable narcissism to be predictors of defection. It appears unlikely that D3-individuals defect all the time, but it can reasonably be expected that D3-individuals use defection more often in order to gain more points.

Research question and hypotheses

In this study the social behavioral tendencies and their effectiveness in a PD-game are of interest. Additionally, the D3-performance in socials tasks (that might be an indicator of social intelligence and were specifically constructed for this study) was

implemented in this study. D3-individuals are presumed to be socially-aversive individuals, therefore a lack of cooperativeness can be expected. Based on the existing empirical evidence and theoretical assumptions it is reasonable to expect D3-relations to defection in a PD game. If a behavioral strategy is adaptive in a PD depends on the pay-off-matrix and the opponent's strategy. It is therefore difficult to predict how the D3 will be related to PD-gain. Additionally, the *moderated-expression model* for successful psychopathy proposed by Hall and Benning (2006) that implies that the effectiveness of psychopathic behavior is moderated by other variables, was transferred to psychopathy and machiavellianism. Cognitive ability was implemented as a potential moderator for the P-/M-relation to PD-gain as intelligence is suggested as a potential moderator for relations between dark traits and criteria of success by many authors (see Steinert et al., 2017; Wall et al., 2013).

Following the aforementioned expectations, the following hypotheses were tested:

H1:   P, M and N are positively related to overall PD-defection behavior.

H2:   P, M and N are positively related to PD-defection behavior in round 10 (last round).

H3:   P, M and N are related to PD-gain.

H4:   Cognitive ability moderates the P-/M-PD-gain-relation.

H5:   P, M and N are related to high scores in complex social tasks.

Method

Participants and procedure

In this study N = 142 participants (61% female) were recruited. The majority were students from a German university. The participants first played the PD. Subsequently, they worked on the complex social tasks and the D3- and intelligence-tests were administered. The participants received test person hours and little candy bags. The overall testing session took about two hours.

Instruments

Psychopathy. For psychopathy the *Questionnaire of Psychopathic Personality Traits* (German: Fragebogen Psychopathischer Persönlichkeitseigenschaften; FPP; Etzler & Rohrmann, 2017) was used. It is a 30-item-measure with the six subscales *Lack of Empathy*, *Fearlessness*, *Narcissistic Egocentrism*, *Impulsivity*, *Social Manipulation* and *Power* with norm values for students and incarcerated men. In this study overall

reliability was good (α = .82), but the internal consistencies for the subscales were substantially lower ranging from .55 to .82. A 6-point Likert scale was used for each D3-component.

Machiavellianism. M was measured with the *Machiavellianism Scale VI* (MACH-VI; Jones & Paulhus, 2008), a 9-item-test that poses an alternative to the prominent MACH-IV (Christie & Geis, 1970). The item content shifts more towards long-term strategies and careful planning, since it is thought that those aspects are more in line with the concept of machiavellianism. Reliability of the MACH-VI was rather low in this study (α = .63) – the results should only be interpreted with caution.

Narcissism. N was measured with the *Narcissistic Admiration and Rivalry Questionnaire* (NARQ; Back et al., 2013), an 18-item-self-report that measures N based on two dimensions which are partly contradictory: *Admiration* and *Rivalry*. There is convincing evidence regarding construct validity and criterion validity. In this current study the NARQ was a reliable measure to assess N (α = .81).

Intelligence. Intelligence was measured with two verbal subscales of the *Modular Short Intelligence Test* (German: Modularer Kurzintelligenztest; M-KIT; Dantlgraber, 2015). The M-KIT comprises six different tasks (two verbal, two numeric, two figural) and showed adequate relations to other intelligence tests and criteria of academic success. In this study the reliability was comparably low for a test of cognitive abilities (α = .76).

Complex social tasks

An elaborate criterion was generated in order to examine the participants' capabilities to solve complex social situations. Note that this should not be interpreted as psychological test (e.g. for social intelligence), since the tasks have not been sufficiently validated beyond this study. However, the criterion was oriented on the concept of social understanding, which "represents the ability to understand social stimuli against the background of the given social situation" (Conzelmann et al., 2013, p. 120). The test design was inspired by the *empathetic agent paradigm* (Hellwig et al., 2020). For the criterion five complex social scenarios were written as short story (ranging from 200 to 500 words). All scenarios had short plots with several characters, but there was one "protagonist". The stories' plots dealt with generic social situations, e.g. succeeding in a job interview, preventing a construction project by political activism or enforcing a specific plan for a group project. Within the story information were

presented regarding (a) the characters' personality and capabilities, (b) the characters' goals, (c) the characters' relationships to each other, (d) contingency rules for specific situations and resulting behavior and (e) situation specific rules. All these information were presented in a way that the text still appeared "story-like". At the end of the story the protagonist had to achieve a specific goal. The participants were then asked what the protagonist should do in order to achieve the goal. Six possible actions were presented and the participants had to judge each action if it was (a) "expedient", (b) "counterproductive" or (c) "without any effect". For each task two answers were deemed as correct for "expedient", "counterproductive" and "without any effect" respectively (which was not disclosed to the participants). The six actions contained both pro-social and anti-social behavior and were balanced in terms of effectiveness, i.e. pro-social options tended not be more effective as it is often the case in emotional intelligence tests (e.g. in the *Mayer-Salovey Caruso Emotional Intelligence Test*; Mayer et al., 2002). The participants were provided with one exemplary task which did not influence the overall score. There was no time limit for the participants, but most took no longer than 45 minutes.

Scoring was administered by expert rating. For each of the six possible actions per task an extensive rationale was documented in which it was laid out why an action was indeed "expedient", "counterproductive" or "without any effect". The rationale was examined and deemed fit by four independent raters. After several revisions the final agreement was 100%. It was possible to gain between 0 and 6 points per task. To ensure a minimum of quality, a number of psychometric analyses were conducted. A confirmatory factor analysis regarding one-dimensionality (with each task posing as one items) revealed unsatisfying results. After the removal of one task the results improved. Left with four tasks/items the model fit was acceptable (considering the point estimate): χ^2 (2) = 3.158, *p* = .206; CFI = .985; RMSEA = .061 (95%-CI [0; .183]); SRMR = .031; estimator: MLR. However, note that the confidence interval for RMSEA is hardly acceptable. Consequently, four tasks were kept and one task was excluded from analysis. Reliability was low, but acceptable (α = .67). The overall score was moderately correlated with the M-KIT-score (*r* = .385, *p* < .001, 95%-CI [.260; 1], one-tailed test) which hints that the social task score might be an indicator of cognitive abilities in the social domain.

Prisoner's dilemma

The PD was administered in a way to make the participants believe they played against another participant, although they played against the *suspicious-tit-for-two-tat*-strategy (ST2T). Since it is likely that the participants' behavior in the PD would be heavily influenced by the opponent's behavior, the participants did not play against real opponents (whose behavior cannot be controlled in a laboratory setting). As a consequence, the participants' PD-behavior could not be interpreted as a reaction in a standardized scenario and therefore not as a result of characteristics of the respective participant alone. Testing was only administered when at least two participants were present simultaneously. The participants were then told that they played against each other, but it would not be disclosed against whom to induce the notion of "real" human interactions. The suspicious-tit-for-two-tat-strategy (starting with defection, then always cooperation unless the participant defects twice in two subsequent rounds) was chosen to (a) make the fictional opponent appear more "human" (compared to the probably easy to detect tit-for-tat-strategy) and (b) make the defection strategy more appealing to generate behavioral variance. ST2T is a rather "forgiving" strategy (Boyd & Lorberbaum, 1987) and is best dealt with by a mixture of cooperation and defection. It can easily be "exploited" by tactical defection (expected by D3-individuals). The PD-scenario was embedded in a garden-maintenance-story to justify repeated interactions. The participants were instructed to win as many "points" as possible – the pay-off matrix is presented in Table 1. Each participant played a total of ten rounds to allow "getting to know" the opponent's strategy. After each round the participants were informed about their opponent's behavior. Three variables were of interest: (a) the total defection rate over the course of ten PD-rounds, (b) the defection behavior in round 10 and (c) the overall individual gain in points. The least effective strategy against ST2T is to always defect and cooperate in round 10 (total points = 13), while the most effective strategy is to start with cooperation, then switch between defection and cooperation and end with defection in round 10 (total points = 38). If participants never defect they gain 27 points. Note that the behavioral effectiveness is judged in terms of the amount of points not in terms of competitive win etc.

Results

Descriptive statistics and correlational analysis

Descriptive statistics are depicted in Table 2. Participants clearly tended to cooperate (M = 2.82; SD = 2.48). 56% of the participants defected in round 10. Distribution of defection and total win in the sample are depicted in Figure 1.

The correlations between the study variables are depicted in Table 3. Total defection rate was unrelated to psychopathy (r = .134, p = .055, 95%-CI [-.004; 1], one-tailed test) and machiavellianism (r = -.005, p = .526, 95%-CI [-.144; 1], one-tailed test), but positively related to narcissism (r = .158, p = .030, 95%-CI [.020; 1], one-tailed test). Defection behavior in round 10 was positively related to P (r_{pb} = .167, p = .023, 95%-CI [.029; 1], one-tailed test), unrelated to M (r_{pb} = .031, p = .716, 95%-CI [-.108; 1], one-tailed test) and positively related to N (r_{pb} = .229, p = .003, 95%-CI [.093; 1], one-tailed test). Total win was unrelated to all variables of interest: Psychopathy (r = -.161, p = .055, 95%-CI [-.318; .003], two-tailed test), machiavellianism (r = .079, p = .349, 95%-CI [-.087; .241], two-tailed test) and also narcissism (r = -.120, p = .155, 95%-CI [-.279; .046], two-tailed test).

Social task scores (high scores indicating more correct answers) were unrelated to P (r = .029, p = .728, 95%-CI [-.136; .193], two-tailed test), M (r = .160, p = .058, 95%-CI [-.005; .316], two-tailed test) and N (r = .064, p = .446, 95%-CI [-.101; .227], two-tailed test).

Post-hoc power analyses revealed low power for most effect sizes (below .50).

Moderator analysis

Intelligence was examined as moderator of the relation between the D3 traits and total win in the prisoner's dilemma. First, the values for P, M, and intelligence were z-standardized. The results of the moderator analyses are depicted in Table 4. It can be observed that there were no significant interaction effects for P-intelligence or M-intelligence in regards to predicting total PD-win. Thus, intelligence was not found to be a significant moderator of any of the proposed P-/M-PD-win relationships.

Discussion

Almost none of the hypotheses were corroborated. The dark triad was mostly unrelated to defection behavior and PD-gain. The moderator-hypotheses were not supported by the results. D3-idividuals were not better at solving complex social tasks. Some results hint at small effects regarding cooperation and solving social tasks.

However, significant effects did not exceed a level of *r* = .20 and note that there was no correction for the α-level (e.g. Bonferroni correction).

In dark-triad research (including this study) the aspect of competitive success has rarely been examined and should be examined in future studies. Although the dark triad is negatively related or at least unrelated to many positive external criteria, D3-individuals might be ideal candidates for a "let's burn together"-strategy: They do not win anything for themselves, but at least they defeat their opponent.

Limitations of the study

Several limitations of this study have to be noted. First, there are some issues regarding the prisoner's dilemma: There was no incentive for participants do actually gain points, therefore their choices were inconsequential – including potential loss for their fictional opponents. Furthermore, several precautions were administered to make the participants believe they were playing against real humans (test sessions with at least two participants, fake behavioral tracks like opponents' PD-answering-sheets, ST2T-strategy), it cannot be ruled out that participants simply did not believe any of it. Second, it is hardly the case that evidence from PD-behavior or from other game decision scenarios can be generalized as a behavioral tendencies: McAuliffe et al. (2019) found mixed results regarding the cooperative behavior and its relation to self- and other-reported measures of altruism, trust and trustworthiness. Hence, the results should only be interpreted cautiously beyond a game-like context. Interpreting PD-gain as an indicator of general social effectiveness might be a stretch as well: The PD-opponent is not a person but an inflexible set of reaction rules and the player has no option to validly determine the opponent's strategy. Therefore, a high PD-gain might be better interpreted as the result of a functional behavioral strategy in a specific "social" context. Although the need for measuring actual behavior in psychological research has been articulated frequently (e.g. Baumeister et al., 2007), measuring actual behavior is connected to challenges of its own (see Yodder & Symons, 2010). Third, low reliability was a problem with several measures (MACH-VI, FPP-facts, social task score, M-KIT) which might have led to an underestimation of the effects. Fourth, validity of the social tasks is unclear: due to the heavy reliance on verbal content the tasks might be indicators for verbal intelligence and not social abilities (relation M-KIT with social task score, corrected to attenuation: *r* = .54). Interpreting the current results would benefit from further validation of the social tasks.

Concluding remarks

Why should one assume positive relations between socially-aversive traits on the one hand and abilities and successful behavior on the other hand? While the image of highly effective "dark" individuals persists in the public domain (Eden et al., 2013), they also seem to influence perceptions in the field of personality psychology as well (see Bereczkei, 2018; Furnham et al, 2013; Jonason et al., 2012; Paulhus, 2014). Some authors even argue that high (emotional) abilities might *cause* or enable socially-aversive behavior (see Davis & Nichols, 2016), but note that the D3 is at least uncorrelated with cognitive ability (O'Boyle et al., 2013). This does not necessarily preclude successful behavior, since many personality traits are related to real-life successes (Busato et al., 2000; Seibert & Kraimer, 2001). Notwithstanding, recent meta-analytic evidence does not fit the narrative of adaptive dark personalities and suggests deficits in various social and professional domains (Muris et al., 2017; O'Boyle et al., 2012).

High effectiveness of D3-behavior could not be observed in this study and has recently been questioned for all three members of the dark triad, N (Chatterjee & Hambrick, 2007), P (Lilienfeld et al., 2015) and M (Wilson et al., 1998). Similar to the infamous debate regarding "trait emotional intelligence versus ability emotional intelligence", behavioral tendencies to manipulation and deception seem to be mistaken with the very ability to manipulate and deceive in the field of research on dark traits.

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Appendix

Table 1

Pay-off matrix in the prisoner's dilemma game

Behavior: Participant	Behavior: Fictional Opponent	
	Cooperation	Defection
Cooperation	3/3	0/5
Defection	5/0	1/1

Notes. The left number in the cells shows the outcome for the participants.

Table 2

Descriptive statistics

Variable	α	CI$_\alpha$	*M*	*SD*	range
Age			24.56	7.96	[18; 60]
1 FPP total	.82	[.78; .86]	83.49	16.60	[47; 128]
1a Lack of Empathy	.82	[.78; .86]	11.87	4.96	[5; 29]
1b Fearlessness	.55	[.43; .67]	14.22	4.30	[5; 26]
1c Narcissistic Egocentrism	.59	[.48; .69]	11.63	3.75	[5; 24]
1d Impulsivity	.74	[.67; .80]	14.99	5.30	[5; 28]
1e Social Manipulation	.67	[.59; .76]	16.54	4.22	[5; 29]
1f Power	.73	[.66; .80]	14.23	4.44	[5; 27]
2 MACH-VI	.63	[.54; .72]	33.86	6.60	[16; 49]
3 NARQ	.81	[.77; .86]	48.00	11.10	[24; 84]
3a NARQ Admiration	.76	[.70; .82]	24.30	5.95	[12; 40]
3b NARQ Rivalry	.79	[.74; .84]	23.70	7.49	[11; 46]
4 M-KIT verbal	.76	[.71; .82]	103.32	9.34	[76; 123]
5 Social task score	.67	[.58; .75]	16.52	3.37	[7; 24]
6 PD total defection			2.82	2.48	[0; 10]
7 PD defection round 10			0.56		
8 PD total win			29.00	3.21	[14; 37]

Notes. Study sample *N* = 142. CI$_\alpha$ = 95% confidence interval for α. FFP = psychopathy test, MACH-VI = machiavellianism test, NARQ = narcissism test, MKIT = intelligence test ("Standard Score" with *M* = 100 and *SD* = 10 instead of IQ-values).

Prisoner's dilemma (0 = cooperation; 1 = defection).

Table 3

Correlation matrix for the study variables

Variable	1	1a	1b	1c	1d	1e	1f	2	3	3a	3b	4	5	6	7
1 FPP total															
1a Lack of Empathy	.61														
1b Fearlessness	.52	.25													
1c Narcissistic Egocentrism	.75	.41	.32												
1d Impulsivity	.48	.07	-.04	.21											
1e Social Manipulation	.60	.15	.27	.42	.03										
1f Power	.77	.36	.21	.53	.35	.45									
2 MACH-VI	.23	.25	-.05	.20	.10	.20	.15								
3 NARQ	.62	.31	.13	.63	.23	.46	.61	.18							
3a NARQ Admiration	.43	.06	.15	.43	.03	.55	.47	.07	.78						
3b NARQ Rivalry	.59	.42	.08	.60	.31	.25	.54	.21	.87	.36					
4 M-KIT verbal	.09	.03	.04	.16	-.02	.07	.07	-.02	.11	.05	.13				
5 Social task score	.03	.04	.00	.09	-.04	.04	.00	.16	.06	.04	.06	.39			
6 PD total defection	.13	.12	.09	.07	.06	.00	.14	-.01	.16	.10	.15	.14	.03		
7 PD defection round 10	.17	.18	.05	.10	.11	.02	.14	.03	.23	.11	.25	.29	.22	.46	
8 PD total win	-.16	-.05	-.13	-.09	-.12	-.02	-.19	.08	-.12	-.06	-.13	-.05	.08	-.30	.18

Notes. Significant relations are not marked. Prisoner's dilemma (0 = cooperation; 1 = defection).

Table 4

Moderator analysis for intelligence regarding the P-/M-PD-total-win-relation

	b	SE b	β	R²	F
P-PD-total-win				0.0372	1.775
				(0.0162)	(*df* = 3; 138)
Psychopathy	-0.5264	0.2699	-0.1638		
Intelligence	-0.0978	0.2703	-0.0304		
intelligence x psychopathy	-0.3037	0.2584	-0.0986		
M-PD-total-win				0.0113	0.5258
				(0)	(*df* = 3; 138)
Machiavellianism	0.2383	0.2729	0.0741		
Intelligence	-0.1469	0.2732	-0.0457		
intelligence x machiavellianism	-0.1571	0.2660	-0.0504		

Notes. b = regression weights, *SE b* = standard error for *b*, *β* = standardized regression weights, R^2 = coefficient of determination (adjusted R^2 in brackets).

* *p* < .05, ** *p* < .01

Figure 1

Distribution of defection and total win in the sample with total N = 142
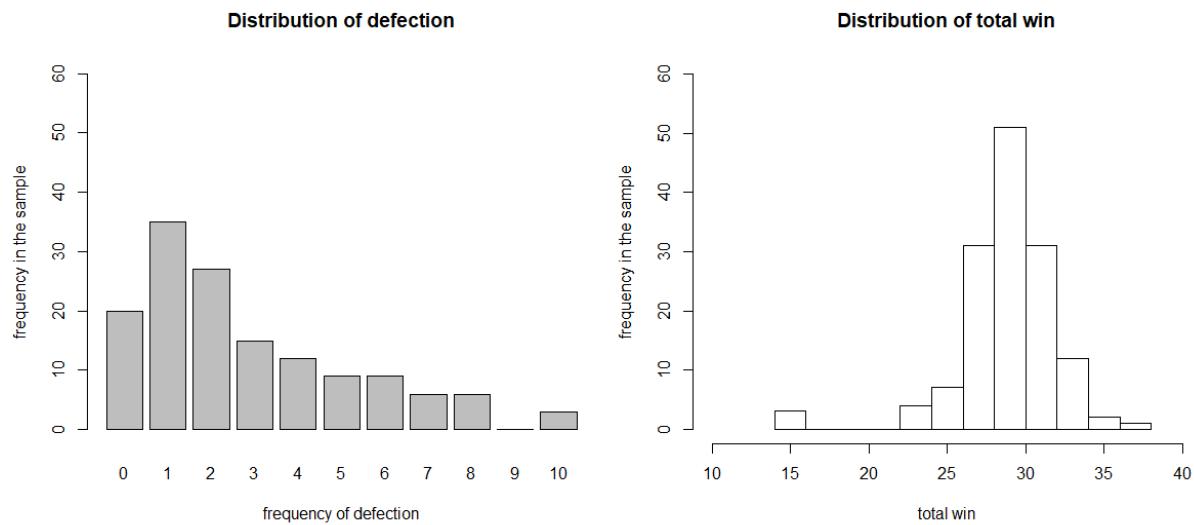
9. Studie 5: Psychopathie-Typologie und Erfolg

9.1 Zitation, Anmerkungen und Autorenbeiträge

Titel: Searching for Successful Psychopathy: A Typological Approach

Autoren: Moritz Michels & Marcus Roth

Das Manuskript wurde in *Current Psychology* zur Publikation angenommen (Michels & Roth, in press).

Autorenbeiträge;

- Die Idee der Studie stammt von Moritz Michels und Marcus Roth.
- Die Planung und Konzeption stammen überwiegend von Moritz Michels.
- Die Auswahl der Instrumente und Vorbereitung der Testbatterien stammen überwiegend von Moritz Michels.
- Die Datenaufbereitung und –aggregation stammen von Moritz Michels.
- Die Analysen stammen überwiegend von Moritz Michels, die Clusteranalysen im Speziellen stammen von Marcus Roth.
- Das Manuskript stammt überwiegend von Moritz Michels, Einlassungen zum typologischen Ansatz und den Clusteranalysen stammen überwiegend von Marcus Roth und Marcus Roth unterstützte das Schreiben des Manuskripts durch theoretische und methodische Anregungen.

Weitere Beiträge:

- Die Teilnehmerrekrutierung wurde teilweise und die Laborerhebungen wurden überwiegend von Praktikanten, Studierenden und wissenschaftlichen Hilfskräften der BUW und Universität Duisburg-Essen durchgeführt.
- Melanie Stevens und Daniel Weppert unterstützen bei der Onlineerhebung.

Anmerkungen:

- Das Testmaterial zur Erhebung der Außenkriterien ist teils in Anhang D einsehbar.

9.2 Manuskript der Studie 5

Abstract

Psychopathy (P) is considered to be an important clinical/forensic personality trait, which has recently received renewed attention due to research about the so-called dark triad (D3). Several authors assume P to be adaptive in certain "niches" of life, e.g. the workplace. P is generally thought to be a dimensional construct and not categorical. However in our exploratory study, we aimed to identify possible *types* on the trait psychopathy and examine if these types differed meaningfully in several domains of successful behavior. To identify possible P-types we measured psychopathy in a medium-sized sample from universities and the general population by using the Self-Report Psychopathy Scale – Forth Edition (SRP-4). We conducted cluster analyses on the basis of the SRP-4-facets (interpersonal, affective, lifestyle and anti-social) and identified five "psychopathy-types". We compared the five P-types in regards to desirable psychological variables (e.g. cognitive ability, life satisfaction) and self-reported domains of success (social, leisure, academic, professional). Our analyses did not reveal any considerable differences between the types. The results do not support the notion that examining psychopathy by using a typological approach is a promising direction of research and also indicate that variants of psychopathy appear to be neither adaptive nor maladaptive in crucial aspects of everyday life.

Keywords: successful psychopathy, dark triad, personality types, success

Searching for Successful Psychopathy: A Typological Approach

Psychopathy (P) is a personality trait that has a long history in forensic and clinical psychology. It has recently been of interest for personality psychologists, since it has been taken in by the *dark triad of personality* (D3) by Paulhus and Williams (2002) who also included *machiavellianism* (M) and *narcissism* (N). Under the D3-umbrella P is understood as a "subclinicial" trait (see Furnham et al., 2013; Paulhus & Williams, 2002). P describes a tendency of superficial charm, deceptive and manipulating behavior, a lack of remorse, empathy, and emotionality as well as antisocial behavior in general (Hare, 1999).

Since the early P-concept from Cleckley (1941) there have been several models of psychopathy with accompanying operationalizations. The most prominent one might be the *four-factor-model of psychopathy* (Hare & Neumann, 2006). It describes P as a trait of four highly intercorrelated factors (a) interpersonal manipulation (IPM), (b) callous affect (CA), (c) erratic lifestyle (ELS) and (d) antisocial behavior (ASB). Two tests specifically refer to this assumed structure: First, the *Psychopathy Checklist-Revised* (PCL-R; Hare, 2003) and its variants (e.g. the PCL-SV) and second, the *Self-Report Psychopathy Scale* (SRP/SRP-4; Paulhus et al, 2016). Note that the factors are called "facets" within these tests. They also introduce "Factor 1" (a higher order factor for IPM and CA) and a "Factor 2" (a higher order factor for ELS and ASB). Individuals high on P have regularly been the matter of case studies where one is described as manipulative and deceitful in the workplace (Babiak, 1995) and one has shown to rule "via fear and intimidation and to deny any real voice to those working under him" when given leadership positions (Boddy, 2017, p. 144). Case studies have also been used to demonstrate both adaptive and maladaptive manifestations of this personality trait (Falkenbach et al., 2017). In most case studies individuals show well-documented horrendous social behavior, but are able to maintain their social/professional position over a surprisingly long period of time. It has been argued that many criminal activities are caused by individuals that are at least psychopathic to some degree and psychopathy has even been suggested as a unifying theory of crime (see DeLisi, 2016). It is regularly discussed if the manifold antisocial behavior tendencies of P are due to explaining "core deficits", e.g. a lack of fear and anxiety combined with high impulsivity or pathological sensation seeking (see Blackburn, 2006; Fowles & Dindo, 2006). Others discussed an impaired ability to learn from aversive environmental reaction as a

consequence of one's own behavior (i.e. punishment) as the causal dynamic behind psychopathic behavior (Newman et al., 1987) which has also been interpreted as a deficient *response modulation* – the ability to automatically shift attention from goal-directed action in which a dominant response set is suspended to accommodate environmental feedback (Newman et al., 1997).

There are alternate descriptive models of psychopathy, e.g. the *triarchic model of psychopathy* (Patrick & Drislane, 2015) where P is interpreted as three interrelated factors: Disinhibition, boldness, and meanness. The model is specifically targeted to encompass psychopathic behavior outside forensic populations as well. Another model is the *three-factor model of psychopathy* by Cooke and Michie (2001) which is similar to the four-factor model and describes P as a mixture of (a) arrogant and deceitful interpersonal style, (b) deficient affective experience, and (c) impulsive and irresponsible behavioral style. Concrete antisocial behavior was removed from the model and is merely regarded as a consequence or simply a correlate of P. Another prominent model for P is the distinction between *primary psychopathy* and *secondary psychopathy*: While the general idea has been introduced by Karpman (1948), it was Levenson et al. (1995) who generated an accompanying, widely used P-test for that perspective on psychopathy – the *Levenson Self-Report Psychopathy Scale* (LSRP). Both forms of P are thought to encompass antisocial behavior and are moderately correlated. However, primary psychopathy is characterized by a mixture of callousness, manipulation and selfishness as the driving force behind antisocial acts, while secondary psychopaths are thought to act antisocially due to their emotional disorders and high neuroticism. Also, secondary psychopathy describes more of an antisocial lifestyle rather than a personality structure. The conceptionally implied manipulative tendencies of psychopaths (and therefore possibly faking) and the lack of insight in their own behavior are problematic in terms of measurement (Lilienfeld & Fowler, 2006). Only a few tests do not solely rely on self-reports: Both the PCL-R and the *Interpersonal Measure of Psychopathy* (IM-P; Kosson et al., 1997) are structured interviews and other-report measures which makes them applicable in applied forensic settings.

The term "subclinical psychopathy" presumably paved the way for psychopathy to be a matter of personality psychology. While "clinical" suggests maladaptiveness, within the limits of subclinical psychopathy adaptive manifestations might be possible.

It is noteworthy that the concept of psychopathy is very similar to the diagnosis of *antisocial personality disorder* in the Diagnostic and Statistical Manual of Mental Disorders. Note that we – by no means – assume that P should be separately investigated as clinical and non-clinical psychopathy. It has often been debated where the line of "normal" and "abnormal" personality can be drawn (Markon et al., 2005), but most researchers agree that abnormal personality can be described within the same framework as normal personality – but as extremes of normal personality variations. Interestingly, remnants of a typological approach (which highlights the construct's clinical roots) are still visible: Individuals with a PCL-R-score of 30 or higher can be classified as "psychopaths" (Hare, 2003; Mokros et al., 2017).

Typological approach in personality psychology

In personality psychology, a typological approach is rarely used. Most personality models describe personality as a multidimensional space of traits on which individuals differ – for example the Five-Factor-Model (FFM; see John & Srivastava, 1999) or the HEXACO-Model (see Lee & Ashton, 2008). Unlike these common dimensional approaches, which describe an individual's personality based on scores from several personality traits in isolation; the typological approach focuses on the configuration of traits within the person. This approach aims to identify types of individuals who share the same basic personality profiles and offers to regard personality as a whole, namely the personality structure. In the last years attempts have been made to merge the idea of personality types with the five-factor-model which resulted in the personality types "Resilient", "Overcontrolled" and "Undercontrolled" (see e.g. Asendorpf et al., 2001; Roth & Herzberg, 2017). In studies using several hundred thousand participants, typological conceptions of personality based on the Five-Factor-Model (Gerlach et al., 2018) as well as the HEXACO-Model (Espinoza et al., 2020) have recently been enjoying a renaissance.

Although most researchers assume P to be a dimensional construct (Edens et al., 2006), the psychopath-classification is a frequently used in forensic research and practice. Furthermore, there is a continuing search for subtypes of P (e.g. Hicks et al., 2004), one of which is the so-called "successful psychopath".

The successful psychopath

Ishikawa et al. (2001) simply characterized successful psychopaths as psychopathic individuals that are not incarcerated. Successful psychopaths are thought

to refrain from serious antisocial behavior when the consequences appear too threatening (see Hall & Benning, 2006). However, it has regularly been discussed if there is indeed a specific psychopathic subpopulation which is successful beyond not being in prison or a forensic institution, e.g. being successful in the workplace or specific social contexts or simply being criminal without being caught (Mullins-Sweatt et al., 2010). Although the threshold for being successful (not being in prison or a forensic institution) appears relatively low, there has not been a clear conceptualization of "success" for psychopaths beyond that, yet (see Wallace et al., 2020).

Some authors have referred to a theoretical framework to explain possible adaptive manifestations of dark personalities: the *Life History Theory* (LHT). LHT is a mid-level theory that is derived from general evolutionary theory and describes the allocation of resources and energy to important life contexts. It has been utilized to explain several, well-known dynamics from personality and social psychology (see Figueredo et al., 2006). In short, it has been argued that within the LHT framework there is a continuum between two poles regarding how someone can use individual resources in life: a *slow life strategy* and a *fast life strategy*. A slow life strategy is characterized by secure attachment patterns, supportive communication patterns, a general psychological disposition for long-term strategizing and long-term mating efforts, while a fast life strategy is short-term-oriented with diminished self-control, a short-term mating disposition, selfishness, and other manifestations of a generally antisocial perspective (Jonason et al, 2010). It has been argued that both strategies might be adaptive in different contexts (Sherman et al., 2013): While slow strategies are thought to be promising in highly regulated environments, fast life strategies are thought to be superior in unstable, unpredictable, and uncontrollable environments, where the ability to reproduce quickly is crucial because life spans are short. LHT has regularly been associated with research on the dark triad (Jonason et al., 2012; Jonason et al., 2010; McDonald et al., 2012) and the D3 and psychopathy in particular have been described as variants of a fast life strategy. Hence, it is often assumed that P might be adaptive in specific contexts and maladaptive in others.

Besides the overarching LHT approach, there are basically three models to explain successful psychopathy in particular (see Hall & Benning, 2006; Lilienfeld et al., 2015; Steinert et al., 2017). First, successful psychopaths are simply non-clinical variants, they are less psychopathic and therefore "mild" in their behavior (*differential-*

severity model). Second, successful psychopaths exist in contexts with compensatory environmental factors or have dispositional characteristics external to psychopathy (e.g. high intelligence, high conscientiousness) that can attenuate the negative behavioral outcomes associated with high psychopathy (*moderated-expression model*). Third, specific configuration of high and low psychopathic traits/sub-facets determine whether psychopaths will be successful or not, e.g. high callousness and low impulsivity (*differential-configuration model*, similar to the *dual-process perspective*). This is in line with recent research regarding sub-aspects from various psychopathy concepts that have been discussed as possible causes for successful manifestations of psychopathy. E.g. primary psychopathy has been discussed as a more adaptive form of P in terms of decision making (Dean et al., 2013) and social functioning (Baird, 2001) – at least in comparison to secondary psychopathy. On a similar note, *fearless dominance* is sometimes examined as a possible predictor for economic success (Blickle & Genau, 2019; Eisenbarth et al., 2018). Especially the differential configuration model may be combinable with the general typological approach: Identifying variants of P and examining their differences in various successful behaviors.

The goals of psychopaths and success in life

Not much is known about the motives of psychopathic individuals. Most literature suggests that psychopaths' strategy for life is hedonism in its purest form. They seem to be comparably uninterested in areas of life that are typically linked to normal psychological functioning like maintaining a steady job or positive relations to one's family – their goals appear "particularistic and do not transcend the here and now" (Smith, 1984, p. 182). Psychopaths are specifically described as lacking realistic, long-term goals (Hare, 2003) and appear rather parasitic in regards to their social surroundings. They are particularly unaffected by any moral motivation (Hare, 2003). In their psychoanalytical work on psychopaths Meloy and Shiva (2020) assume that the primary motivation of psychopaths is to dominate others – they do not desire for affectional relating, or reciprocal altruism. Glenn et al. (2017) report findings on P and goals that are in line with the aforementioned suggestions, psychopathy is related to pleasure-seeking and a desire for relative social positioning and power over others. Also, P was positively related with a desire for material gain and hedonism, but negatively related to conforming with tradition and the desire to protect the welfare of close others in everyday interaction. In total, individuals high on P want a life filled with

pleasure, sensation, power over others and do not intend to use their time for the benefit of others, abstract moral principles or more sophisticated long-term goals. What is successful behavior? One might simply define successful behavior as behavior that leads to the fulfillment of a self-set goal. However, this subject-oriented approach to success makes it hard to interpret differences in achieving objectively similar outcomes. Steinert et al. (2017) define success (in regards to successful psychopathy) as "behavior that results in outcomes that increase positive consequences for an individual or reduce negative consequences for the individual" (p. 47). We lean to the latter definition of success and add that success in this study should not solely be derived from the individual's perspective. Here, success is basically determined by the views of other individuals as well – success is the fulfillment of goals that most people deem desirable. As shown before, this does not necessarily overlap with the goals of psychopaths, but is also not necessarily at odds with each other. However, to better understand how psychopathy unfolds in general domains of life and to compare their achievements with non-psychopathic persons we refrained from narrowing the domains of success to a subjective, psychopathic level.

What is success for most people? Although there has been detailed work on human motivation and goals (see Schwarz & Boehnke, 2004), we are unaware of any psychological theory of domains of success. Hence, in this study we focus on domains in life we regard as relevant for many individuals: a) how people function (and have functioned) in academic environments (school, university) by achieving good grades (*academic success*), b) how people adjusted in professional environments by gaining high pay and status (*professional success*), c) how people are able to build a social network that supports them and satisfies their needs (*social success*) and d) how people are able to spend their free time with activities and hobbies that are enjoyable and fulfilling for them (*leisure success*).

Research question

Most studies on P-typologies focus on subtypes of "actual", clinical psychopaths. However, due to the assumptions of the existence of adaptive subtypes of psychopathy and following the differential-configuration model of successful psychopathy, it seems reasonable to apply the typological approach to the full spectrum of the trait psychopathy – and not only the extreme (i.e. pathological) cases. Consequently, we aimed for a study sample from the general population. Even beside the concept of the

successful psychopathy it is often assumed that psychopaths in general have special manipulative abilities or that they are good at getting to the top in certain contexts: Babiak and Hare (2006) describe psychopaths as "skilled at social manipulation, and the job interview is a perfect place to apply their talents" (p. vii) who "often are successful by most standard measures of career success" (p. x). Glenn, Kurzban and Raine (2011) elucidate that "in some cases psychopathic traits could be viewed as debilitating and harmful to the individual, whereas in other cases these traits may actually benefit the individual." (p. 372). Paulhus (2014) claims that there are "dark niches" for individuals high on the dark triad and that "even psychopaths may flourish in the right cultural context - for example, in street gangs" (p. 423). Note that these assumptions have rarely been backed up by empirical evidence, neither in the workplace (Babiak et al., 2010) nor in terms of manipulation success (Wright et al., 2015). Therefore, we intended to examine possible differences between the P-types in regards to criteria of success and positive psychological outcomes. As mentioned before, in our study we included criteria of success from the domains social, academic, professional and leisure in order to encompass the concept of success as broadly as possible.

In this exploratory study, we aimed to find different types regarding the psychopathy trait in a non-forensic population. Subsequently, we were interested if these psychopathy-types differed in cognitive ability, other socially-aversive personality traits (M and N), positive psychological variables and criteria of success in life. Since we had no hypotheses on what psychopathy-types might emerge, we had no hypotheses on how they might differ, either. We based our P-typology on the four-factor model of psychopathy and used the four facets of the SRP-4 (Paulhus et al., 2016) as the basis for the psychopathy-types. Note that our methodology differs from the typological approach utilized by other authors: While most researchers study subtypes only within high psychopathic groups, we look for typologies on the whole dimension of psychopathy. Therefore, not all of our P-types should be confused with actuals psychopaths. In the following, we will describe how we conducted the study, how we compared the identified psychopathy variants and will conclude by discussing the main findings.

Method

Participants and procedure

For our study we combined data from five separate studies. Four studies were conducted at two German universities and mainly included students as participants. One study was an online questionnaire and included partly students, but mostly people from the general population. We aggregated the datasets from all five studies and removed double participations. The online questionnaire also included three attention control questions – participants who answered at least one of these questions in an inattentive way were removed from the dataset. Our final study sample comprised $N = 617$ participants ($n = 269$ were tested in the laboratories of the universities and at least $n = 348$ took part in the online study). Our sample was predominately female (83.3%) with an average age of $M = 26.76$ years ($SD = 9.75$). The participants were either given test person hours or were able to take part in a draw to win vouchers.

Instruments

We included a variety of study variables. For most variables we used existing scales, for others we constructed short scales or asked for concrete behavior or personal information. We used a 6-point Likert scale for almost all self-reports (1 = does not apply at all; 6 = fully applies). Reliability coefficients are presented in Table 1.

Psychopathy. The SRP-4 was used to measure P. It is a 64-self-report-questionnaire that has shown to be the self-report equivalent of the PCL-R – a well-known and extensively validated measure for P in forensic settings. As already outlined it comprises the four facets Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, and Anti-Social Behaviour (16 items per facet). The choice of the measurement tool for P is essential in this study, since it determines the underlying model one refers to as well. In order to measure P reliably, consider the construct's complexity appropriately and to rely on the facet structure of P, we deliberately decided not to use any short measures for convenience. Although the SRP has been critically examined in terms of structural validity (Boduszek & Debowska, 2016), its facets are highly correlated with the respective PCL-R-facets while self- and other-reports correlate highly as well (Paulhus et al, 2016). The instrument is widely used in the field of psychopathy research and most empirical evidence lead us to the conclusion that is currently the most appropriate self-report test to measure P.

Machiavellianism. The 9-item *MACH-VI* (Jones & Paulhus, 2008) was our measure for M. It differs from the most prominent M-test, the MACH-IV (Christie & Geis, 1970), since it is unrelated to impulsivity and includes items regarding strategic, long-term planning which is both more adequate conceptually according to Jones and Paulhus (2008).

Narcissism. For N, we used the *Narcissistic Admiration and Rivalry Questionnaire* (NARQ; Back et al., 2013), a 18-item-self-report. The NARQ splits N into two dimensions which are partly contradictory: *Admiration* and *Rivalry*.

Cognitive ability. We measured cognitive ability with the *IST-Screening* (Liepmann et al., 2012) which is a short version of the *IST-2000-R* (Liepmann et al., 2007). It features three types of intelligence subtests: analogies, calculating and matrices. Taking the test takes about 30 minutes. Norm values in the form of IQ-values are available.

Functional psychological variables. A German version of the *Satisfaction with Life Scale* (SWL; Diener et al., 1985) was used as a measure of life satisfaction. It consists of five items. For self-esteem, we used a German version of the *Self-Esteem Scale* (RSE) by Rosenberg (1979) with 18 items. These measures are not typically associated with success. Notwithstanding, both self-esteem and life satisfaction are (almost by definition) generally desirable psychological states/outcomes for most individuals.

Criteria of success. As mentioned above, we decided on criteria of success in four different domains of life (social, academic, professional and leisure), although we might have missed some aspects of success (see below). These domains include "hard" aspects (e.g. salary, GPA, scholarship) that can be measured straightforwardly by asking. Hence, we decided for a mixture of self-reported satisfaction with the respective domain and self-reported objective success. For various variables we were interested in, no adequate scales existed. Consequently, we wrote short scales ourselves or simply asked for the domain of interest. For self-reported success in the domain *leisure* we constructed a 6-item scale (e.g. "I manage to spend my spare time satisfactorily.", "I can never tell interesting stories about my spare time." (reversed)). For self-reported success in the domain *social* we constructed a 3-item scale (e.g. "I am satisfied with the quality of my social network."). We additionally asked the rough number of Facebook friends and Instagram followers. We also asked the participants to actually list their close friends and their regular friends (in short: friends that are not as important as

"close" friends) and counted the names afterwards – both friend categories were precisely explained to the participants. The number of friends and followers might be a rough indicator for objective social success. For self-reported success in the domain *academic* we asked the participants for their GPA (grade point average, in case they had a high school diploma, the German "Abitur"), their average grade of their academic degree if they had one, their average grade if they were still studying at that moment, if they had ever won an academic prize or if they ever received a scholarship. For self-reported success in the domain *professional* we asked participants how much money they had at their disposal per month and if they had a leadership position. We refrained from utilizing an overall success score in each domain or across all domains, since a theoretical rationale for such an integration was unavailable.

Method for clustering

The prototypes were derived by applying a two step clustering procedure, described by Blashfield and Aldenderfer (1988), which combines the hierarchical analysis method by Ward (1963) with the non-hierarchical k-means clustering procedure by MacQueen (1967) in order to optimize the cluster solution. First, Ward's hierarchical clustering procedure was applied. Using this method, the two most similar clusters in terms of their squared Euclidean distance were combined in steps, starting with the clusters that contained only one participant. Because clusters that are fused in one step remain together in all remaining steps, the Ward method, as well as other hierarchical methods, can result in non-optimal solutions. Therefore, each cluster solution was subsequently used as the initial cluster centers for a non-hierarchical k-means clustering procedure. In each analysis all participants were assigned to the most similar cluster on the basis of their Euclidean distance to the initial cluster centers. Subsequently, new cluster centers were computed and used as initial cluster centers for the next step in an iterative procedure until the largest change in any cluster center was less than 2% of the minimum distance between the initial centers. To determine the optimal number of clusters we oriented towards the variance within the clusters. It decreases as k (the number of clusters) increases, but it can be seen a bend at $k = 5$. This bend indicates that additional clusters beyond the fifth have little value. Therefore, we classified the sample into five clusters.

Results

Descriptive statistics and correlational analysis

Information on the study sample and intercorrelations between psychopathy and other study variables are depicted in Table 1. It appears that P is almost unrelated to most study variables. There are only small to medium relations with M, N and life satisfaction. The other correlations are mostly too small to be relevant, although there are some negative relations to criteria of success and P-facet-level.

Cluster analysis

Figure 1 depicts the mean SRP-pattern of the five-prototype solution that was found in our sample. For better comparability, the SRP-facet-values scores were first standardized (z-transformed) and then averaged within each prototype. We named the five types according to their SRP-facet-values: (a) P-type 1 (low on all facets, 38% of the sample) = *Non-Psychopathic*, (b) P-type 2 (high on ASB, average on the rest, 10% of the sample) = *Generic Antisocial*, (c) P-type 3 (high on IPM and CA, average on ELS and ASB, 23% of the sample) = *Cold Manipulator*, (d) P-type 4 = *Adventurer* (high on ELS, average on the rest, 23% of the sample), (e) P-type 5 (high on all facets, very high on ASB, 5% of the sample) = *Psychopathic Antisocial*. Note that the prevalence of each P-type is not evenly distributed: While roughly 40% of the participants were not psychopathic at all (Non-Psychopathic), almost half of the sample showed psychopathic tendencies to some degree (Generic Antisocial, Cold Manipulator, Adventurer). Only 5% of the study sample were Psychopathic Antisocials, (interestingly corresponding with the assumption by Moffitt (1993) that nearly 5% of the population can be classified as *Life-Course-Persistent Offenders*).

Comparison of psychopathy-types

We compared the five psychopathy-types with analyses of variance (ANOVA). The results are depicted in Table 2. Although most of our dependent variables were not normally distributed within each P-type-group (Kolmogorow-Smirnow-test), the *F*-test has shown to be robust against violations regarding normality in terms of Type I errors, even if the group sizes vary (Blanca et al., 2017). There were significant differences regarding self-reported success in the domain leisure and social and also self-reported life satisfaction, but note that there seems to be no consistent pattern of which P-type reports higher success. There were differences regarding machiavellianism and narcissism. The other comparisons produced insignificant results.

We additionally used chi-squared contingency table tests to compare the P-types in regards to the categorical variables. The results are depicted in Table 3. It can be observed that the five P-types did not differ in regards to winning academic prizes, receiving scholarships, having leadership positions or in salary.

Discussion

In our study we were able to identify five distinct personality types on the psychopathy trait. Unsurprisingly, we found differences in the level of machiavellianism and narcissism, since the D3-components are moderately intercorrelated (Muris et al., 2017). We did not find any relevant differences regarding cognitive ability or self-reported criteria of success. We found weak evidence that suggests that the P-types differ in life satisfaction (with Non-Psychopathics highest on life satisfaction). The LHT framework suggests that variants of P can be adaptive in some contexts and maladaptive in others. In our study, the indicators of (mal)adaptivity were a selection of criteria of success. Our results suggest that both "mild" and "severe" forms of psychopathy are neither an adaptive behavioral strategy nor particularly maladaptive – at least in regards to the domains of life we examined. Nevertheless, the results might be sample- and context-specific: Firstly, our sample was young and well-adjusted to essential norms of society (e.g. 93% had a high school diploma with virtually no differences between the P-types), ergo lived in an environment that LHT deems to be suitable for slow life strategies. Secondly. there was a strong focus on domains of success that are relevant to that specific sample (academic, professional). Although we found no patterns of adaptivity for the fast life strategy in the form of P, this does not mean that these patterns do not exist in other contexts. Be that as it may, our results do not hint how possible patterns might emerge in other contexts.

The psychopathy-types we found can be compared with earlier research on P-types: Bronchain et al. (2020) only focused on high psychopathic individuals, identified three distinct P-types and named them a) emotionally stable–low antagonism cluster, b) secondary psychopathy cluster and c) primary psychopathy cluster. Hicks et al. (2004) identified two subtypes via cluster analysis: the emotionally stable psychopath and the aggressive psychopath. Although both approaches are theoretically interesting, their cluster solutions are not similar to the subtypes we found, are focused on high psychopathic individuals and include very different variables. Therefore, the results are hardly in line with our approach.

Limitations of the study

We need to acknowledge a few limitations: Firstly, almost all variables were measured via self-report. Taking into account that psychopathic individuals are thought to be manipulative and dishonest, at least the results from the Cold Manipulators and the Psychopathic Antisocials should be interpreted with caution (although it appears unlikely that individuals high on P who are willing to manipulate, would describe themselves as psychopathic in the first place). The validity of self-report psychopathy scales in the face of manipulative responding has been discussed extensively (see Lilienfeld & Fowler, 2006; Ray et al., 2013) and naturally applies to self-reports on individual successes to a similar degree. Furthermore, the reliability of some tests was very low (MACH-VI, SRP4-facets) which is problematic for the formation of the P-types. We intentionally neglected multiple testing correction, since our study was exploratory.

Also, since several datasets were aggregated, the sample sizes for each comparison varied significantly. Consequently, the distribution of the five P-types in these subsamples differed from the distribution in the complete sample. As a result, in some cases the estimation of the mean will not have been sufficiently precise due to a low *n* (especially for the Psychopathic Antisocials). Furthermore, clustering procedures are very sensitive to sample size and composition; sample specific profiles vary extremely across different samples. Therefore, it would be necessary to replicate our profiles in further studies. Note that the operationalisations for the criteria of success were unvalidated short scales for the most part. One possible additional measure for self-reported success in the domain of social might have been the *Political Skills Inventory* (Ferris et al., 2005). A model-based comprehensive inventory to measure success in life might be a viable option in the future – however that was hardly the main focus of our study. Bear in mind that our definition of success as the fulfillment of goals that most people deem desirable might be a matter of discussion as well: Since the goals and values of psychopathic individuals seem to differ from non-psychopathic people at least to some degree, it might be misleading to apply the same "normal" standards of success to them as well. However, we tried to conceptualize and measure success as broadly as possible in our study and we are confident that at least some of the included aspects matter even for highly psychopathic individuals. A major limitation in our study might be the omission of success in the domain of *mating*. LHT suggests that mating success is a key component of a successful life. Accordingly, P has shown to be related to

short-term mating strategies (Jonason et al., 2009), although the relations to actual mating/reproductive success appear to be something of a mixed bag (Carter et al., 2018; Jauk et al., 2016). P in particular has been discussed in terms of *frequency-dependent selection* (see Buss, 2008): As long as psychopaths are a small minority in the population (which they currently are), the damage they inflict is manageable and they can maintain their existence in society to some degree. If the prevalence of psychopaths would rise, countermeasure were likely to emerge and psychopathic strategy would have a lower payoff, since detection (and punishment) might be more likely to occur. Implementing various indicators of mating success might have been a fine addition to our study to examine if P predicts offspring success to some degree.

Unfortunately, our analyses were not based on random sampling: the identified P-types (and especially their frequency of occurrence) cannot be generalized to the German population. Finally, it was not possible to describe the identified P-types by referencing norm data for the SRP-4 – although there are norms for English-speaking populations, to our knowledge there are none for Germany. Bear in mind, that in our sample – although consisting of many individuals from non-student populations – most participants were young and female. Consequently, this might have reduced variance in our study and therefore a lower change to detect existing effects: D3 is generally lower in female samples (see Muris et al., 2017) and others study variables might have been affected as well, e.g. income and leadership position.

Concluding remarks

The typological approach has been discussed in terms of comparably low predictive ability (see Asendorpf, 2003; Roth & von Collani, 2007). It remains unclear if our approach of identifying P-types is promising for psychopathy. One the one hand, typologies make it possible to examine what kind of behavior might be a consequence of specific psychopathy-facet-combinations. It also allows experimental research on subclinical psychopathy-types. Our approach might even be combined with the inclusion of additional variables to examine how P-types in combination with specific other variables (e.g. intelligence) might be related to external criteria. Altogether, it embodies the differential-configuration model of successful psychopathy.

On the other hand, our approach is currently limited to the four-factor model of P. Also, the use of a typological approach in personality psychology should only be conducted selectively: While the identification of typologies on the basis of *global* personality

models (Big 5, HEXACO) is perfectly reasonable, searching for types based on *any* dimensional personality trait or a number of traits might be considered arbitrary. For psychopathy, the approach is justifiable to some degree, however using a typological approach should only be applied if it shows some predictive validity, is of practical use in the field or deepens the understanding of the construct it is used on. Since our results show virtually no differences between the P-types, the latter aspects remain unsolved and the future prospect of a typological approach for psychopathy is unclear. On a different note, it might appear bizarre to examine traits that seem to be configurations of a global personality models themselves in the first place: Most content of psychopathy facets (independent from the psychopathy model one might refer to) apparently overlaps with the five factor model (see Miller & Lynam, 2003). Some authors even aim to measure psychopathy with five factor measures (Lynam et al., 2011). In other words, psychopaths are most likely a specific, antisocial "five factor model type". Of course, there is no need to "dissolve" or "assimilate" personality traits beyond global traits (that might even have a longer history than the global personality models that are known today). However, one might question if it is reasonable to set a five-factor-configuration prototype as the extreme pole of a psychological construct and then treat it as a dimensional trait, since this appears to be the case at least for other dark traits (Collison et al., 2018; Miller et al., 2018).

Although the dark triad in general and psychopathy in particular have often been discussed as traits that enable individuals to succeed by using manipulative, deviant acts, we found no evidence in our study that this actually the case. Assumptions regarding the abilities and the successes of psychopathic individuals have rarely been backed up by actual empirical evidence and have recently been questioned. Boccio and Beaver (2018) report that psychopathy has been shown to be unrelated to criminal success (e.g. avoiding detection, not being arrested). In a study similar to ours Ullrich et al. (2008) found no meaningful relationships between any P-facet and self-reported success in life and the authors concluded "that psychopathic traits do not contribute to a successful life and that the findings cast doubt on the existence of the successful psychopath" (p. 1162). Lilienfeld et al. (2015) describe many non-validated assumptions in the field in regards to the abilities of psychopathic individuals and how they notice a considerable gap between the clinical lore of successful psychopathy and the actual empirical evidence that might support this image.

However, we assume – based on personal observations – that the adaptive psychopathy-stereotype is rarely based on actual *written* statements or theoretical assumptions by researchers – but is rather perpetuated by an elusive mixture of academic "grapevine", morbid-flashy case studies and a tendency of suggestive imprecision in popular scientific literature. We do recommend that these assumptions should at least be put on hold until they are actually backed up by solid empirical evidence.

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Appendix

Table 1

Descriptive statistics and correlations between psychopathy and the study variables

	n	*M*	*SD*	α	P-total	P-IPM	P-CA	P-ELS	P-ASB
P-total	617	140.23	28.29	.87					
P-IPM	617	40.10	12.09	.80	**.67**				
P-CA	617	34.44	9.68	.73	**.80**	**.49**			
P-ELS	617	42.84	10.18	.71	**.77**	**.33**	**.43**		
P-ASB	617	20.86	6.33	.57	**.61**	**.29**	**.30**	**.44**	
IQ	228	105.48	11.26	.93	-.03	-.02	-.01	-.03	-.04
Narcissism	269	49.97	12.37	.88	**.59**	**.47**	**.48**	**.38**	**.20**
Machiavelliansim	269	33.06	4.96	.38	**.29**	**.21**	**.25**	.04	.08
Life satisfaction	453	20.64	5.51	.88	**-.25**	**-.18**	**-.19**	**-.19**	**-.24**
Self-esteem	369	68.75	16.93	.91	-.04	-.07	.03	-.02	-.06
Success leisure	369	21.82	6.09	.84	-.10	**-.12**	**-.11**	.01	**-.13**
Success social	369	11.17	3.54	.68	-.10	**-.17**	**-.23**	.09	-.05
Number Cfriends	369	4.63	2.17	-	**-.10**	-.07	**-.19**	.03	-.08
Number Rfriends	369	6.47	4.26	-	-.05	-.04	-.08	.03	-.09
Number FBfriends	260	272.43	217.88	-	.01	.03	-.05	.04	-.02
Number InstaF	190	301.22	606.25	-	.06	.08	.08	.06	-.07
GPA	313	2.10	0.70	-	.09	**.14**	**.12**	.05	.05
Grade degree	118	1.82	0.63	-	.04	-.05	.13	.00	-.02
Grade studying	170	1.96	0.72	-	.06	.02	.07	.10	-.04

Notes. P = Psychopathy; P-IPM = Interpersonal Manipulation facet; P-CA = Callous Affect facet; P-ELS = Erratic Lifestyle facet; P-ASB = Anti-Social Behaviour facet; Success leisure = success in the domain leisure; Success social = success in the domain social; Number Cfriends = number of close friends; Number Rfriends = number of regular friends; Number FBfriends = number of Facebook friends; Number InstaF = number of Instagram followers; GPA = grade point average for the German high school diploma; Grade degree = average grade of an academic degree; Grade studying = average grade while studying for a degree (grades: range 1-4 with 1.0 being the best grade). All bold correlations differ from zero at *p* < .05 (two-sided).

Table 2
Comparison between the psychopathy-types regarding psychological variables and criteria of social/academic/leisure success

Variable	Non-Psychopathic (1)	Generic Antisocial (2)	Cold Manipulator (3)	Adventurer (4)	Psychopathic Antisocial (5)	F	df	p	Post-hoc-tests
Proportion of *N*	38%	10%	23%	23%	5%				
P-total	115.22	150.28	158.73	142.94	208.79			<.01	1 < 4 < 2 < 3 < 5
P-IPM	33.28	41.15	51.69	35.42	56.70			<.01	1, 4 < 2 < 3, 5
P-CA	27.96	31.69	43.30	33.44	51.64			<.01	1 < 4, 2 < 3 < 5
P-ELS	34.46	45.34	43.82	50.22	62.42			<.01	1 < 3, 2 < 4 < 5
P-ASB	17.78	30.51	19.92	19.30	35.97			<.01	1 < 4, 3 < 2 < 5
IQ	106	105.2	106.5	104.2	105.4	0.363	(4, 223)	.84	
Narcissism	44.30	51.59	58.69	48.61	60.56			<.01	1 < 4, 2, 3, 5
Machiavelliansim	32.28	32.85	34.69	32.35	36.25	4.276	(4, 264)	<.01	1, 4, 2, 3, 5
Life satisfaction	22.14	18.64	19.88	20.71	16.76	8.993	(4, 448)	<.01	5, 2, 3, 4, 1
Self-esteem	69.01	63.91	67.96	71.47	68.76	1.261	(4, 364)	.29	
Success leisure	22.79	20.06	20.42	22.61	21.18	3.357	(4, 364)	.01	2, 3, 5, 4, 1
Success social	11.43	11.26	10.11	12.07	10.53	3.742	(4, 364)	<.01	3, 5, 2, 1, 4
Number Cfriends	4.87	4.49	4.25	4.87	3.82	2.059	(4, 364)	.09	
Number Rfriends	6.68	6.11	6.02	7.00	5.59			.52	
Number FBfriends	277.22	264.37	256.06	290.00	256.25	0.213	(4, 255)	.93	
Number InstaF	247.44	279.76	442.30	270.50	207.38	0.872	(4, 185)	.48	
Grade high school	2.05	2.13	2.14	2.09	2.34	0.636	(4, 308)	.64	
Grade degree	1.84	1.60	1.91	1.77	1.84	0.494	(4, 113)	.74	
Grade studying	2.00	1.85	1.91	1.86	2.37	0.934	(4, 165)	.45	

Notes. Abbreviations explained in Table 1. The Scheffé-test was used for post-hoc-comparisons. Variance homogeneity could not be assumed (Levene-test) for psychopathy and its facets, narcissim and number of regular friends – in these cases a Welch-test and Games-Howell-tests for post-hoc-comparisons were conducted. Post-hoc-test are sorted from lowest to highest mean with a "<" indicating a significant difference and a "," indicating a non-significant difference.

Table 3

Comparison between the psychopathy-types regarding criteria of academic/professional success

Criteria	*n*	Non-Psychopathic	Generic Antisocial	Cold Manipulator	Adventurer	Psychopathic Antisocial	significance test		
							χ^2	*df*	*p*
High school diploma	617						5.7429	4	.22
Yes	574	95%	89%	92%	94%	88%			
No	43	5%	11%	8%	6%	12%			
Receiving a scholarship	369						5.9497	4	.20
Yes	28	9%	0%	5%	12%	6%			
No	341	91%	100%	95%	88%	94%			
Winning academic prize	369						0.0975	4	.99
Yes	106	30%	29%	28%	28%	29%			
No	263	70%	71%	72%	72%	71%			
Leadership position	369						1.7534	4	.78
Yes	46	11%	11%	12%	16%	18%			
No	323	89%	89%	88%	84%	82%			
Income category (gross)	367						14.704	8	.07
<1000€	182	51%	60%	50%	39%	35%			
1001-2000€	71	20%	29%	18%	19%	30%			
>2000€	114	29%	11%	32%	42%	35%			

Notes. χ^2 = value of the contingency table test; *df* = degrees of freedom; *p* = p-value of the significance test.

Figure 1

Psychopathy prototypes (based on two-step cluster analysis) characterized by their SRP-facet-z scores
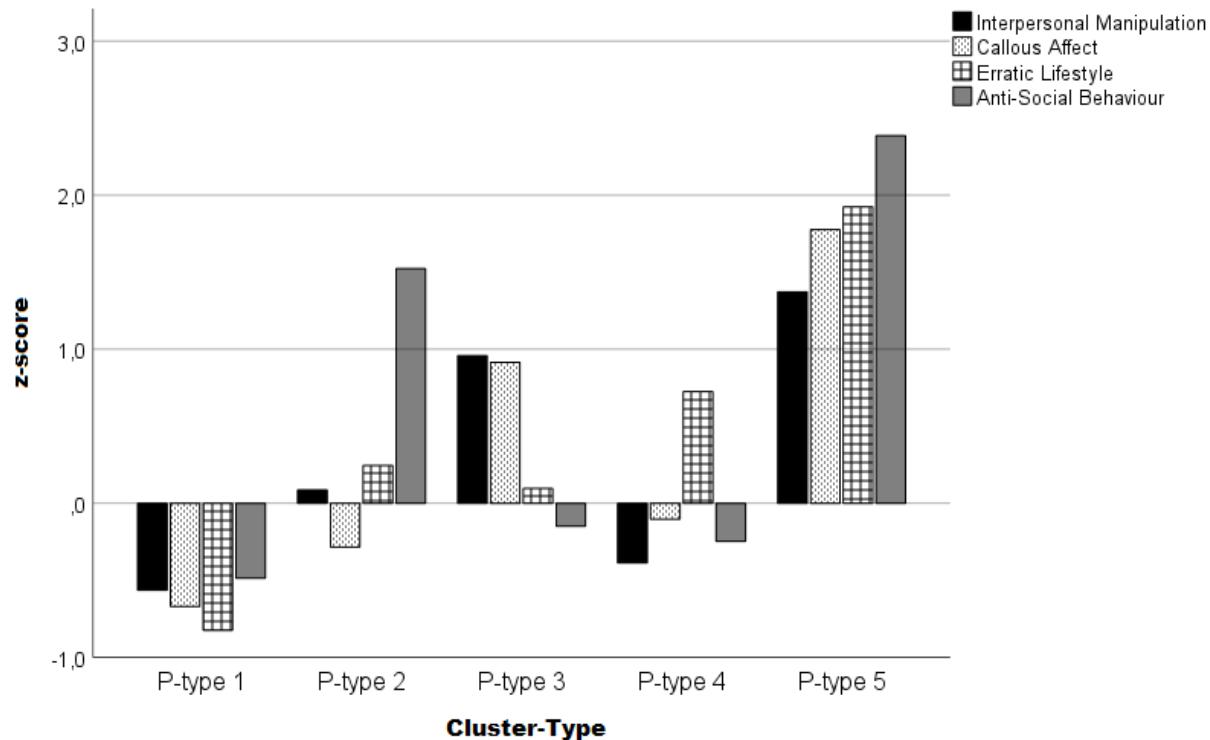
10. Studie 6: Adaptivität der D3 im Arbeitskontext

10.1 Zitation, Anmerkungen und Autorenbeiträge

Titel: Adaptivität der dunklen Triade im Arbeits- und Organisationskontext: Ein
              systematischer Review

Autor: Moritz Michels

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Autorenbeiträge;

- Das Manuskript stammt von Moritz Michels.

10.2 Manuskript der Studie 6

Zusammenfassung

Die dunkle Triade (D3) ist ein Zusammenschluss von drei sozial-aversiven Persönlichkeitseigenschaften – Psychopathie, Machiavellismus und Narzissmus – von denen häufiger angenommen wird, dass sie mit hoher Adaptivität im Arbeitskontext und dem Erreichen von bestimmten Erfolgskriterien in Verbindung stehen. Im Rahmen einer systematischen Literaturrecherche wurde diese Annahme geprüft. Es zeigte sich dabei, dass weder bedeutsame positive noch negative Zusammenhänge der Konstrukte der dunklen Triade zu relevanten Erfolgsaußenkriterien vorliegen. Die Befundlage legt eher nahe, dass D3-Personen schädlich für den Arbeitskontext sind. Darüber hinaus wird derzeit davon abgeraten die D3 im Rahmen der Eignungsdiagnostik besonders zu berücksichtigen, bevor nicht angemessenere Operationalisierungen zur Anwendung kommen.

Schlagworte: dunkle Triade, Arbeitsverhalten, Arbeitserfolg, systematischer Review

Abstract

The dark triad (D3) is a set of socially-aversive traits – psychopathy, machiavellianism and narcissism – that are assumed to be highly adaptive in the work context and related to certain criteria of success. This assumption was tested in the course of a systematic literature review. The results indicated that there were neither meaningful positive nor negative relations between the dark triad and any relevant criteria of work-related success. It seems likely that D3-indivuals are rather harmful than helpful for the organisations they work in. Additionally, it is not recommended to include or even highlight the D3 in selection procedures from a diagnostic point of view – not unless more appropriate D3-operationalisations are in place.

Key words: dark triad, work behaviour, job success, systematic review

Adaptivität der dunklen Triade im Arbeits- und Organisationskontext: Ein
systematischer Review

Die *dunkle Triade* (D3) ist die derzeit dominierende Konzeptualisierung zur
Beschreibung und Erklärung von sozial-aversivem Verhalten. Seit Paulhus und Williams
(2002) *Psychopathie*, *Machiavellismus* und *Narzissmus* als einander überlappendes, doch
teils auch konzeptuell distinktes Trio gruppierten, wurden neue D3-Tests entwickelt und
zahlreiche Studien veröffentlicht, die das Ziel hatten die mögliche Relevanz der dunklen
Triade für die unterschiedlichsten Lebenskontexte zu untersuchen. Da die
Komponenten der dunklen Triade als subklinische Persönlichkeitseigenschaften
verstanden werden (Furnham, Richard & Paulhus, 2013; Paulhus & Williams, 2002), ist
es nicht verwunderlich, dass sie nicht nur im Rahmen der klassischen
Persönlichkeitspsychologie, sondern z.B. auch in der Arbeits- und
Organisationspsychologie Widerhall fanden.

Psychopathie als ein ursprünglich klinisches Konstrukt beschreibt eine Tendenz
zu ständiger Langeweile, verminderter Affektivität und Empathie, einem planlos-
parasitärem Lebensstil, hoher Impulsivität, deviantem Verhalten und betrügerischer
Manipulation in Verbindung mit oberflächlichem Charme (Hare, 2003). Machiavellismus
ist eine Disposition zur Manipulation von Personen zur eigenen Zielerreichung in
Verbindung mit einem utilitaristischen Moralverständnis bei gleichzeitig geringem
Affekt in interpersonellen Beziehungen sowie einem Mangel an psychopathologischen
Auffälligkeiten (Christie & Geis, 1970). Narzissmus wird als nicht-pathologische
Variante der *Narzisstischen Persönlichkeitsstörung* verstanden und beschreibt die
Überzeugung grandios und anderen Personen überlegen zu sein, die Tendenz zu prahlen
sowie den Willen sein Umfeld zu dominieren (Raskin & Hall, 1981). Alle drei
interkorrelieren moderat bis hoch (Muris, Merckelbach, Otgaar & Meijer, 2017; Vize,
Lynam, Collison & Miller, 2018) und als gemeinsamer Überlappungsbereich werden
primär Gefühllosigkeit (Jones & Figueredo, 2013; Jones & Paulhus, 2011; Paulhus,
2014), Unverträglichkeit (Furnham et al., 2013) und der *Honesty-Humility*-Faktor des
HEXACO-Modells (HH; Book et al., 2016) diskutiert, wobei für Letzteren besonders
starke empirische Evidenz vorliegt (Hodson, Book, Visser, Volk, Ashton & Lee, 2018).
Konzeptuell gemein ist allen Konstrukten eine gewisse Indifferenz gegenüber dem
Wohlergehen anderer Personen relativ zu eigenen Interessen, was sich jüngst auch in
der Untersuchung eines möglichen *D*-Faktor der Persönlichkeit niederschlägt

(Moshagen, Hilbig & Zettler, 2018; Volmer, Koch & Wolff, 2019). Die gemeinsamen Kernaspekte und auch Unterschiede sind in Tabelle 1 abgebildet.

Von einigen Autoren wird angenommen, dass diese drei Persönlichkeitseigenschaften – trotz (oder gerade wegen) der offensichtlichen interpersonell antagonistischen Ausrichtung – mitunter mit positiven Verhaltensergebnissen für die D3-Individuuen[11] verbunden seien. Diese Vermutungen scheinen gehäuft für den Kontext der Arbeitswelt zu gelten: D3-Personen seien „Bad Guys" oder „Jerks", die sich im Job aggressiv durchsetzen könnten (Chamorro-Premuzic, 2015; Shpancer, 2017), sie seien wandlungsfähige, erfolgreiche Manipulatoren im Arbeitskontext (Babiak & Hare, 2006), die machtvolle Positionen in Unternehmen erreichen würden (Furnham, 2016). Zwar seien mit der D3 auch maladaptive Aspekte verbunden, doch gebe es häufig – gerade im Arbeitskontext – „dunkle Nischen" (Paulhus, 2014), in denen die Personen sich ausagieren könnten. Smith und Lilienfeld (2015) konstatieren am Beispiel Psychopathie hingegen, dass es zwar vielgestaltige Annahmen zur Adaptivität oder Maladaptivität im Arbeitskontext gebe, diese aber kaum empirisch abgesichert seien. Dies gilt auch für das Konzept der *„successful psychopathy"* (Lilienfeld, Watts & Smith, 2015), welches häufig im Zusammenhang mit *„white-collar crimes"* Erwähnung findet.

Die alleinige Berücksichtigung der theoretischen Modelle der Merkmale der dunklen Triade (siehe Tabelle 1) lassen eine mögliche Adaptivität tatsächlich eher unplausibel erscheinen: Zwar ist es denkbar, dass die Indifferenz gegenüber den Interessen anderer und der Mangel an Affektivität in interpersonellen Beziehungen insofern D3-Personen dienlich sein könnte, dass sie sich in ihrem eigenen Karrierestreben nicht durch Andere einschränken lassen. Auch ein generelles Streben nach Dominanz über Andere kann als Motivator für das Erreichen von Führungspositionen gelten (Furtner, Maran & Rauthmann, 2017). Daraus folgt allerdings nicht, dass D3-Personen auch besser dazu in der Lage sind, in solche Positionen zu gelangen. Langfristig erscheint es für D3-Personen aber kaum vermeidbar, dass ihr interpersonell hoch-aversives Verhalten sowie ihr Mangel an Loyalität gegenüber

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[11] Im Folgenden werden Personen mit hohen Ausprägungen bei (auch einzelnen) Merkmalen der dunklen Triade abgekürzt als „D3-Individuen" oder „D3-Personen" bezeichnet – obgleich simultane, sehr hohe Ausprägungen auf allen drei Konstrukten konzeptuell mit Widersprüchen einhergehen.

Kollegen und dem Unternehmen zu sozialer Isolation am Arbeitsplatz führen – und nicht zum Erreichen besonderer Erfolgskriterien. Hansbrough und Jones (2014) führen in ihrem theoretischen Artikel zum Einfluss von Narzissmus auf Führung überdies aus: Die mit Narzissmus einhergehenden kognitiven Prozesse und impliziten Annahmen würden sozial-aversives Verhalten begründen und in missbräuchlichem Führungsverhalten münden. Im *Occupational Information Network (O*NET)* werden darüber hinaus keine Berufe geführt, für die Aspekte der dunklen Triade explizit als förderlich deklariert werden, was der Idee von „dunklen Nischen" (s.o.) eher widerspricht. Neuere metaanalytische Befunde zeigen darüber hinaus, dass Psychopathie, Machiavellismus und Narzissmus nicht mit allgemeiner Intelligenz (O'Boyle, Forsyth, Banks & Story, 2013) und negativ mit Gewissenhaftigkeit korrelieren (Muris et al., 2017) – beides zentrale Variablen zur Vorhersage von Berufserfolg (Schmidt & Hunter, 1998).

Im Rahmen der vorliegenden Arbeit wurde die Methode der *systematischen Literaturrecherche* angewendet, um zu prüfen ob (a) reguläre Angestellte oder Führungskräfte mit hohen D3-Ausprägungen über speziellen Fähigkeiten im Arbeitskontext verfügen bzw. arbeitsbezogene Erfolgskriterien besser erreichen oder aber ob eher entsprechende Defizite vorliegen (z.B. eigenes Gehalt, Erreichen von Führungspositionen, Arbeitsleistung,…) und (b) reguläre Angestellte oder Führungskräfte mit hohen D3-Ausprägungen eher einen schädigenden oder förderlichen Einfluss auf die Betriebe und Organisationen haben, in denen sie arbeiten (z.B. Gehalt der unterstellten Mitarbeiter, mitarbeiterorientierter Führungsstil, pro-/antisoziales Verhalten am Arbeitsplatz, allgemein organisationsförderliches Verhalten,…).

Methode

Systematische Literaturrecherche

Die systematische Literaturrecherche wurde für die Datenbanken *Psychology and Behavioral Sciences Collection*, *PsycINFO*, *PsycARTICLES*, *Psyndex* sowie *Medline* im April 2019 durchgeführt – mit dem Suchalgorithmus („dark triad" OR psychopathy OR psychopath OR psychopathic OR narcissis* OR machiavellian*) AND (workplace OR leadership OR „work behavior" OR CWB OR „job performance" OR „employee characteristics") und dessen deutschem Äquivalent. Um in den Review aufgenommen zu werden, musste es sich bei den Studien um empirische Primärstudien oder

Metaanalysen handeln, mit Bezug zu mindestens einem der folgenden Themenbereiche: (a) adaptives oder defizitäres Verhalten von D3-Personen im Arbeitskontext bzw. das (Nicht-)Erreichen von arbeitsbezogenen Erfolgskriterien, (b) organisationsförderliches oder –schädigendes Verhalten von D3-Personen oder (c) sonstiges (für die Fragestellung relevantes) Arbeitsverhalten von D3-Personen. Belege zur dunklen Triade bei regulären Angestellten und Führungskräften wurden berücksichtigt. Der Verlauf der systematischen Literaturrecherche ist als *PRISMA-Flussdiagramm* in Abbildung 1 dargestellt. Bei der Volltext-Überprüfung wurden 39 Studien ausgeschlossen, weil sie entweder keine Relevanz für die Fragestellung hatten (n = 24) oder weil es sich um narrative oder systematische Literaturreviews oder theoretische Artikel handelte (n = 15). Es gingen insgesamt 42 Quellen in den systematischen Review ein, 5 davon waren Metaanalysen. Die einbezogenen Studien werden nicht im Literaturverzeichnis, sondern in Tabelle 2 aufgelistet.

Qualität der einbezogenen Studien

Die Qualität der einbezogenen Studien wurde nach dem verwendeten Studiendesign beurteilt. Im Kontext der dunklen Triade, welche konzeptuell mit Täuschung und Manipulation in Verbindung steht, ist der Gebrauch von Selbstberichten ein fragwürdiges, aber doch übliches methodisches Vorgehen: das (meist aufwendigere) Verwenden von Fremdberichten wurde hier als Qualitätskriterium gewertet. Dementsprechend wurden zur Kategorisierung der Studien die folgenden Bezeichnungen verwendet: „hohes Verzerrungsrisiko" (Primärstudien, bei denen die D3 und relevante Außenkriterien lediglich im Selbstbericht oder unzureichend im Fremdbericht operationalisiert wurden oder wenn andere bedeutsame methodische Mängel vorlagen), „mittleres Verzerrungsrisiko" (Primärstudien, bei welchen wenigstens entweder die D3 oder ein relevantes Außenkriterium im Fremdbericht erhoben wurde, aber zumindest ein bedeutsamer methodischer Mangel vorlag; Metaanalysen, bei denen die D3 und relevante Außenkriterien nur im Selbstbericht erhoben wurden) und „geringes Verzerrungsrisiko" (Primärstudien und Metaanalysen, bei welchen wenigstens entweder die D3 oder ein relevantes Außenkriterium im Fremdbericht erhoben wurde und bei denen kein bedeutsamer methodischer Mangel vorlag). Hierbei zeigte sich, dass n = 21 Studien in die Kategorie „hohes Verzerrungsrisiko" fielen, n = 11 in die Kategorie „mittleres Verzerrungsrisiko" und für Kategorie „geringes Verzerrungsrisiko" fanden sich n = 10 Studien. Bei der Beurteilung

der Operationalisierung von D3 und den jeweiligen Außenkriterien wurden – neben der Validität – darüber hinaus (fehlende) Angaben zur Reliabilität entsprechend berücksichtigt. Die Qualitätsratings sind ebenfalls in Tabelle 2 dargestellt.

Ergebnisse

Im Folgenden werden die empirischen Befunde zu den Fragestellungen (a) und (b) dargestellt – jeweils nochmals getrennt nach regulären Angestellten und Führungskräften. Alle im Ergebnisteil benannten Quellen sind in Tabelle 2 aufgelistet und nicht im Literaturverzeichnis.

Belege für Adaptivität oder Defizite bei Führungskräften

Bezüglich Psychopathie zeigten sich positive Zusammenhänge mit fremdberichteten Kommunikationsfähigkeiten, Kreativität und strategischem Denken und geringfügig höhere Psychopathie-Werte bei Führungskräften im Vergleich zur Normalbevölkerung (Babiak, Neumann & Hare, 2010). Auch in anderen Studien zeigte sich, dass Personen in Führungspositionen und Personen mit gefährlichen Berufen leicht erhöhte Psychopathie-Werte zeigten (Hossiep & Ringelband, 2014; Lilienfeld, Latzman, Watts, Smith & Dutton, 2014; Spencer & Byrne, 2016). Metaanalytische Befunde zeigten einen positiven Zusammenhang mit dem Erreichen von Führungspositionen, jedoch keinen Zusammenhang mit Führungsfähigkeit (Landay, Harms & Credé, 2019). Es zeigten sich negative Zusammenhänge zwischen Psychopathie und Gehalt (Lilienfeld et al., 2014) sowie Arbeitsleistung (Babiak et al., 2010; Zettler & Solga, 2013).

Für Machiavellismus lagen wenige Belege vor, z.B. positive Zusammenhänge zu Verkaufserfolgskriterien (Gable, Hollon & Dangello, 1992) und selbstberichtetem Erfolg des Betriebs (Kraus, Berchtold, Palmer & Filser, 2018).

Bei Führungskräften zeigten sich positive Zusammenhänge zwischen Narzissmus und selbstberichtetem Arbeitsengagement (Andreassen, Ursin, Eriksen & Pallesen, 2012), Beliebtheit (Paunonen, 2006), selbst- und fremdberichteter Führungsfähigkeit (Judge, LePine & Rich, 2006; Nevicka, Ten Velden, De Hoogh & Van Vianen, 2011; Paunonen, 2006) und dem Einnehmen von Führungsrollen bei mehrmaligen Gruppenarbeiten (Ong, Roberts, Arthur, Woodman & Akehurst, 2016). Eine Metaanalyse zeigte hingegen (ähnlich wie bei Psychopathie), dass Narzissmus zwar mit dem Erlangen von Führungspositionen positiv in Verbindung steht, nicht aber mit fremdberichteter Führungsfähigkeit (Grijalva, Harms, Newman, Gaddis, & Fraley, 2015).

Bei Führungskräften zeigten sich negative Zusammenhänge zwischen Narzissmus und eigener Arbeitsleistung (Judge et al., 2006; Peterson, Galvin & Lange, 2012) und der Arbeitsleistung der angeführten Gruppe (Nevicka et al., 2011).

Belege für Adaptivität oder Defizite bei regulären Angestellten

Für Psychopathie zeigten sich positive, aber überwiegend insignifikante Zusammenhänge mit Gehalt (Hirschi & Jaensch, 2015; Howe, Falkenbach & Massey, 2014; Schwarzinger & Schuler, 2017), fremdberichteter Arbeitsleistung (Blickle & Schütte, 2017) und objektiv gemessenem Verkaufserfolg (Titze, 2017). Entgegengesetzt fanden sich aber auch negative Korrelationen zu selbstberichtetem Berufserfolg (Stead, 2016) und (teils fremdberichteter) Arbeitsleistung (O'Boyle, Forsyth, Banks & McDaniel, 2012; Schwarzinger & Schuler, 2017).

Machiavellismus korrelierte bei regulären Angestellten positiv mit selbstberichtetem Verkaufserfolg (Aziz, 2005) und Gehalt (Spurk, Keller & Hirschi, 2016), jedoch negativ mit Arbeitsleistung (O'Boyle et al., 2012; Schwarzinger & Schuler, 2017; Staed, 2016; Zettler & Solga, 2013).

Bei regulären Angestellten zeigten sich für Narzissmus positive Zusammenhänge mit selbstberichtetem Arbeitsengagement (Andreassen et al., 2012) und Gehalt (Hirschi & Jaensch, 2015; Schwarzinger & Schuler, 2017; Spurk et al., 2016) – jedoch lagen widersprüchliche Befunde bezüglich fremdberichteter Innovationsleistung (Smith & Webster, 2018) vor. Keine Zusammenhänge fanden sich zum selbstberichteten Berufserfolg (Stead, 2016) und gemischte Befunde zur Arbeitsleistung (O'Boyle et al., 2012; Schwarzinger & Schuler, 2017; Smith, Wallace & Jordan, 2016).

Für (geringe) Honesty-Humility – der mögliche Kern der dunklen Triade – fand sich ein metaanalytisch aggregierter kleiner (negativer) Zusammenhang mit Arbeitsleistung (Lee, Berry & Gonzalez-Mulé, 2019).

Belege für förderlichen/schädlichen Einfluss bei Führungskräften

Es zeigte sich, dass bei Führungskräften Psychopathie mit Bullying (Tokarev, Phillips, Hughes & Irwing, 2017) und dysfunktionalem Investmentverhalten (ten Brinke, Kish & Keltner, 2018) korrelierte. Fremdberichtete Psychopathie war unkorreliert mit dem Gehalt der Angestellten der entsprechenden Führungskraft (Volmer, Koch & Göritz, 2016). Metaanalytische Belege zeigen einen moderaten negativen Zusammenhang mit transformationaler Führung (Landay et al., 2019).

Machiavellismus zeigte positive Zusammenhänge mit selbstberichtetem unethischen Verhalten, das aber der eigenen Organisation dienen soll (Castille, Buckner & Thoroughgood, 2018), der emotionalen Erschöpfung der Mitarbeiter (Gkorezis, Petridou & Krouklidou, 2015) und unethischem Führungsverhalten (Den Hartog & Belschak, 2012). Machiavellismus war des Weiteren unkorreliert mit dem Gehalt der unterstehenden Angestellten (Volmer et al., 2016).

Für Narzissmus fanden sich keine entsprechenden Belege.

Belege für förderlichen/schädlichen Einfluss bei regulären Angestellten

Diverse Quellen finden Zusammenhänge zwischen *kontraproduktivem Arbeitsverhalten* (counterproductive work behavior, CWB) und den Konstrukten der dunklen Triade (Baka, 2018; DeShong, Grant & Mullins-Sweatt, 2015; Jonason, Slomski & Partyka, 2012; Judge et al., 2006; Kessler, Bandelli, Spector, Borman, Nelson & Penney, 2010; Palmer, Komarraju, Carter & Karau, 2017; Pilch & Turska, 2015). Darüber hinaus zeigten zwei Metaanalysen, dass die D3 positiv mit CWB in Verbindung stehen, wobei die Zusammenhänge aber lediglich klein bis moderat ausfallen und überraschend für Psychopathie am geringsten ausfallen (Grijalva & Newman, 2015; O'Boyle et al., 2012). Unterstützt wird dieser Befund durch eine Metaanalyse von Lee et al. (2019): Für Honesty-Humility zeigte sich ein moderater (positiver) Zusammenhang mit CWB.

Diskussion

Die Ergebnisse zeigen, dass bezüglich möglicher Fähigkeiten von D3-Personen im Arbeitskontext gemischte Belege vorliegen. Zwar scheinen Personen mit hohen Psychopathie- und Narzissmus-Ausprägungen tatsächlich leichter in Führungspositionen zu gelangen – sie sind allerdings keine besseren Führungspersonen. Bisherige Befunde deuten eher auf Defizite in der konkreten Arbeitsleistung von D3-Personen hin.

Zu beachten ist allerdings, dass die berichteten Zusammenhänge in aller Regel insignifikant waren – wenn signifikante Zusammenhänge berichtet wurden, waren diese meist nah an $r = .0$. Empirisch gesehen ist die D3 daher – sowohl bei Führungspersonen als auch bei regulären Angestellten – höchstens schwach mit Kriterien des Berufserfolgs verbunden: Es liegen weder bedeutsame Fähigkeiten noch Defizite vor. Für Machiavellismus liegen zu wenige Studien vor, um zu einer abschließenden Bewertung kommen zu können.

Hinsichtlich der möglichen „Schädlichkeit" von D3-Personen im Arbeitskontext zeigen sich für Führungspersonen teils Belege für dysfunktionales Führungsverhalten und für reguläre Angestellte und Führungskräfte überzeugende empirische Evidenz für kontraproduktives Arbeitsverhalten. Belege für einen „förderlichen" Einfluss von D3-Personen fanden sich nicht.

Für die einzelnen D3-Konstrukte zeigten sich wenig unterschiedliche Befundmuster: Narzissmus scheint im Arbeitskontext im Vergleich zu Psychopathie etwas weniger dysfunktional zu sein und für Machiavellismus zeigen sich zu wenig Befunde, um eine Abgrenzung zu ermöglichen. Bei alleiniger Berücksichtigung der Studien mit „geringem Verzerrungsrisiko" zeigen sich für alle drei Konstrukte eher Belege für Maladaptivität (Babiak et al., 2010; Judge et al., 2006; Peterson et al., 2012) und Belege für nach Führung strebenden D3-Personen, welche aber nicht besser führen können (Grijalva et al., 2015; Landay et al., 2019). Der negative Zusammenhang zu CWB ist ebenfalls gut belegt (Grijalva & Newman, 2015; Lee et al., 2019; O'Boyle et al., 2011).

Es scheinen keine linearen Zusammenhänge zwischen der D3 und arbeitsbezogenen Erfolgskriterien vorzuliegen. Noch unklar ist aber, ob es kurvilineare Zusammenhänge zwischen den relevanten Variablen geben könnte. Bereits Grijalva et al. (2015) widmeten sich beispielsweise der Frage möglicher nicht-linearer Zusammenhänge zwischen Narzissmus und Führungsfähigkeit. Ebenfalls potentiell bedeutsam ist die Untersuchung möglicher anderer Variablen, die einen Zusammenhang zwischen der D3 und Erfolgskriterien moderieren könnten. Naheliegend erscheint hier beispielsweise Intelligenz: D3-Personen, die gleichzeitig überdurchschnittlich intelligent sind, könnten – im Sinne des *moderated expression models* der „successful psychopathy" (Hall & Benning, 2006) – ganz besonders gut manipulativ agieren, um (arbeitsbezogene) Ziele zu erreichen. Auch soziale und emotionale Fähigkeiten könnten Moderatorvariablen darstellen: D3-Personen könnten sozial-aversive Handlungen kompetitiv zur Zielerreichung einsetzen und anschließend durch sozial intelligentes Verhalten „ihre Spuren verwischen". Bisher liegt allerdings kaum entsprechende empirische Evidenz vor, um von derartigen Wirkungszusammenhängen ausgehen zu können.

Ein grundsätzliches Problem der Interpretation der vorliegenden Befundlage ist die verbreitete, aber umstrittene Verwendung von Selbstberichten zur Messbarmachung der Konstrukte der dunklen Triade (Sellbom, Lilienfeld, Fowler & McCrary, 2019; Sleep,

Sellbom, Campbell & Miller, 2017): Zwar wird konzeptuell nicht angenommen, dass D3-Personen *immer* täuschen und lügen, jedoch ist von einer situationsabhängigen Neigung zur Desinformation (besonders in Bezug auf die eigene Person) auszugehen. Eine mögliche Verzerrung der aktuellen Befundlage durch aktive Manipulation durch die Probanden erscheint nicht ausgeschlossen. Was im Forschungskontext noch durch entsprechende Instruktionen ausgeglichen werden kann (Hinweise auf Anonymität, keine Vorteile einer verzerrten Selbstpräsentation,…), ist im Anwendungskontext ein drängenderes Problem. Im Rahmen der Eignungsdiagnostik scheint die Verwendung von D3-Selbstberichten fragwürdig.

Insgesamt legt die Befundlage zur Adaptivität der dunklen Triade nahe, dass es nicht unumgänglich erscheint die Konstrukte der dunklen Triade in Auswahlkontexten besonders zu berücksichtigen. Falls eine Berücksichtigung der D3 hingegen allgemein gewünscht oder für bestimmte Anforderungsprofile zentral ist, sollten bedeutsame Positionen nicht mit Personen mit außergewöhnlich hohen D3-Ausprägungen besetzt werden. In diesem Fall sollten neue D3-Operationalisierungen für die Anwendung konzeptuell klar konstruiert sein, überzeugende Belege der Kriteriumsvalidität vorweisen können und das oben beschriebene Problem des möglicherweise verzerrten Antwortverhaltens angemessen berücksichtigen.

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Anhang

Tabelle 1

Konzeptuelle Kernaspekte der dunklen Triade bezüglich Gemeinsamkeiten und Unterschieden

	Psychopathie	Machiavellismus	Narzissmus
Konzeptuelle Überschneidungen	Indifferenz gegenüber den Interessen Anderer / Mangel an Reue	Indifferenz gegenüber den Interessen Anderer	Eigene Ziele werden stärker gewichtet als die Interessen Anderer
	Mangel an Affektivität / Furchtlosigkeit	Mangel an Affekt	Mangel an Empathie
	Übersteigertes Selbstwertgefühl		Grandiose Selbstsicht, Gefühl der Überlegenheit
	Oberflächlicher, manipulativer Verhaltensstil (vor allem in Gesprächen)	Neigung zur Manipulation	
Konzeptuelle Unterschiede	Neigung zu normabweichendem und kriminellem Verhalten	Pragmatismus / Indifferenz gegenüber gängigen Normen	Neigung andere dominieren zu wollen und aggressiv abzuwerten
	Unsteter, planloser, parasitärer Lebensstil	Neigung zur Langzeitplanung	Neigung zum Angeben / arrogant sein
	Probleme der Impulskontrolle	Zynismus	Interpersoneller Charme
	Bedürfnis nach Stimulation / Risikofreude	„Utilitarismus"	Primäres Ziel: Aufrechterhaltung des positiven Selbstbilds
			Konkurrenzdenken

Anmerkung. Die oben genannten Aspekte sind das Ergebnis eines Vergleichs mehrerer klassischer und aktueller Konzeptualisierungen und Operationalisierungen der Konstrukte der dunklen Triade. Die entsprechenden Quellen können beim Autor angefragt werden.

Tabelle 2

Literaturverzeichnis des systematischen Literaturreviews und Angaben zur Studienqualität

Zitation	Qualität
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Anmerkung. Die Studienqualitätskategorisierungen sind im Fließtext erläutert. VR = Verzerrungsrisiko.

Abbildung 1

Prisma-Flussdiagramm zum Verlauf der systematischen Literaturrecherche

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┌─────────────────────────┐       ┌─────────────────────────┐
│  Quellen gefunden durch │       │ Quellen zusätzlich /    │
│ Literaturrecherche      │       │ bereits bekannt         │
│ (n = 1240)              │       │ (n = 9)                 │
└───────────┬─────────────┘       └───────────┬─────────────┘
            │                                  │
            ▼                                  ▼
        ┌─────────────────────────────────────────┐
        │ Quellen nach Entfernen der Duplikate     │
        │ (n = 1249)                               │
        └──────────────────┬──────────────────────┘
                           ▼
        ┌──────────────────────┐       ┌──────────────────────┐
        │ Abstract gelesen     │──────▶│ Ausgeschlossene      │
        │ (n = 1249)           │       │ Quellen (n = 1168)   │
        └──────────┬───────────┘       └──────────────────────┘
                   ▼
        ┌──────────────────────┐       ┌──────────────────────┐
        │ Volltext gelesen     │──────▶│ Ausgeschlossene      │
        │ (n = 81)             │       │ Quellen (n = 39)     │
        └──────────┬───────────┘       └──────────────────────┘
                   ▼
        ┌──────────────────────┐
        │ Quellen, die in den  │
        │ systematischen       │
        │ Literaturreview      │
        │ eingingen (n = 42)   │
        └──────────────────────┘
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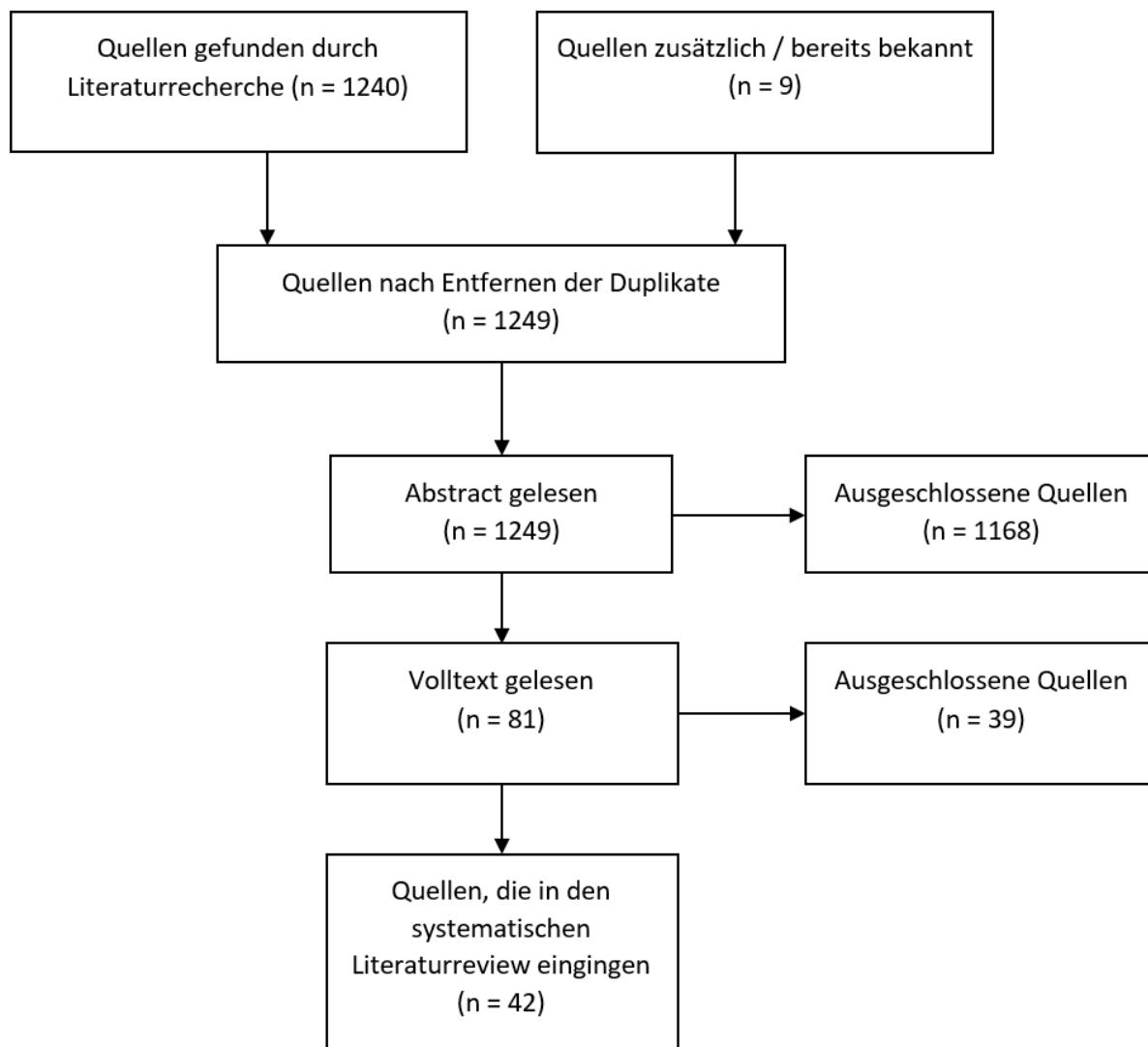
11. Studie 7: Metaanalyse D3 und Sadismus

11.1 Zitation, Anmerkungen und Autorenbeiträge

Titel: Should there be a Dark Tetrad: A Meta-Analytic Review and Analysis of
                 Latent Structure and Consequences for Dark Personality Research

Autoren: Moritz Michels & Markus Jansen

Autorenbeiträge;

- Die Idee der Studie stammt von Moritz Michels.
- Die Literaturbeschaffung und Kodierung erfolgte zu gleichen Teilen durch beide Autoren.
- Die Auswahl der Methoden erfolgte zu gleichen Teilen durch beide Autoren.
- Die Auswertung erfolgte überwiegend durch Markus Jansen.
- Der theoretische Input kam überwiegend von Moritz Michels.
- Das Manuskript wurde zu gleichen Teilen von beiden Autoren geschrieben.

Weitere Beiträge:

- Ein kleiner Teil der Primärstudien wurden von Mai Ami Vu und Leon Teves kodiert.

Anmerkungen:

- Das Ethikvotum zur Studie ist einsehbar in Anhang E.

11.2 Manuskript der Studie 7

Data availability statement

The data, scripts and all supplementary material are openly available in OSF at https://osf.io/2dcjs/?view_only=52e6c7584f114490b8a3fc4e1b7d3202.

Both studies were preregistered, see

Study 1:

https://osf.io/ju5ed/?view_only=c7bccbc29047451f81d9d7b2a524cb88

Study 2:

https://osf.io/f74bx/?view_only=e2e78b80ee6c46d9b92f8a4c9d6f44bd.

Abstract

Dark personality traits are en vogue in personality psychology. The so-called Dark Triad of personality – consisting of psychopathy, machiavellianism and narcissism – has emerged as the most prominent set of socially-aversive personality constructs. It has recently been expanded to a Dark Tetrad by the inclusion of (everyday) sadism. Although some aspects of sadism appear reasonable in regards to previously unexplained variance, there has only been limited empirical evidence regarding the inclusion of sadism into a Dark Tetrad. In light of the current dark concepts, we initiated two studies regarding the Dark Tetrad as an occasion to discuss the emergence and necessity of dark personality concepts in general. In the course of a) a conceptual comparison, b) a primary study with an analysis of latent structure and c) a meta-analytic review, we tested common assumptions regarding the dark tetrad, its structure, its common core, predictive validity and its relation to honesty-humility from the HEXACO model. In summary, we conclude that the extension of the Dark Triad to a Dark Tetrad by the integration of sadism is not reasonable. Our results and discussion imply that no current model for dark personality is suitable and appropriate. Until a clear conceptualization of socially-aversive behavior is in place, the use of the Dark Triad, Dark Tetrad, a Dark Core or the mere term "dark" should be put on hold. Our conclusion is that the field of "dark personality" research needs reform or even revolution.

Keywords: Dark Tetrad, Dark Triad, sadism, structural equation modeling, meta-analysis

Should there be a Dark Tetrad: A Meta-Analytic Review and Analysis of Latent Structure
and Consequences for Dark Personality Research

Socially-aversive personality concepts of behavior that some consider as "dark"
are met with growing interest in personality psychology since more than 20 years and
there is no end in sight. Research concerning aversive behavior was mostly conducted
on pathological behavior and on only few constructs at a time. Only in the late 1990's
the attention shifted to a more general inclusion of many aversive behaviors coupled
with a less pathological focus. Then, Kowalski (2001) collected and categorized socially-
aversive behavior like swearing, insulting, gossip and narcissistic behavior and defined
"aversive interpersonal behaviors as behaviors by another individual that are encoded
by a target (i.e., victim) as stressful" (p. 7). Furthermore, main predictors for perceiving
a behavior as aversive were defined. The perception of behavior as aversive is
determined by (1) the interference with basic psychological needs (belongingness,
control, self-esteem), (2) the degree of social confrontation, (3) the perceived
inappropriateness and (4) the ambiguity of the behavior (Kowalski, 2001). However,
the focus of these contributions lies not in a theory of overall "dark" personality or
behavioral dispositions, but more on distinct behaviors that emerge sometimes in
different kinds of relationships (see Kowalski, 2001). The emphasis lies on behaviors
that everyone shows sometimes. Similarly, Hogan and Hogan (2001) identified several
"dark" behaviors to explain managerial incompetence. They found components and
behaviors that are defined as more dispositional. Baumeister and Vohs (2004) reflected
on the "study of evil" (p. 85) and assume that most perpetrators of evil interpret their
own role fundamentally different in comparison with the victims of their actions and do
not identify as evil themselves. They suggest four causal factors of evil behavior: a)
instrumentality (using evil to achieve goals / a means to an end), b) *threatened egotism*
(wounded pride and aggressively defended honor), c) *idealism* (the notion that bad acts
are sometimes necessary to achieve good or distorted ideologies) and d) *sadism* (see
below in detail, however regarded as a relatively rare cause of evil). Within this
timeframe, Paulhus and Williams (2002) picked three of the most studied and
substantially correlated aversive behavioral dispositions from previous works and
combined them into a *Dark Triad of personality* (D3), namely *psychopathy*,
machiavellianism and *narcissism*. A decade later the integration of *sadism* into the D3 to
a *Dark Tetrad* (D4) was proposed (Paulhus, 2014). Further, *honesty-humility* (HH) as a

sixth factor of personality was introduced with the *HEXACO*-model of personality (Aston & Lee, 2007). Low HH is considered to be an indicator for aversive behaviors. Later, Moshagen et al. (2018) searched for a common underlying factor for several "dark" personality constructs (including the D4 and beyond: e.g. *egoism* and *spitefulness*) and subsequently named it "D" – the *dark factor of personality*.

The Dark Triad of personality

As stated before, the Dark Triad (D3; Paulhus & Williams, 2002) consists of three personality constructs that share tendencies toward self-promotion, emotional coldness, duplicity, and aggressiveness: psychopathy (P), machiavellianism (M) and narcissism (N). Psychopathy is described as a mixture of superficial charm, deceptive and manipulative behavior, a lack of remorse, empathy, and emotionality as well as antisocial behavior in general (Hare, 1999). The *four-factor-model of psychopathy* (Hare, 1990; Hare & Neumann, 2006) is the most prominent model for P and encompasses the factors *Interpersonal Manipulation*, *Callous Affect*, *Erratic Life Style* and *Anti-Social Behaviour* to describe individuals that tend to act in particularly dreadful ways. Dysfunctional sensation seeking and fearlessness have been discussed as the driving forces behind psychopathic behavior (Costello et al., 2018; Lykken, 1995). Machiavellianism is a personality trait that has been conceptualized to describe successful political leaders – while referring to Niccolò Machiavelli – and is characterized by a lack of affect in interpersonal relations, a utilitarian worldview with no firm moral standards, and a lack of psychopathology – combined with a tendency of strategic manipulation (Christie & Geis, 1970; Jones & Paulhus, 2009). Narcissism describes the tendency to feel superior to others, brag about oneself and the intend to dominate one's social environment (Raskin & Hall, 1981). Narcissistic individuals are thought to be dysfunctionally motivated to perpetuate their inflated positive self-view against any threat from outside (Morf, 2006; Morf & Rhodewalt, 2001). The D3 has shown to predict various antisocial behaviors: While P is a strong predictor for violent and nonviolent criminal recidivism (Salekin et al., 1996) and individuals scoring high on M report more interpersonally deviant behavior (Côté et al., 2011), individuals with high scores on N show arrogant, distrust-inducing behavior (Leckelt et al., 2015). All three traits correlate with deceptive behavior (Jones & Paulhus, 2017) and interpersonal difficulties (Muris et al., 2017), but are differently related to global personality factors (see Muris et al., 2017; O'Boyle et al., 2015).

The Dark Tetrad of personality

         Some authors have argued that cruel, "sadistic" behavior (one might consider "dark" as well) could only insufficiently been explained by the D3 (Buckels et al., 2013; Chabrol, et al., 2009; Paulhus, 2014): The D3 may have lacked an explicit element of cruelty and should therefore be expanded to a Dark Tetrad – by including *(everyday) sadism* (S). Paulhus and Dutton (2016) define S simply as the tendency to enjoy other people's suffering and emphasize its presumed subclinical nature by excluding sexual and criminal (e.g. torture) sadism. The enjoyment of the subjugation of others has also been discussed (Plouffe et al., 2017). Individuals with high scores on S are thought to seek opportunities to engage in, or view cruel behavior and gain pleasure from violence. S encompasses the enjoyment of harming others physically or verbally (direct sadism), but also the enjoyment of observing others being harmed (vicarious sadism; Paulhus et al., 2011). Individuals with high scores on S are thought to regularly act in aggressive and violent ways – however, the primary cause behind these actions are not a lack of impulse control or the necessity to use violence in order to coerce others, but the mere enjoyment of perceiving physical and psychological suffering of others (Foulkes, 2019), which differentiates S from other aversive traits, e.g. P. The dynamic behind this enjoyment is believed to be multi-layered: Some authors have argued that the cause of this enjoyment is actually a bizarrely canalized need for control (Siomopoulos & Goldsmith, 1976). Extreme sadistic behavior (e.g. torture in war) might have an adaptive element as well: On the one hand it appears to be a coping mechanism for the prevention of PTSD-symptoms. Also, cruel, sadistic behavior serves to fight members of an out-group in an effective way and is thought be the evolutionary "next step" after mere indifference to cruelty (Paulhus & Dutton, 2016). It remains unclear whether the same processes underlie milder forms of sadistic behavior and if excessive cruel acts or sexual sadism are just more extreme or content-specific variants of everyday sadism. However, we would also argue that sadistic acts might have the function of inducing a feeling of power: While pro-social acts might have a subtler effect since it takes longer get results (e.g. building a friendship), the destruction of social ties or inflicting psychological stress is relatively fast and easy to achieve (e.g. insulting someone, provoking someone on the internet). Consequently, sadistic acts might simply be a more straightforward strategy to feel a sense of control over others. Accordingly, the matter of pathology turns up: While the topic of clinical vs. non-clinical has often been

discussed for P (Lebreton et al., 2006), N (Simonsen & Simonsen, 2010) and the complete D3 (Furnham et al., 2013), a clarification in regards to S appears reasonable: In this review, we focus on mild forms of sadism and exclude extreme (torture, murder and other actions that implicit irreversible physical and/or psychological harm) and sexual (behavior only/primarily driven by sexual arousal) sadism. Although categorizing personality traits into dynamically different clinical and subclinical versions or using arbitrary cut-offs to separate pathology from normality for a trait is a controversial topic of its own, a differentiation appears reasonable for S in particular. In general, the "dark" personality models exclude pathological behavior.

It has been argued that S predicts and explains variants of socially-aversive behavior that is accounted by the D3 insufficiently. Consequently, these should be specific forms of harm-inducing aggression that appear to have no "pragmatic" base. Individuals scoring high on P or M are not thought to engage in socially-aversive behavior "just for fun", but due to a perceived necessity in order to reach specific goals. However, sadistic individuals should be more prone to "meaningless" forms of aggression that seem to fulfill no real purpose for non-sadistic individuals. For non-pathologic sadism, it has recently been shown that S is positively correlated with trolling (Buckels et al., 2019), bug-crunching behavior (Buckels et al., 2013), vandalism (Pfaffheicher et al., 2019) and schadenfreude (Schumpe & Lafrenière, 2016). Naturally, these sadistic acts are entirely meaningless: Although there is no specific instrumental benefit – in form of an actual resource like money or social compliance – the real outcome of interest is the joy (and probably feeling of power) that is induced within the sadistic individual. Note that these acts of cruelty are not thought to be covered by the dynamics behind the D3-traits and have been the primary justification for including S to form the D4 (see Paulhus, 2014). Therefore, it has been assumed that S (and implicitly every D4-trait to one another in certain behavior) shows predictive validity over and above the D3.

The Dark Factor of personality

Many personality constructs have been discussed as a potential "dark core" of the D3, e.g. disagreeableness or interpersonal antagonism (Furnham et al., 2013). Paulhus (2014) argues that callousness – in the sense of a "deficit in empathy" (p. 422) or as a deficit in emotional reactivity characterized by failure to respond to the distress cues of others and, consequently, problems in experiencing appropriate levels of guilt –

is the conceptual "core" of the D3 and also the D4 (see also Frick & White, 2008; Paulhus, 2014; Shirtcliff et al., 2009). Based on the D4 and several other dark constructs, Moshagen et al. (2018) searched for a common underlying factor and subsequently named it "D" – the *Dark Factor of personality*. They defined D as the "tendency to maximize one's individual utility – disregarding, accepting, or malevolently provoking disutility for others - accompanied by beliefs that serve as justifications" (p. 1). It is noted, that this includes the D4 but also the constructs *self-interest*, *psychological entitlement*, *spitefulness*, *egoism* and *moral disengagement*. Even though Moshagen et al., claim theoretical considerations, they are merely based on empirical relations of the D3 and D4 and the general idea that all these constructs fall under the umbrella of the definition of D. A thorough theoretical overlap of the constructs or even a mapping of the constructs to encompass the crucial parts of the definition mentioned above was not proposed. We do not disagree with the idea of D in general, in the contrary, we think it fits well with the inclusion of many "dark" traits in order to explain the emergence of socially aversive behavior. Note that D is the product of classic inductive methodology in psychological research. The inductive approach to psychological phenomena is often standard procedure since decades (see Cronbach, & Meehl, 1955; Griffiths & Tenenbaum, 2009). Although we might prefer a deductive approach, we are clearly not at odds with the general idea of defining a possible dark factor by induction. However, we disagree with how this was conducted (see General Discussion). Therefore, we are unable to follow how Moshagen et al. were capable of defining the actual content of D. The main reason is, that D is defined as an overlap of "dark" personality constructs, but is really a conglomeration of aspects that define "dark" constructs but that these constructs have not necessarily in common (see also Moshagen et al., 2018). On a theoretical note, we could call D a dark *nonad of personality*, a model that connects nine constructs without further theoretical considerations.

Relations of dark traits to HH

One common finding is high correlations between dark traits and *honesty-humility* (e.g. Hodson et al., 2018; Moshagen et al., 2018; Muris et al., 2017). Aston and Lee (2007) reconceptualized their classic five-factor model of personality, which included honesty-humility (HH) as a sixth factor to their model of personality. Since then, a number of studies show high correlations between HH and dark traits. Parallel his views on the role of callousness Paulhus (2014) suggested HH to be the connecting

higher order factor regarding the D3 and poses the question if HH subsumes S as well. It has already been argued that the common variance of the D3 is not different from low HH (Hodson et al., 2018). We can see that there is at least an empirical connection between HH and "dark" traits, however, the question of a conceptual connection is still unanswered. For all common features of the D3, D4 and D defined in the past – callousness, maximizing one's utility, indifference to others – a conceptual connection to HH cannot be derived directly. Conceptually low HH describes tendencies to flatter others in order to get what they want, break rules for individual profit, a thrive for material gain, and a strong sense of self-importance. On the subfacet-level HH describes (a) manipulation by flattering others or pretending to like them in order to obtain favors, (b) willingness to gain by cheating or stealing, (c) enjoyment and display of wealth and privilege and (d) a feeling of superiority and entitlement. This clearly includes behavioral tendencies that are represented in the D4 as well, but which are not represented in each D4-trait. Considering these similarities, it is surprising that low HH (or facets of it) was not considered as a dark trait and therefore put under the umbrella of D as it shows overlap with some aspects of the definition of D. Nevertheless, HH and D are highly correlated. However, the causes of the empirical interrelations between HH and dark traits have yet to be fully understood. We argue that instead of a clear valid conceptual association, the correlation is mainly caused by the similarities between the operationalization of the constructs, that is, the measures. Some negatively keyed items of the HEXACO-PI-R (Lee & Ashton, 2004) could also qualify as items of most of the D3 constructs and vice versa. For example, an item for HH from the HEXACO-PI-R is "I think that I am entitled to more respect than the average person is.". This item could also easily be an item of narcissism, as content similar items are included in the NARQ (Back et al., 2013), e.g., "I deserve to be seen as a great personality.". In general, items of low modesty are highly similar in content to N and items of sincerity are highly similar to M and interpersonal manipulation of the SRP – a measure for P (Paulhus et al., 2016). See further that the item-overlap of measures of psychological entitlement or self-interest (considered as D-factors) with narcissism, and therefore with low modesty, is high. In Table 1 the HH items from the 100-item HEXACO-PI-R are depicted in detail. We mapped the HH-item content in accordance with item content from prominent measures of the D4 in order to see which aspects are represented in HH and which are unique to the D4. Note that most aspects from HH, with the exception of Greed-

Avoidance, have traces in the D4 as well. However, some P facets – Callous Affect (P), and Erratic Life Style (P), as well as S are not represented in HH. This makes sense conceptually, as sadistic tendencies seem not to be part of HH. Therefore, low HH cannot be interpreted as the conceptual core of any dark trait umbrella, but it seems to subsume the empirical overlap driven by the similarities of the measures.

Comparison of dark personality factors: Is there a conceptual core of the D4?

The D3 factors are moderately intercorrelated and share moderate to high, negative relationships to agreeableness and HH while being mostly unrelated to neuroticism (Muris et al., 2017; Schreiber & Marcus, 2020; Vize et al., 2018). With the focus on dispositional interpersonal behaviour, conceptual similarities of the D3/D4 and the search of a common "dark" core has regularly been a topic of research (e.g. Moshagen et al, 2018). Note that, at the time of each proposal for a dark composite, there were almost no theoretical considerations for these combinations, and to date theoretical considerations that were described post-hoc are not well established. On a conceptual level, there is no definitive concept of what constitutes a personality construct as aversive or "dark" (Marcus & Zeigler-Hill, 2015) and there has been a variety of constructs that have been discussed as malevolent beyond the one we already depicted in detail (Kowalski, 2001; Moshagen et al., 2018; Paulhus & Jones, 2015; Zeigler-Hill & Marcus, 2016). Notwithstanding, a well-defined dark core might have the potential to causally explain various forms of socially-aversive behaviour and therefore dark traits: Emerging in different (sometimes colourful) forms – e.g. P, M, N,… – but driven by the same underlying dynamic. Also, this would allow for a potentially sparse and in a nomological network connected theory of dark behaviours. So far one of the main problems in mainstream research on dark personality appears to be a trend to jump from a union of dark traits to another without thorough theoretical and only basic empirical considerations (e.g. from the D3 to the D4 and from the D4 to D). Note that our goal is not to define such a core or a theory of dark behaviour per se. However, for a focus on the D4, we claim that a theoretical overlap is necessary (but not sufficient) for the D4 to be of any use. Therefore, we tried to find a definition of such overlap. In the search of a dark core of personality, many personality constructs have been discussed as appropriate candidates to explain the common D3/D4-variance, e.g. disagreeableness, low honesty-humility, antagonism (i.e. low agreeableness) or callousness (Furnham et al., 2013; Paulhus, 2014; Vize, Lynam et al., 2020). Note, that

there has not been a theoretical argument of what constitutes the core of the D3/D4, but rather a "search" that primarily consists of correlating the members of the D3/D4 with many others variables.

The common features of the D3 and sadism are depicted in Table 2. Note that there is no consensus on how the individual concepts can be defined: We collected input by known authors on the D4 and implemented trait definitions, operationalization subscales and theoretical considerations in order to form some kind of a common denominator – however, we do not assume our comparison to be perfectly comprehensive or undisputable. We included the sources for our claims in the supplement online material of this study.

We also displayed the conceptual features of low HH and D. There are several conceptual commonalities, but also features that are at odds with one another. However, callousness as a "core" would contradict the fit of S into the D4, as (cognitive) empathy seems to be a key ability to enjoy the suffering of others. Also, S does not imply a deficit in emotional reactivity characterized by failure to respond to the distress cues of others but concludes in a response that is inappropriate for normal social interactions (joy over the distress of others). While P, S and M are related to low affective empathy (e.g. Jonason & Krause, 2013, March, 2019; Sest & March, 2017), some results indicate that S and N show no relation to low cognitive empathy. For P the results are not consistent, it was argued that P is unique in the D3 due to the lack of both cognitive and affective empathy (Jonason & Krause, 2013, March, 2019). However, another study found no such relation (Sest & March, 2017), the relation is rather similar to S. It is likely that sadists are emotionally (affectively) detached from others' pain, but several authors assume that there should be no lack of cognitive empathy (Baumeister, 1999; O'Meara et al., 2011; Sest & March, 2017), although negative relations to measures of affective *and* cognitive empathy have been reported in the past (Velimirović et al., 2018). Despite the lack of empirical clarity, we assume that sadistic individuals (conceptionally) need cognitive empathy to actually perceive (and enjoy) the suffering of others in the first place. While callousness might be a shared aspect of each D3-trait, it does not align with S. Therefore, we deviate from Paulhus' view that callousness is a reasonable candidate for a dark core. We argue that a candidate for a conceptual core of the D4 (overlap that connects all D4 candidates) could be a tendency of indifference toward positive outcomes and a lack of negative emotions towards

negative outcomes regarding the interests, well-being and feelings of others (while allowing positive emotions if others suffer) which we call (considering the lack of a better term) *partial indifference*. Note, that D is very similar to our definition of the D4-core, however, the emphasis is different: While D emphasizes the maximization of one's individual utility, we emphasize the lack of negative emotions about others disutility as the conceptual core. One might argue that partial indifference might naturally coincide with low HH-behavior. Be that as it may, we do have the impression that an element of partial indifference is considerably more explicit in the D4 compared to low HH (as depicted in Table 2). An interesting point of discussion might be if the dark personality constructs imply "pragmatic" behavior: While P and M comprise only antisocial behavior that is aimed at the maximization of one's resources, sadistic individuals are willing to "waste" resources in order to induce suffering in others (Paulhus & Dutton, 2016). See that sadism is therefore related to spitefulness on a theoretical level. The concept of D aims to resolve this apparent contradiction by "recognizing that one's own utility can be maximized by the very act of inflicting disutility on others, which may take the form of accepting own (e.g., financial) disadvantages to see others suffer (leading to positive feelings such as joy which may subjectively outweigh financial costs)" (Moshagen et al., 2018, p. 4).

Taken together, the D4 arguably shares several features – mainly partial indifference – and conceptually overlaps with low HH and D to some degree. However, there are conceptual features that make the D4-constructs distinguishable from one another. Paulhus (2014) proposed to study the D4 structure and test if there is in fact a D4-core at a higher order level and raised the question about the similarity of low HH and a latent D4-core.

Structure of Dark Triad, Dark Tetrad and D

A crucial criterion for a good representation of underlying theoretical considerations, is the confirmation of the structural relations of D3/D4 constructs. To date, it has been rather unclear what the conceptionally assumed D3-structure actually is: While Paulhus and Williams (2002) simply refer to empirical and conceptual overlap, they do not specifically describe a second-order D3-factor. Only the more recent discussions about (and empirical searches for) the D3-core have led several authors to assume a D3-core in the form a higher-order-factor (see Furnham et al., 2013). Structural relations of the D3 have been investigated regularly, however, a few analyses

were done exploratorily (e.g. Johnson et al., 2019; Jones & Paulhus, 2014; Rogoza & Cieciuch, 2018; Vize, Lynam et al., 2020). Most of the confirmatory analyses (sometimes in order to validate measures of the D3) show, that the structure of the D3 does not fit well (Bertl et al., 2017; Jonason & Webster, 2010; Rogoza & Cieciuch, 2018). However, there are two general problems when investigating the structure of the D3 confirmatorily, one technical and one empirical: First, the technical problem is, that the hierarchal model with a second order factor ("D3-core") is equivalent in fit to the model with correlated latent variables. As such, testing if a "core" exists or if the structure is purely correlational is not possible. Second, M and P could hardly be discriminated in some exploratory analyses (e.g. Međedović & Petrović, 2015; Rogoza & Cieciuch, 2018). The question about the discrimination between M and P was also raised by Persson et al. (2019) who found that the fit of the correlated D3 structure is only marginally better, thus preferring the sparser two factor model, where one factor is M and P combined. Another analysis assumes that the D3 has not more information than P (Glenn & Sellbom, 2015). Contrary to the D3, for the D4 only few exploratory analyses concerning the structure were conducted so far (Johnson et al., 2019; Međedović & Petrović, 2015, Paulhus et al., 2020), finding a structure that fits relatively well to the assumed model. However, only one confirmatory study for evidence of the D4 model was presented so far, and it was only conducted to test the structure for the *Short Dark Tetrad* (SD4; Paulhus et al., 2020).

Referring to the already published results the question arises, what the structure should be from a conceptual viewpoint. First, we unarguably can define items measuring a construct, if they are loading on that construct. The structure that is mainly up to debate is the one of the latent factors and so far, mixed approaches have been reported. Generally, the structure of the latent traits can be one of the following most common cases: (a) a correlational structure where all latent factors are correlated, (b) a higher order model, first order factors load on one or more second order factors (more generally k-order factors are possible), or (c) a bifactor model where all items are loaded onto their and another common first-order factor. For a bifactor model, the additional factor is generally assumed to be a "g-factor". For the D4 and within the higher order model, the second-order factor could be defined as the overlap of the four first-order factors. For the investigation of D and the construction of a measure of D, Moshagen et al. (2018) used a bifactor approach and showed that data fit reasonably

well to the model. However, the definition of D and the research task "to capture both the common core and the unique content of dark traits" (Moshagen et al., 2018, p. 1), does not justify the use of a bifactor model. In contrary, the conceptual framework defines a higher order model (see also, Jonason & Webster, 2010; Webster & Wongsomboon, 2020). That is because a bifactor model defines a common feature of the items the constructs are measured with, not a common feature of the traits themselves. On the contrary a higher order model measures that latent overlap (variance) of the latent traits. Therefore, to measure a common core and to test the assumed structure of, in our case, the D4 a higher order model is reasonable. Note however, assumptions regarding the structure of the D3 or D4 seem to lie in the eye of the beholder. The notion of the existence of a dark core appears to be driven by the search for it entirely. While Paulhus et al. (2020) perceive "inevitable overlap" (p. 1) in regards to a common component of the D3 and seem to regard a common core as a natural consequence. Muris et al. (2017) however suspect that the "positive manifold of dark traits" (p. 186) may be due to simple item overlap across instruments and doubt that there needs to be a dark core to account for the moderate to high interrelations after all. Although the D3- and D4-traits do overlap empirically that does not mean that they all overlap in *the same* aspect (which would contradict a common core). High intercorrelations might be the consequence of e.g. N sharing content with P and P overlapping with M in *another* aspect and so on and so on. There are no real *theoretical* assumptions regarding the structure of the D4 and its elusive core, there are merely assumptions that are shared by a lot of researchers to justify the search for that very core. Bear in mind that a D4-model with intercorrelated factors and no "core factor" might be a viable option as well: The D4 traits might not share a (causal) common component, but are located in the same space of content. Be that as it may, since we intend to critically examine the D4, we follow more common assumptions in regards to the D3/D4 and test them. Consequently, we assume a higher order model.

Research question and hypotheses

Johnson et al. (2019) already questioned if there should be a dark tetrad. In our study, we intend to examine if the expansion of the dark triad to a dark tetrad is a conceptually and empirically justifiable decision. We argue that an extension is justified if the following criteria are met: (a) S shares a common *conceptual* feature with D3-members that appropriately explains a general tendency for socially-aversive behavior

with these constructs, (b) sadism is adequately, positively related to P, M and N, (c) S is clearly distinguishable from other global personality factors (d) the assumed hierarchical model structure of the D4 can be confirmed and (e) sadism shows predictive validity over and above the D3 in regards to theoretically meaningful socially-aversive behavior.

Furthermore, we were interested in the relations between the D4 and the HEXACO-model – with low HH in particular. Since low HH (irrespective of theoretical considerations, see above) has emerged as a likely candidate to explain the common D3-variance, Paulhus himself (2014) argued that low HH might be the empirical core of the D4. We test these assumptions in our studies as well. However, we separate the question of extending the D3 to a D4 from these latter results, since HH is no dedicated part of the D3 or D4 model and should therefore have no impact on this conceptual issue (apart from questions of divergent validity). Also, the D4 relations to global models of personality need to be clarified and the HEXACO model appears to be a good candidate. Note that we already assume the D3 and S to share a conceptual feature – that is partial indifference. However, low HH seems to be a strong candidate as the empirical D4-core and it does not encompass partial indifference – this is a serious issue which we already mentioned and will discuss later on.

At this point we focus on the D4. The obvious question would be: why expanding the D3 with sadism? Why not with any other dark construct? As we stated before, there is no direct reason on a theoretical level. However, we aim to answer the question for the D4 defined by Paulhus (2014) and the consequences on other models e.g. D. Therefore, we will not argue for the inclusion or exclusion of any other constructs. Our methods of choice to examine these aspects in details are a) a primary study where we test the theoretically assumed D4-structure confirmatorily and examine its relation to HH and b) a meta-analytic review where we examine the relations between S and the D3, the global personality factors of the HEXACO-model and the predictive validity of S over the D3 in regards to theoretically meaningful areas of behavior – combined with a test of the theoretically assumed D4-structure by the use of meta-analytic structural equation modeling.

Study 1: An analysis of latent structure

In Study 1 we estimate and compare the higher order models of the dark triad and the dark tetrad. We test if sadism is a reasonable extension to the D3. Furthermore,

we hypothesize that we can replicate the findings of a high correlation between D3/D4 measures and HH (Hodson et al., 2018; Moshagen et al., 2018; Muris et al., 2017; Vize et al., 2018) on the latent level. For that, a model with HH as fifth factor is defined, with a correlation between HH and core D3/D4 (see Figure 1 and Figure 2). Based on previous findings we expect the latent correlation to be high ($r > .50$). Our hypotheses, measures, exclusion criteria for participants, analyzation plan, estimation method and criteria for model fit evaluation were preregistered prior to data generation within the *Open Science Framework*.

Method

   Participants. Participants were invited for an online assessment via social media and several e-mail distribution lists. A total of 701 participants (70% female) delivered data for the analyses. The mean age was 27.37 years ($SD = 8.03$). Participants were excluded if they did not finish the assessment, gave false answers on at least one of three attention control items, finished the assessment faster than 15 minutes or were no native speakers and had less than five years of experience in speaking German. The study was approved by a university ethics committee.

   Measures. We assessed the dark tetrad with commonly used operationalizations: For psychopathy we used the *Self-report Psychopathy Scale–Forth Edition* (SRP-4; Paulhus et al., 2016). It is a 64-self-report-questionnaire that has shown to be the self-report equivalent of the *Psychopathy Checklist-Revised* (PCL-R; Hare, 2003) – the gold standard to measure psychopathy. It comprises the four facets *Interpersonal Manipulation*, *Callous Affect*, *Erratic Life Style* and *Anti-Social Behaviour*. The SRP-4 is a widely used instrument and has shown to be a valid measure for P (Boduszek & Debowska, 2016). In our study the SRP had a good internal consistency ($\alpha = .88$, 95%-CI: [.87, .89]; $\omega = .88$).

   For machiavellianism the *Machiavellianism Scale VI* (MACH VI; Jones & Paulhus, 2008) a 9-item-test that poses an alternative to the prominent MACH IV (Christie & Geis, 1970). While the MACH IV has shown to be related to impulsivity (Jones & Paulhus, 2011) – a result that is inconsistent with the concept of M (Jones & Paulhus, 2009) – the MACH VI has shown to be unrelated to impulsivity and focuses on more adaptive manipulative strategies like reputation maintenance and long-term planning. Unfortunately, the reliability of the MACH VI was very low in our study ($\alpha = .39$, 95%-CI: [.32, .46]; $\omega = .39$).

For narcissism the *Narcissistic Admiration and Rivalry Questionnaire* (NARQ; Back et al., 2013) was used. The NARQ measures two dimensions of narcissism: *Admiration* and *Rivalry* with nine items each. Both sub-dimensions have shown to be distinctively related to relevant external criteria and are intercorrelated by r = .61 (Back et al., 2013). In our current study the NARQ was a reliable measure to assess N (α = .85, 95%-CI: [.83, .87]; ω = .85).

For sadism we used the *Varieties of Sadistic Tendencies* (VAST; Paulhus & Jones, 2015; German version from Schulze, 2021). The VAST is a 16-item measure that considers two dimensions: *Vicarious Sadism* (7 items) and *Direct Sadism* (9 items)*.* The VAST-scores were shown to be correlated with the tendency to harm fictional bugs in a bug killing paradigm or the tendency to blast innocent people within a white noise paradigm (Buckels et al., 2013). In our current study the VAST can be viewed as a measure to assess S with acceptable reliability (α = .76, 95%-CI: [.74, .79]; ω = .77).

For the HEXACO model we used the 60-item version of the *HEXACO Personality Inventory - Revised* (HEXACO-PI-R) (Ashton & Lee, 2009). Honesty Humility is comprised of the facets *Sincerity* (SI), *Fairness* (FA), *Greed-Avoidance* (GA) and *Modesty* (MO). To measure HH more reliably, especially on facet level, we added all additional 22 items of the 200-item version of the HEXACO-PI-R (Lee & Ashton, 2004). We focus here on the HH factor. HH was measured reliably within our study (α = .91, 95%-CI: [.90, .92]; ω = .91).

As the questionnaire was designed for an online assessment we included three Attention Control Questions (ACQ; see e.g. Oppenheimer et al., 2009). Participants were either asked to give a specific response (e.g. strong agreement), or got a trick question (e.g. "I sometimes have fatal heart attacks"). These questions should assure that inattentive responders or responders "clicking" trough can be excluded from analyses. Participants should answer all items on a scale from 1 – fully disagree to 6 – fully agree, or for negatively keyed items on the opposite scale.

Analyses. We used R, for descriptive statistics and all analyses. For confirmatory factor analyses (CFA) we used the package *Lavaan* (Rosseel, 2012). As described above, we used higher order models for (a) the D3 model, (b) the D3 model with a latent correlation between core D3 and HH (this model was not preregistered), (c) the D4 model and (d) the D4 model with a latent correlation between core D4 and HH (see Figure 1 and Figure 2). Additionally, we used latent regression models to estimate the

predictive power of HH for the D4 core. Lastly, we compared the higher-order and correlated factor models of the D4. Note that the comparison between a correlated D4 model and a HH core model is not possible. Within all models we considered the facets of the measures. As such e.g. for N the latent factor for rivalry and admiration were considered. All models were analyzed with the maximum likelihood robust estimator (MLR). All analyses were judged on a conglomeration of the following fit indices: χ^2-statistic, RMSEA (cut-off: RMSEA > .05) with confidence interval, CFI (cut-off: CFI < .90) and SRMR (cut-off: SRMR > .06). The used level of significance was $p < .05$.

Results

       Descriptive and correlation statistics. Descriptive statistics and intercorrelations between the study variables are shown in Table 3 and Table 4. Overall, all proposed D4 constructs have medium to high positive correlations with each other. On a global level the correlations of P are $r = .342$, $r = .523$ and $r = .607$, with M, N and S respectively. Correlations of M are $r = .317$ and $r = .299$ with N and S and the correlation between N and S is $r = .421$. These correlations are consistent with previous findings (Muris et al., 2017).

       Results from structure analyses. First, we considered the D3 model (a). The model yielded no perfect fit, $\chi^2(3995) = 7048.759$, $p < .001$, however fit indices indicate an acceptable fit to the data, *RMSEA* = .034 (90% CI: .032-.035); *SRMR* = .054, with exception of the *CFI*, *CFI* = .759. The *CFI* is a comparative method which compares the likelihood of the so called null-model (a model that assumes that no relations exist between variables) to the observed relations. If the difference is small, the *CFI* is small. Some relatively low standardized loadings ($l < .20$) can be observed for items of M and P (ASB). This can at least to some degree explain the low *CFI*. Low loadings indicate small relations, which then contribute to a small *CFI*. Taken together and with emphasis on the RMSEA which is a global fit index, we observe an arguably acceptable fit to the data. Similar results can be presented with the second model including HH and the latent correlation between core D3 and HH (b). Again the model yielded no perfect fit, $\chi^2(7366) = 12302.379$, $p < .001$, but fit indices indicate an acceptable fit to the data, *RMSEA* = .032 (90% CI: .031-.033); *SRMR* = .055, again with exception of the *CFI* = .765. The latent correlation between the core D3 and HH was high $r_l = -.963$, $p < .001$. Note that model parameters (loadings and variances) of the D3 model (a) are not substantially different in model (b).

For the third model of the D4 (c) results are again similar with an overall acceptable fit to the data $\chi^2(5552) = 9967.274$, $p < .001$, $RMSEA = .034$ (90% CI: .033-.036); $SRMR = .056$, again with exception of the $CFI = .723$. The correlated D4 model is similar in fit $\chi^2(5550) = 9957.385$, $p < .001$, $RMSEA = .034$ (90% CI: .033-.036); $SRMR = .056$, $CFI = .724$. The comparison of both models yields that the correlated model fits significantly better, $\chi^2_\Delta(2) = 9.892816$, $p = .007$. Note that any model comparisons with HH are not possible for a correlated D4 model, we performed all analyses as planned. For the fourth model of the D4 and HH (d) results are again similar with an overall acceptable fit to the data $\chi^2(9435) = 16109.613$, $p < .001$, $RMSEA = .032$ (90% CI: .032-.033); $SRMR = .057$, again with exception of the $CFI = .729$. The latent correlation between the core D4 and HH was high ($r_l = -.915$, $p < .001$). Note again that model parameters (loadings and variances) of the D4 model (c) are not substantially different in model (d).

Furthermore, we added models with HH as the core of the D3 and D4 in order to test if the correlation between the core of the D3/D4 is different from unity (these analyses were not preregistered). The model with HH as the core of the D3 shows acceptable fit $\chi^2(7367) = 12305.34$, $p < .001$, $RMSEA = .032$ (90% CI: .031-.033); $SRMR = .055$ and $CFI = .764$. The model comparisons with model (b) yields that model (b) does not yields a better fit, $\chi^2_\Delta(1) = 2.961$, $p = .085$. Therefore, the latent correlation between the core of D3 and HH is not substantially different from one. The model with HH as the core of the D4 also shows acceptable fit $\chi^2(9436) = 16131.007$, $p < .001$, $RMSEA = .033$ (90% CI: .032-.033); $SRMR = .057$ and $CFI = .728$. The model comparisons with model (d) yields that model (d) yields a better fit, $\chi^2_\Delta(1) = 21.394$, $p < .001$. Therefore, the latent correlation between the core of D4 and HH is lower than one.

We tested a model with latent regressions of the D3 and D4 core on the four HH facets to test and estimate the regression prediction (these analyses were not preregistered). The D3 regression model shows acceptable fit $\chi^2(7361) = 12291.615$, $p < .001$, $RMSEA = .032$ (90% CI: .031-.033); $SRMR = .055$ and $CFI = .765$, with standardized regression coefficients of $\beta_{FA} = -.217$, $\beta_{GA} = -.099$, $\beta_{MO} = -.398$, and $\beta_{SI} = -.353$. The D4 regression model also shows acceptable fit $\chi^2(9430) = 16095.413$, $p < .001$, $RMSEA = .032$ (90% CI: .032-.033); $SRMR = .056$ and $CFI = .729$, with standardized regression coefficients of $\beta_{FA} = -.256$, $\beta_{GA} = -.075$, $\beta_{MO} = -.377$, and $\beta_{SI} = -.312$.

Discussion

The main goal of Study 1 was to test the structural assumptions of Paulhus' (2014) D4 model as mostly exploratory results supporting the D4 model were reported (Johnson et al., 2019; Međedović & Petrović, 2015), however, so far, the D4 model was only once investigated confirmatorily to test the relations of a measure (Paulhus et al., 2020). Furthermore, we tested if HH can be differentiated from a D4 core and estimated latent regression coefficients for the prediction of a D4 core by HH. We find moderate to high correlations between all members of the assumed D4 (Table 3). Observe that the D3 and D4 models with and without HH yield overall arguably acceptable fit, however the results need to be interpreted with caution. First, we have a generally low *CFI* value. As stated, this can be a symptom of relatively low loadings, however, it signals problems in fit in general. Second, we see that the D4 model with correlated latent factors yields a significantly better fit, even if the loadings and residuals do not change substantially. This results in the conclusion that a higher-order model of the D4 is not suitable and generally correlated D4 models should be preferred. Lastly, the results of the D3-HH-, the D4-HH- and the latent regression model indicate that low HH is equivalent to the overlap of the D3 constructs, very similar but not equivalent to overlap of the D4 constructs and that not all of the HH facets have equally good predictive power for the D4 overlap.

With respect to the similarity in operationalizations our initial mapping (Table 1) of D4 and HH items is validated. The overlap of the D4 is substantially different from HH, which is driven by sadism. As stated before, the item content of HH does not overlap with sadism. Furthermore, greed avoidance has the lowest predictive strength for the D3 and D4 overlaps, again this was indicated by the low item-content overlap of the D3/D4 and greed avoidance. Before we come to our conclusions we present Study 2.

Study 2: A meta-analytic review

In Study 2, we focus on the relations between S and the D3 and low HH. We conduct a meta-analysis, to aggregate already existing empirical relations and expect everyday sadism to have a…

H1:   moderate, positive relation to psychopathy ($\bar{r}$ = .4)

H2:   small, positive relation to machiavellianism ($\bar{r}$ = .2)

H3:   small, positive relation to narcissism ($\bar{r}$ = .2)

H4:   large, negative relation to honesty-humility ($\bar{r}$ = -.5)

Despite the conceptual differences between S and P, we expect a stronger empirical relation since both might be considered as the two "darkest" members of the D4. On a conceptual note, the dynamic processes behind P and S differ, but seem to facilitate similar antagonistic, highly aversive behavior (e.g. individuals high on S hurt other people to enjoy their suffering while individuals high on P recklessly hurt people as collateral damage on their criminal encounters). N and M do not share these tendencies of aggression in plain sight. Consequently, we expected S and P to be more strongly related compared to S-M and S-N. Note that we do not expect high S-D3-relations, since the meta-analysis by Muris et al. (2017) revealed only moderate D3-intercorrelations. Interrelations that are "too high" might raise the issue of *concept creep* (Haslam, 2016). We do expect a high relation to HH since sadism should correlate with the D3 members and the D3 members have shown to correlate highly with HH (-.41 to -.61; Muris et al., 2017). Bear in mind that we argue that S "needs" to be adequately related to the D3-traits (i.e. not too small, not too high) in order to justify the D4. This and the before mentioned past results, motivated our hypotheses. We used the methods of a systematic literature review with a subsequent meta-analysis to adequately integrate previous findings regarding S-D3-relations.

The univariate meta-analyses will be enhanced by a multivariate meta-analysis of the D4 candidates on the one side and on the D4 candidates with the HEXACO factors on the other side. We expect the effects sizes to be similar to the ones of the univariate analysis. In concordance with Study 1, we test the structural relations of the D3 and D4. Furthermore, we are interested in divergent validity and conduct a meta-analysis on relations between S and global personality factors. We chose the HEXACO-model and not the Big 5 model since we already included low HH as it is discussed as a candidate for a dark core. Note that – in order to dodge the *apples-and-oranges*-issue of meta-analysis – we do not include studies that contain measures that rely on the Big 5 model. Although the global personality factors share the same or similar labels they are hardly comparable by actual content (see Ashton, 2017). We did not specify any hypotheses on the HEXACO-S-relations in detail (apart from low HH), however we are confident that it enhances the understanding of S to know how S is related to global behavioral dispositions. However, we assume S to contain variance beyond HEXACO and do not expect the non-HH-factors to be stronger correlated with S than HH itself.

Moreover, we examined if S predicts specific theoretically meaningful external criteria. As we pointed out in the introduction, others have assumed that S can straightforwardly extend a D3 to a D4, since S comprises thought, affect and behavior that is not represented within the D3. Again, this assumption can (at least to some degree) be addressed empirically. Hence, we expect S-tests to show predictive validity in regards to cruel external criteria. In our view, these criteria should be very specific variants of non-pragmatic aggression (harm-inducing behavior towards others that is not indented to generate specific resources besides the enjoyment of suffering) or variants of enjoyment of suffering. We chose five external criteria: (a) trolling (an act of intentionally provoking and/or antagonizing users in an online environment, see Thacker & Griffiths, 2012), (b) vandalism (destroying things for pleasure, see Pfattheicher et al., 2018), (c) schadenfreude (humorous pleasure from another's misfortune, see Porter et al. 2013), (d) preference for violent media (e.g. violent movies or video games) and (e) mild forms of behavioral aggression from laboratory/online studies. If the correlations with these external criteria are higher in value compared to D3-criteria-relations then this might be a good indicator for incremental validity over and above the D3 – and therefore justify a D4 since S "plays a role on its own turf". Consequently, we have no hypotheses on specific effect sizes, but we assume that S is the best predictor for non-pragmatic forms of aggression compared with the D3. Our hypotheses were preregistered within the Open Science Framework.

Method

Literature search and study selection inclusion criteria. We conducted a systematic literature review that started in July 2019 and ended in November 2020. We did two separate searches for sadism-D3 and sadism-HH. For sadism-D3 the databases *PsycINFO*, *PsycARTICLES*, *Psyndex*, *Medline* and *Psychology and Behavioral Sciences Collection* were searched by using the following term: *((dark triad OR machiavellian* OR psychopath* OR narcissis*) AND ("dark tetrad" OR sadis*)) OR "dark tetrad"*. The process of the literature search for sadism-D3 is depicted in Figure 3, which shows a *PRISMA flow diagram* (Moher et al., 2009). The separate literature search for sadism-HH was based on the search term *(hexaco* OR honesty-humility OR honesty* OR big six) AND ("dark tetrad" OR sadis*)* that were used in the same databases mentioned above and resulted in a sample of $n = 17$ studies. The overlap of the final study samples was very

high: Only one (grey) study for S-HH was not also included in the study sample for sadism-D3.

For the analyses of predictive validity, the procedure was similar. The literature search term was *(trolling OR vandalism OR schadenfreude OR "dark humor" OR "video games" OR "violent movies" OR bug-crunching OR "laboratory aggression") AND ("dark tetrad" OR sadis*)* and the same databases mentioned above were used and resulted in a sample of *n* = 21 studies. All search algorithms and the corresponding number of included and excluded studies are displayed in a flow chart (Figure 3).

To be included in the meta-analyses, studies had to provide sufficient information for an effect size and the associated standard error that indicated the strength of association between at least one of the D3-constructs, the HEXACO global factors or an external criterion of interest on the one hand and everyday sadism on the other. We specifically excluded studies on sexual/pathological sadism.

Coding studies. A coding manual was used to extract the relevant information from the studies by two independent coders. Overall the agreement was 92.5% (47 initial disagreements for 632 coding decisions) for a subset of 40 studies. The discrepancies were inspected by a third rater who decided how to code the variable. When effects sizes were only reported for subscales of the tests, based on identical sample sizes, they were aggregated to a single effect size by simply averaging the effect sizes (only if effect sizes for all subscales of a specific test were reported). If the studies included more than one effect size (i.e. several effect sizes for e.g. the sadism-psychopathy-relation) we selected only one effect sizes based on the psychometric quality of the operationalizations: We chose the *Self-report Psychopathy Scale* (SRP; Paulhus et al., 2016) or the *Psychopathic Personality Inventory* (PPI; Lilienfeld & Andrews, 1996) if two effect sizes for S-P were reported. If more than one sadism-test was used, we chose the effect sizes for the *Comprehensive Assessment of Sadistic Tendencies* (CAST; Buckels & Paulhus, 2014) or *Varieties of Sadistic Tendencies* (VAST; Paulhus et al., 2011) and the *Assessment of Sadistic Personality* (ASP; Plouffe et al., 2017) over the *Short Sadistic Impulse Scale* (SSIS; O'Meara et al., 2011).

Method of meta-analysis. Although, most researchers in social sciences recommend the use of *random-effects model* (RE model), the use of the *fixed-effect model* (FE model) is more suitable in some cases, especially when the number of effect sizes is low (Schulze, 2007). Within the RE model, it is possible to generalize the results to other

populations beyond the study sample. If k is low, the RE model might still be the right choice in case one aims to make that inference, but the between-study variance (τ^2) will not be estimated with sufficient precision. Consequently, the RE model cannot be applied correctly (Borenstein et al., 2009). In our meta-analysis, we will report both results from a fixed-effect model, but also from a random-effects-model. However, because of k = 21 effect sizes for the D4-HH relationship, we mainly discuss and interpret the FE model for these relations. Although the effect sizes for S-HH were highly heterogeneous (see below) which appears to be at odds with the notion of a single effect that is assumed to be common to every study, switching to the RE model would be unreasonable – since this decision should be conceptually driven and not be determined by a statistical test of heterogeneity (Borenstein et al., 2009). Furthermore, results under the FE model are indeed interpretable if one strictly restricts the inference to the known study sample – without further generalization to a hypothetical population of studies (Viechtbauer, 2010).

For the aggregation of effect sizes the minimum variance unbiased estimator as proposed by Olkin and Pratt (1958) was used. We used the R-packages *metaSEM* (Cheung, 2015) and *metafor* (Viechtbauer, 2010) for our analyses. Before aggregation, we analyzed outliers. For the aggregation of the overall effects we used the inverse sampling variance of the studies as weights. In addition, we also report results from attenuation corrected effect sizes. That way, we are able to detect differences in and the ratio between the effect sizes after accounting for unreliability, if they exist. Although correction for attenuation in meta-analyses is controversial (Muchinsky, 1996), we use the double correction attenuation formula proposed by Spearman (1904) if information on reliability was available for all operationalizations. All studies including such information reported only internal consistencies. If no reliability coefficient was reported, we excluded those studies from the additional analysis.

For multivariate meta-analysis the same procedure was used. Multivariate meta-analysis aggregates the effect sizes by simultaneously controlling for the other considered effects. Additionally, we conducted meta-analytic structural equation modelling based on the two-stage structural equation modelling approach (TSSEM; Cheung, 2014; Cheung & Chan, 2005, 2009). The procedure is implemented in metaSEM and can be used straightforwardly. The first stage analysis is to pool the covariance matrices together. We only consider studies that contain all effect sizes of interest and

exclude studies that would otherwise produce a missing within a covariance matrix. The second step is to use this pooled covariance matrix to perform structural equation modeling (see Cheung, 2014). We used this procedure to analyze the structure of the D3 and D4. Note that the meta-analytic D3 model is just identified ($df = 0$). Therefore, the D4 model is not comparable by fit to the D3 model. Note furthermore that on the data available for HH a latent factor cannot be estimated. The dataset on the sadism-HEXACO relations is already small ($n = 11$), doing the analyses on the level of HH-facets would reduce the number of studies similar to Hodson et al., (2018). Therefore, we did not conduct further analyses on a factor correlation of HH to the D4.

The data from the included studies and the reference list can be found in the dataset for this meta-analysis, which is uploaded to the Open Science Framework.

Results

Outlier analysis. The outlier analysis indicated two studies to be potentially influential and therefore possible outliers (Costello et al., 2019, Paulhus et al., 2020). This was indicated especially by an externally standardized residual of 3.443 on the S-HH relation and -2.671 on the S-M relation, respectively. The exclusion of the study did not change the results essentially.

Univariate results. The combined effect sizes between sadism and the D3 and HH are presented in Table 5. There was a strong empirical overlap with all constructs of interest: S was highly related to P and moderately related to M. The correlation with narcissism was positive and small, while the relationship with HH was negative and moderate. The results for S-P, S-M and S-N are additionally presented in forest plots which are depicted in Figure S1-S3 for random-effects models and Figure S4 for the S-HH fixed-effects model (supplement material). Note that the results based on the RE model and the FE model are very similar in value. While the study sample size was at least 82 for the sadism-D3-relations, the study sample for S-HH was considerably lower (20) which makes these results less reliable.

We computed overall effect sizes again based on effect sizes (and their sampling variance) corrected for unreliability. For the S-P-relation we found a corrected overall effect of $\bar{r} = .7566$ (CI = [.7242; .7879]; $k = 84$; $N = 38268$; RE model). For S-M the effect was high ($\bar{r} = .5771$; CI = [.5510; .6032]; $k = 76$; $N = 35683$; RE model) and moderate for S-N ($\bar{r} = .3736$; CI = [.3459; .4013]; $k = 77$; $N = 36416$; RE model). The corrected S-HH-relation was negative and high ($\bar{r} = -.5230$; CI = [-.5453; -.5007]; $k = 18$; $N = 8109$; FE

model). Note that the k was lower compared to the uncorrected overall effect sizes, since not all studies reported information regarding reliability. Taken together, the results indicate effect sizes that are considerably larger than their uncorrected counterparts, as expected by performing the correction. However, they do not differ in ratio between the effect sizes nor their order.

Summarized, the effect sizes are significantly higher (S-P, S-M and S-N) or lower than expected (S-HH). The effect of S-HH is as expected ($\bar{r}$ = -.5) only for attenuated data. However, all effect sizes are different from zero and in the hypothesized direction.

Moderator analyses. The effect sizes were highly heterogeneous: I^2 was higher than 75 for all overall effects of interest. Consequently, we conducted moderator analyses that are depicted in Table 6. The amount of heterogeneity that could be explained by moderators was relatively small for most moderators. Only the D4-operationalizations seemed to be meaningful moderators. Nevertheless, due to possible mutual confounding with other known and unknown variables it is not possible to interpret these results with certainty. Subsequent subgroup analyses (see Tables 7) regarding the S-tests for each meta-analytic S relation revealed no meaningful differences between the combined effect sizes for the respective S-tests. Subgroup analyses for the sadism-D3 relations (Table 8) show, that there are few operationalizations with large deviation from the overall effect size (e.g. psychopathy: r_{PPI} = .2510). Note that the majority of studies used short scales (SD3, SD4, DD), from which the conceptual accuracy is probably lower compared to full facet measures (e.g. SRP).

Multivariate meta-analysis results. Even though some of the studies had to be excluded due to missing effect sizes on the covariance matrix between S, M, P and N, results of the multivariate meta-analysis are essentially the same. Table 9 lists the estimated effect sizes of fixed and random effects meta-analyses (k = 81) of the D4 candidates. Also, the estimates for the correction of unreliability (k = 75) are very similar to the univariate results (Table 10). It seems that the reported effect sizes are not highly confounded by between effect variance.

For the effects between the D4 and HEXACO-personality only k = 11 effect sizes per effect were available. The random effects meta-analysis did not converge, there are too many effects and too few effect sizes available. However, the fixed effects meta-analysis converged; the resulting effects are displayed in a correlation matrix in Table

11. It can be seen, that the correlations between sadism and all other constructs are very similar to the correlations between psychopathy and all other constructs. Overall, sadism shares small to medium correlations with emotionality, agreeableness and conscientiousness, and low correlations to extraversion and openness. One can see that the S-M relation is as high as the S-HH relation. Overall, considering the conceptual and empirical overlap between the D4, HH and agreeableness, the D4- and the HEXACO-model show acceptable convergent and divergent relations.

Meta-analytic structural equation modeling. As already stated, the D3 model is just identified (df = 0), therefore a fit cannot be estimated. Overall the calculated loadings on a D3 core are .799, .686 and .443 for M, P and N respectively. Note that these are similar to the loadings estimated by Hodson et al. (2018). The D4 model is identified therefore a fit can be estimated. The estimated loadings on a D4 core are .720, .892, .625 and .404 for S, M, P and N respectively. However, the fit of the D4 model is arguably acceptable, focusing on the RMSEA χ^2(2) = 49.4277, $p < .001$, $RMSEA$ = .062 (95% CI: .047 - .078); $SRMR$ = .025 and CFI = .995.

Predictive validity of sadism. The overall effect sizes (FE models) were .5042 (95% CI = [.4871; .5213], k = 14) for sadism-trolling, .403 (95% CI = [.3324; .4732] k = 4) for sadism-schadenfreude, .343 (95% CI = [.311; .376] k = 5) for sadism and violent videogame preference and .199 (95% CI = [.153; .245] k = 8) for the sadism-relation to actually measured aggressive behavior (online or in the lab). We also aggregated the effect sizes for S and every external criteria (independent from category). The overall effect size is .441 (95% CI = [.427; .455], k = 32). In summary, S shows moderate predictive validity.

Furthermore, we conducted one multivariate meta-analysis for the D4 for all criteria combined (Table 12). There are two results: first, the relations between the D4 are not substantially different from analyses presented before. This is important to note, as the analyses are based on different sets of studies. The second result is that sadism, compared to P, has no specific predictive power on behavior that is associated with sadism. We can especially observe that the predictor relationship of S is similar in value (and confidence interval) to the predictor relationship of P and M. However, the D3 explains 11.4% of the variance of the predictors. The incremental validity can be estimated by the semipartial correlation of S with the predictors, while P, M and N are

partialized out, which is r^2_{ps} = .024. Therefore, the incremental validity of sadism over and above the D3 is about 2.4%.

Publication bias. We conducted several analyses to check if our results were susceptible to a possible publication bias. We used the method of cumulative meta-analysis where the effect is estimated by iterations based on the sample sizes. If a strong publication bias would be present, studies with small sample sizes would deviate strongly. As can be seen in Figures S5-S8 (supplement material), this is not the case. We also tested if the *funnel-plots* for all relations of interest were asymmetrical by using a regression test for funnel-plot-asymmetry (Egger et al., 1997). The results were Z = -5.4102, p < .001, for the S-P relation, Z = -2.4835, p = .013, for the S-M relation, Z = -1.7438, p = .0812, for the S-N relation and Z = 0.1217, p = .9032, for the S-H relation, (see also Figures S9-S12, supplement material). The analyses of the S-P and S-M relations indicate some degree of publication bias. In summary, the analyses indicate that our results are not substantially affected by publication bias, but keep in mind that the S-P and S-M relations might be under a bias.

We also briefly tested the decline effect (Schooler, 2011), that is the effect that effect sizes decrease over time. We conducted cumulative meta-analyses with the publication year as index variable for iterative estimation. The results show that there is no substantial decline effect observable (Figures S13-S16, supplement material).

Discussion

The presented meta-analyses show moderate to high S-D3 intercorrelations. With regard to our hypotheses, none of them were confirmed. The effects are even higher than expected for sadism with the all D3-constructs. The effect between sadism and honesty-humility was lower than expected, however still large. All effect sizes were far from zero.

Also, convergent and discriminant validity is given to some degree (see Table 11). Considering these and past proposals to include sadism, one could conclude that the inclusion is reasonable. However, the analyses also indicate some severe problems with the inclusion of sadism into the D3. First, there is the high intercorrelation between sadism and psychopathy. Furthermore, observe that the D4 model fit is not convincing. Lastly the predictive validity for sadism is low. One might argue about if 2,4% incremental validity for S is enough to justify its inclusion or not. But considering that P

and S have substantially the same predictive power, the question of sadisms utility within the D3/D4 union arises.

General Discussion

The current studies investigated the relations of sadism to the D3 and a possible D4-structure, in order to argue for or against the extension of the D3 to a D4. We presented a primary study in which the main goal was to test the structure of the D4 and compare the D4 overlap to HH. Second, we presented meta-analytic results on the relations between sadism and the D3, sadism and HH, and possible behavioral expressions of sadism.

We argued that an extension is justified if the following criteria are met: (a) S shares a common *conceptual* feature with D3-members that appropriately explains a general tendency for socially-aversive behavior with these constructs, (b) sadism is adequately, positively related to P, M and N, (c) S is clearly distinguishable from other global personality factors (d) the assumed hierarchical model structure of the D4 can be confirmed and (e) sadism shows predictive validity over and above the D3 in regards to theoretically meaningful socially-aversive behavior.

Overall our results are inconsistent. In Study 1 we found arguably acceptable model fit of all models tested (with the exception of the low *CFI*-values), which indicates that a higher order structure could be reasonable. In contrast, a comparison of a higher order and a correlated D4 model yields a significantly better fit for the correlated model, implying that empirically the higher order model is not the best choice for the D4. Also, we showed that low HH is not necessarily a candidate for a dark core, regardless of the latent correlation near unity. We argue that this overlap is mainly driven by the overlap in operationalizations. A latent regression analysis supports this claim. In Study 2 we also find reasonable overlap between all D4 constructs and relations that arguably support convergent and discriminant validity to the HEXACO personality factors, supporting the D4 model. In contrast we find an aggregated correlation between S and P that is too high considering the low conceptual overlap, a less acceptable fit for the D4 model by meta-analytic structural tests, and comparable low predictive power of sadism to behavioral outcomes that is not exceeded by other D3 members. With regard to our catalogue of necessaries (b) and arguably (a), (c) and (e) can be validated. In total, our overall results do not support the inclusion of sadism under a D4 defined by Paulhus (2014).

The discussion about a common conceptual feature of the D4 already shows how unsuitable the D4 model is. While low HH or antagonism have regularly been discussed as possible candidates for a D3-core (see Vize, Lynam et al., 2020), assumptions regarding the D4 are sparse – to our knowledge only callousness or a lack of empathy have been discussed in detail (Paulhus, 2014, Paulhus et al., 2020). However, this would already exclude sadism under a D4 umbrella, as (cognitive) empathy seems to be a key feature. Another common feature had to be defined, in order for the D4 to work, we defined the lack of negative emotions toward negative outcomes of others. Note that this definition was obviously post-hoc the D3 and really stretches the principle idea of conceptual parsimony. Additionally, partial indifference has not been tested as a D3- or D4-core empirically.

Considering the high correlation between S and P, although an overall (corrected) correlation of $\bar{r}$ = .7566 accounts for "only" 57.24% of shared variance, this finding is particularly surprising considering the low conceptual overlap of psychopathy and sadism. While the relation between psychopathy and sexual sadism is better understood – moderately intercorrelated (O'Connell & Marcus, 2019), but distinguishable on a latent level (Mokros et al., 2011) – the very high S-P-relation raises some questions. In their meta-analysis O'Connell and Marcus (2019) report an overall effect size of r = .24 of between psychopathic personality traits as measured by the Psychopathy Checklist-Revised and sadism. However, the operationalizations for sadism included in their meta-analysis were either a) based on clinician-ratings in the sphere of actual personality disorders and/or b) restricted to the domain of sexual sadism. All samples were forensic and included only men. Although the meta-analysis suggests a smaller overlap for P and S than our analysis, the included studies appear highly specific in terms of sample type, concept definitions and measurement. Therefore, we recommend that comparisons between both meta-analysis should only be administered with great caution. For us, the high S-P-relation is puzzling, since we cannot identify meaningful theoretical overlap. Maybe yet again, the relation is a mere consequence of similar item content (e.g. "sadistic" SRP-items: "I like to see fist fights.", "It's fun to see how far you can push people before they get upset."). Alternatively, S might just naturally coincide with psychopathic tendencies – without actually influencing the dynamic behind the emergence of P. The problem of overlap is also reflected in our results in regards to predictive power. Although S shows incremental

validity over and above the D3 of 2,4%, P also shows incremental validity over and above S, M and N of 2.4%. Remarkably, P seems to be a slightly superior predictor for external criteria that were specifically picked for S to predict. With the focus on empathy, the two constructs are empirically more detangled. While both factors are associated with low affective empathy (self-report), S is not associated with lower cognitive empathy. For P the results are not consistent, however, it seems that P is associated with lower cognitive empathy (Jonason & Krause, 2013; March, 2019). We would not go as far as claiming that P and S are an example of *concept creep* (Haslam. 2016), but we do suggest that a new measure for everyday sadism should focus on better differentiation in regards to P in particular and the D3 in general – a claim that is shared by Foulkes in his narrative review on sadism (2019). The recently published SD4 (Paulhus et al., 2020) which incorporates everyday sadism is not able to solve this drawback. In contrast to other measures as the CAST or the VAST which show higher overlap between S and P, the SD4 is constructed to reduce this overlap. However, as direct physical sadism overlaps most strongly with psychopathy (see also Johnson et al., 2019, Pauhus et al., 2020), the SD4 minimizes the number of direct physical sadism (one item). This results in another thin sliced measure that reduces the conceptual utility and also virtually fails to reduce the S-P relation (r = .62; Paulhus et al., 2020). Considering all aspects, we recommend not only to not focus on the D4 as a model for dark personality, we highly recommend careful interpretation when using short measures of such models such as the SD3 and SD4. Further, we believe that the overlap of P and S still needs to be addressed in detail in the future.

That said, there still is the problem of concept creep with other traits and the connected question of good operationalizations. The debate of dark constructs as in the D3, the D4, D and other models is mainly based on correlative studies using self-report measures. For example, take the D traits narcissism, egoism, self-interest and psychological entitlement. While all traits share a more or less egocentric world view, they are theoretically different, at least in nuances. Narcissism focusses on ego-reinforcement, egoism on one's own pleasure or advantage, self-interest on the pursuit of gains in socially valued domains and psychological entitlement on the actual believe that one is entitled to more than others. However, similar to the problem on the operationalizations of the D3/D4 and HH, the measures used in the domain of dark personality typically are not able to differentiate between the constructs. Similar to P

and S (see above), examples are "It is hard to get ahead without cutting corners here and there" (egoism; Weigel et al., 1999) which is essentially similar to items of HH-fairness, "I know that I am special because everyone keeps telling me so" (narcissism; Jones & Paulhus, 2014), "I try to make sure others know about my successes" (self-interest; Gerbasi & Prentice, 2013) and "I honestly feel I'm just more deserving than others" (psychological entitlement; Campbell et al., 2004) which are essentially similar to HH-modesty. As we pointed out and for the relations between HH and the D4 in particular, the empirical relations reported within the current study and past studies can be explained by the high item content overlap of HH item in the HEXACO-PI-R and D4 measures. This is further supported by our finding that the correlation of HH and the D3 core is not different from -1, while the correlation of HH and the D4 core is. By including S, the common variance of the D4 includes attributes that are not similar in item content to HH. Thus, the correlation can be expected to be lower. Also, the latent regression models confirm this, e.g. Greed-Avoidance shows the lowest beta coefficients in predicting the value of the D3 and D4 core. Low HH-items are particularly similar in content to items from facets of P, M and N. The problem with fundamental item-overlap between operationalizations is that even if experts could find the differences within these measures, participant almost certainly cannot.

The similarities need to be kept in mind, but on top of that, D4-tests regularly suffer from questionable content validity, i.e. the item content is not equivalent with the concept definition or captures content from other "dark" traits (e.g. the MACH-IV; Christie & Geis, 1970; the Dirty Dozen; Jonason, & Webster, 2010; the PPI-R; Lilienfeld & Widows, 2005). Clearly, these are cases of *nominalistic fallacies* (Cliff, 1983): The mere invention of a manifest variable that is given a specific name does not mean that this manifest variable is a fitting representation of the theoretical construct with that same name.

The operationalizations of M appear particularly problematic. This may be due to the fact, that there is no consistent conceptualization of M in the first place. The test for M in the current study for example seems also problematic: Reliability was considerably lower than the good reliability coefficients reported by Paulhus and Jones (2015) which might be specific to the German translation. However, content validity is questionable. Jones and Paulhus (2011) describe six subdimensions for M *on top* of the concept by Christie and Geis (1970): *Long-term goals*, *impulsive control*, *situational adaptation*,

alliance building and *reputation*. Although we believe that such detailed conceptual work is necessary and reasonable for the description (and explanation) a certain type of manipulative behavioral dispositions – i.e. M – we seriously doubt that all this content is adequately represented in the (only) 9-item MACH-VI. The most prominent and regularly used measure for M – the MACH-IV by Christie and Geis (1970) – appears to suffer from problems of the same kind: The authors conceptualize M as the combination of a) a relative lack of affect in interpersonal relationships, b) a lack of concern with conventional morality, c) a lack of gross psychopathology and d) low ideological commitment. Notwithstanding, the actual MACH-IV comprises only three subscales that only allude to the aforementioned concept: *Views* (cynical views towards people in general), *Tactics* (deceptive, manipulative behavior) and *Morality* (low moral standards).

We understand that it might appear unfair to nit-pick about various problematic D4-tests without bringing a viable alternative to the table. However, this paper is not the right place for a comprehensive critique of measures of dark traits. In total, we do feel that untangling the web of dark personalities has become almost impossible due to a) conceptual overlap between dark traits and b) questionable content validity of tests that aim to measure these very traits.

Limitations of our studies

For Study 1, although we carefully designed our study, some limitations need to be addressed. The sample is drawn via online assessment and that way participants with many different characteristics were included within the analysis. However, compared to the general population we still have a high proportion of students (especially female). Thus, for further generalizations replications of our results are needed. Furthermore, only self-report measures were used and we used one specific set of possible test sets. In contrast to many other studies we did not use short measures for convenience, but tried to use tests that were able to measure the traits of interest with higher precision (an exception is the MACH-VI). This resulted in a considerably higher study time per participant and thus to more abortions of participation. Although we put a lot of effort in carefully measuring the dark traits of interest – e.g. extensive tests, exclusion of inattentive participants, precise instructions – we cannot rule out the possibility of faking. While we minimized the probability by appropriately instructing the participants and guaranteeing anonymity, especially P, M and low HH

are thought to be deceitful traits and a sincere self-presentation might be more unlikely in this study compared to other studies. The interpretations of our results stand and fall with the quality and appropriateness of our chosen operationalizations. While for P, S and HH we are quite confident that the choices are adequate, the NARQ is an N-test that is surprisingly high correlated with P and incorporates antagonistic content that seems more extreme in comparison with the standard measure for N, the *NPI* (Raskin & Hall, 1981). Also, Back et al. (2013) argue that the NARQ-subscales are better to interpret separately compared to a total score. As described before, our test for M – the MACH VI – seems very problematic. However, the case is even worse for the MACH-IV. We will not go into further detail here as we described it before, but picking an M-tests is a choice between the devil and the blue sea. Note, that our results on M are hardly helpful for insight in the D4-structure.

Also, on our second study a few limitations need to be considered. First, the aggregated results on sadism and honesty-humility are based on the FE model and can therefore not be generalized beyond the sample of effect sizes in this meta-analysis. Second, due to the comparably low *k* in our study we did not exclude studies based on quality. Note that in correlation meta-analyses the operationalizations from the primary studies are often the only indicator of whatever one understands to be "quality". Rather than deciding on an arbitrary "cut-off" of acceptance for D4-tests, we included all studies and partly made the results more transparent by subgroup analyses. Third, none of the studies on sadism-psychopathy included the *Psychopathy Checklist-Revised* (PCL-R; Hare, 2003) or the *Interpersonal Measure of Psychopathy* (IM-P; Kosson et al., 1997) – both high quality other-reports to measure P. Since all P-tests in this meta-analysis were self-reports, it can hardly be assumed that the available study sample can be regarded as a random sample from a well-defined universe of studies. Hence, the RE model might not be the appropriate model of choice.

Also, we conducted an additional meta-analysis with correction for unreliability. Although some authors recommend correction (Schmidt & Hunter, 2015), this is far from being standard procedure in research synthesis and comes with its own challenges in our study (e.g. lower *k* due to the exclusion of studies without reported reliability coefficients makes the results less precise and might lead to possibly biased results). However, since the results indicate an even higher overlap between S and P, we regard

them as beneficial for the discussion about disentangling both and the readers might decide how to interpret the corrected effects.

Finally, there are a few limitations in regards to our meta-analytic structural equation modeling. Note, that we were not able to fit a model with estimating a latent correlation between a D4-core and HH as such a model is not identified with the data available. This would only be possible if one relies on HH-facet-level correlations to the D4 which would have lowered the number of studies to an unacceptable, low number (cf. Hodson et al., 2018). On a similar note, we were unable to compare the fit of a D4-model with one higher-order-factor to a D4-model with intercorrelated S-, P-, M- and N-factors, since information on facet-intercorrelations for each D4-traits would be a necessity for such analyses. Since (unlike HH) D4-facets vary substantially across tests, we are not optimistic that these structural analyses will be possible on a meta-analytic scale in the near future.

Concluding remarks

In summary, instead of a D4 we fear that there is no "Big Tent of Dark Personality Traits" as Marcus and Zeigler-Hill (2015, p. 1) described the conceptual fuzziness of the attribute "dark", but rather a "dark swamp" of traits. One might even form a dark triad without P, M or N, but other sinister personality traits. Be that as it may, we think that this matter cannot be addressed without actually defining what "dark" is supposed to mean. Only with a clear understanding of what dark behavior is in combination with an *explaining/causal* dark core, an overarching, personality-focused model of socially-aversive behavior might be possible. We do have the impression that the term "dark" is used as a pseudoscientific smokescreen to avoid using the very rarely used, somehow dramatic and non-psychological term "evil". The construction of "new" measures, especially if build on already existing but conceptually questionable measures, does not contribute to the understanding of "dark/evil" personality constructs. Therefore, the elephant in the room should be addressed and it would be fruitful if the primary interest would shift to a conclusive theory of aversive behavior. That includes conceptual contributions that "new" measures can build on rather than building the concepts on the operationalization. Lastly, that includes a framework of how these aversive attributes are related (e.g., hierarchal). An integrative conceptual framework is needed, in order to achieve a better understanding what these aversive behaviors as personality constructs are. Although we think that the determination of *a* dark factor is

a *really fantastic* idea to start with, we do not think that D by Moshagen et al. (2018) is a suitable solution for this matter. No real theory was proposed, instead constructs that already are conceptually very similar to the D4 were added without further reasoning. Why was low HH not integrated? Why not aggression? The subsequently presented measure for D (see Moshagen et al., 2020) even relies on a *different* set of traits compared to the original D, since the authors "attempted to be highly inclusive" (p. 185) and is based on items from measures that already appear to be thin sliced and questionable in regards to validity in the first place. Again, we do not disagree with the inductive nature of D, but we fear that the way D has been conceptualized is similar to the *garbage-in-garbage-out-problem* in meta-analysis. Hence, the construction of D based on a dark nonad/dozen does not solve the substantial theoretical issues that Dark Triad- and Tetrad-researchers are so eager to ignore repeatedly.

In personality psychology, there is rarely the question if a current concept is "useful" or "better" compared to other constructs. However, we do believe that the recent conceptualizations of socially-aversive behavior (and its respective operationalizations) "compete" with one another. Despite striking similarities between "D", HH and the D3/D4 in concept and results of measurement, they all pose as alternative models to the explanation of antagonistic behavior: Would HH, or in this case a lack of HH, be sufficient to describe unemphatic, callous or disutility provoking tendencies? While this seems to be the case empirically, this is no valid conclusion. It would constitute an *operational definition* of the (at least) D3-core. To this day, there has not been an integrative approach of all three models that has been accepted across researchers. It appears that current models of antagonistic behavior fell victim of the *jangle fallacy* (Kelley, 1927): Different labels for almost identical constructs. Although an integration might be reasonable, it might come with the cost that a (or several!) personality construct(s) might be redundant and would "dissolve" as a consequence of conceptual integration. This has been regularly been discussed in regards to the difficult empirical and conceptual differentiation between P and M (Jones & Paulhus, 2011; McHoskey et al., 1998; Miller et al., 2017). Vize, Miller et al. (2020) discussed this jangle fallacy problem for D and agreeableness in detail.

Can there be a Dark Tetrad? Well, our empirical results do not support a composite of P, M, N and S. Can there be any dark triad, tetrad, octad? Maybe; the majority of the research implies this. However, the far more intriguing question might

be: *Should* there be a dark triad, tetrad, octad in the first place? In the past, there have been numerous calls (Back, 2020; Block, 2000) and a few attempts (Baumert et al., 2017) to aggregate models of personality in order to reduce possibly redundant traits. This has also been discussed for the D3 in particular (O'Boyle et al. 2015). Note that we do not argue that the single D4-*traits* should be "dissolved" and especially not integrated into low HH. This leads back to the debate about the legitimacy of personality constructs beyond the Big Five: Paunonen and Jackson (2000, p. 883) argue that if "one can identify theoretically meaningful, internally consistent classes of behavior that are able to predict socially and personally significant life criteria, then such personality dimensions are important. […] Moreover, if such dimensions are able to account for criterion variance not accounted for by the Big Five personality factors, then those dimensions need to be considered separately in any comprehensive description of the determinants of human behavior." We agree and see clear parallels to the role of the D4 "beyond" low HH and the other HEXACO factors.

Earlier, we mentioned the option of a "dark sphere" (with no common core) in contrast to a D4. However, we remain pessimistic that even for such a loose composite a convincing theoretical framework is likely to emerge. We assume that – sooner or later – the D4 traits will be better off as single traits without an artificial D3/D4-umbrella. Psychopathy, machiavellianism, narcissism and everyday sadism are traits that are of practical and scientific use and comprise behavioral aspects that are not included in current global personality factors. All four are worthwhile to examine – on their own.

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Appendix

Tables

Table 1
Content mapping of HEXACO-PI-R items on the dark triad.

Item	Item content	HH-facet	D3-trait
1	If I knew that I could never get caught, I would be willing to steal a million dollars.	FA	P-ASB
2	I would never accept a bribe, even if it were very large.	FA (-)	P-ASB (-)
3	I'd be tempted to use counterfeit money, if I were sure I could get away with it.	FA	P-ASB
4	I would be tempted to buy stolen property if I were financially tight.	FA	P-ASB
5	Having a lot of money is not especially important to me.	GA	
6	I would get a lot of pleasure from owning expensive luxury goods.	GA (-)	
7	I would like to live in a very expensive, high-class neighborhood.	GA (-)	N-AD
8	I would like to be seen driving around in a very expensive car.	GA (-)	
9	I think that I am entitled to more respect than the average person is.	MO	N-AD
10	I want people to know that I am an important person of high status.	MO	N-AD
11	I am an ordinary person who is no better than others.	MO (-)	N-AD (-)
12	I wouldn't want people to treat me as though I were superior to them.	MO (-)	N-AD (-)
13	I wouldn't use flattery to get a raise or promotion at work, even if I thought it would succeed.	SI	P-IPM / M
14	If I want something from someone, I will laugh at that person's worst jokes.	SI	P-IPM / M
15	I wouldn't pretend to like someone just to get that person to do favors for me.	SI	P-IPM / M
16	If I want something from a person I dislike, I will act very nicely toward that person in order to get it.	SI	P-IPM / M

Notes. Abbreviations: P-ASB: Anti-Social Behavior (psychopathy), P-IPM: Interpersonal Manipulation (psychopathy), M: machiavellianism, N-AD: Admiration (narcissism), FA: Fairness, GA: Greed-Avoidance, MO: Modesty, SI: Sincerity. (-) indicate negatively poled items.
HEXACO-PI-R Honesty-Humility items reprinted with permission. Copyright Kibeom Lee and Michael C. Ashton 2004.

Table 2

Conceptual comparison between dark personality concepts

Content	P	M	N	S	low HH	D
partial indifference	+	+	+	+	?	+
no/low moral standards	+	+		+	+	+
manipulation	+	+	+		+	?
"pragmatic" behavior	+	+		-	+	?
grandiosity	+		+		+	
callousness/lack of empathy	+	+		-		?
low interpersonal affect	+	+				
use of violence	+	-		+	?	?
impulsivity	+	-				
further unique content	thrill-seeking, criminality, lack of fear	longterm planning	need for admiration	enjoyment of cruelty and subjugation		maximizing one's utility

Notes. A "+" indicates that the feature is part of the personality construct, while a blank entry indicates average levels. A "-" indicates that the construct is conceptually at odds with the feature and a "?" indicates that is undeterminable if the trait is part of the respective concept. The conceptual comparison is based on current concepts and tests of the mentioned constructs (see online supplement).

P = psychopathy, M = machiavelliansim, N = narcissism, S = sadism, HH = honesty-humility, D = dark factor of personality.

Table 3

Descriptive statistics and correlations of the dark tetrad and HEXACO honesty-humility variables from Study 1

Variable	M	SD	1	1a	1b	1c	1d	2	3	3a	3b	4	4a	4b	5	5a	5b	5c	5d
1 Psychopathy – total	2.27	0.44	(.882)	.750	.792	.746	.559	.342	.523	.310	.560	.607	.554	.454	-.620	-.470	-.527	-.401	-.510
1a Psychopathy – IPM	2.76	0.62		(.770)	.509	.334	.280	.373	.469	.279	.502	.418	.440	.262	-.610	-.543	-.437	-.431	-.470
1b Psychopathy – CA	2.22	0.68			(.821)	.387	.299	.310	.396	.195	.466	.558	.429	.490	-.479	-.338	-.402	-.319	-.420
1c Psychopathy – ELS	2.70	0.71				(.787)	.318	.170	.351	.237	.345	.392	.345	.304	-.355	-.248	-.337	-.210	-.297
1d Psychopathy – ASB	1.39	0.37					(.653)	.089	.272	.180	.273	.378	.420	.216	-.331	-.206	-.361	-.175	-.271
2 Machiavellianism	3.83	0.58						(.389)	.317	.195	.332	.299	.234	.259	-.375	-.406	-.210	-.265	-.277
3 Narcissism – total	2.84	0.71							(.850)	.836	.813	.421	.388	.312	-.631	-.505	-.395	-.442	-.622
3a Narcissism – Admiration	3.22	0.89								(.838)	.360	.236	.200	.191	-.449	-.344	-.220	-.342	-.501
3b Narcissism – Rivalry	2.46	0.83									(.807)	.466	.448	.329	-.597	-.494	-.438	-.388	-.525
4 Sadism – total	1.98	0.55										(.760)	.801	.848	-.458	-.355	-.382	-.286	-.389
4a Sadism – Direct	1.91	0.55											(.643)	.362	-.459	-.397	-.365	-.277	-.373
4b Sadism – Vicarious	2.08	0.8												(.746)	-.307	-.201	-.272	-.200	-.276
5 Honesty-Humility – total	4.47	0.72													(.906)	.809	.754	.750	.769
5a Honesty-Humility – SI	4.19	0.96														(.830)	.476	.483	.524
5b Honesty-Humility – FA	4.56	1.01															(.802)	.377	.422
5c Honesty-Humility – GA	4.31	0.91																(.793)	.473
5d Honesty-Humility – MO	4.81	0.85																	(.820)

Notes. N = 701. Cronbach's alpha estimates of internal consistency are on the diagonal. All correlations differ from zero at $p < .05$ (two-sided). Abbreviations: ASB: Anti-Social Behavior (psychopathy), CA: Callous Affect (psychopathy), ELS: Erratic Life Style (psychopathy), IPM: Interpersonal Manipulation (psychopathy), SI: Sincerity (honesty-humility), FA: Fairness (honesty-humility), GA: Greed-Avoidance (honesty-humility), MO: Modesty (honesty-humility).

Table 4

Descriptive statistics and correlations of the dark tetrad and HEXACO factors from Study 1

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1 Psychopathy	2.27	0.44	(.88)	**.342**	**.523**	**.607**	-620	**-.332**	**-.083**	**-.311**	**-.217**	.028
2 Machiavellianism	3.83	0.58		(.39)	**.317**	**.299**	**-.375**	**-.166**	**-.087**	**-.106**	-.022	**-.095**
3 Narcissism	2.84	0.71			(.85)	**.421**	**-.631**	**-.142**	.074	**-.312**	-.059	.034
4 Sadism	1.98	0.55				(.76)	**-.458**	**-.281**	**-.103**	**-.247**	**-.144**	-.032
5 Honesty-Humility	4.47	0.72					(.91)	**.065**	-.003	**.271**	.057	.025
6 Emotionality	4.06	0.89						(.80)	**-.113**	**-.164**	-.035	**-.083**
7 Extraversion	3.87	0.95							(.83)	**.136**	**.249**	**.128**
8 Agreeableness	3.76	0.82								(.78)	.068	.021
9 Conscientiousness	4.36	0.81									(.80)	.063
10 Openness	4.16	0.87										(.76)

Notes. $N = 701$. Cronbach's alpha estimates of internal consistency are on the diagonal. All bold correlations differ from zero at $p < .05$ (two-sided).

Table 5

Overall univariate meta-analytic relationships between the sadism and the dark triad and honesty-humility

Relation	k	N	$\bar{r}_{RE}$	95% CI (RE)	$\bar{r}_{FE}$	95% CI (FE)	I^2	95% CI (I^2)
sadism-psychopathy	92	43574	.5870	[.5594; .6146]	.6461	[.6106; .6517]	95.7866	[94.4302; 96.9683]
sadism-machiavellianism	82	40126	.4610	[.4399; .4821]	.4754	[.4678; .4829]	86.1975	[81.1220; 90.1687]
sadism-narcissism	83	40859	.2938	[.2703; .3173]	.2985	[.2897; .3073]	85.0414	[79.9280; 89.6419]
sadism-honesty-humility	20	9064	-.4242	[-.4665; -.3819]	-.4249	[-.4418; -.4081]	82.6468	[68.8859; 92.5005]

Notes. k = number of independent effect sizes; N = aggregate sample size; $\bar{r}_{FE}$ = overall effect size for a FE model; $\bar{r}_{RE}$ = overall effect size for a RE model; 95% CI = 95% confidence interval for ρ (FE/RE model) or I^2; I^2 = proportion of variance in observed effect sizes that is due to heterogeneity.

Table 6

Moderator analysis for the meta-analysis

moderators	S-P	S-M	S-N	S-HH
F	.0027 (86)	.0007 (77)	.0071 (78)	.0133 (17)
Age	.1818 (81)	.1319 (74)	.1063 (75)	.0449 (15)
Culture	.0465 (83)	.0099 (75)	.0029 (75)	.0376 (17)
sample type	.0715 (81)	.1425 (73)	.0504 (73)	.1555 (15)
S-test	.1521 (91)	.2070 (81)	.2716 (82)	.4956 (20)
D3/HH-test	.3300 (91)	.1937 (81)	.2278 (82)	-
Grey	.0098 (92)	.0140 (82)	.0101 (83)	.1925 (20)
Year	.0337 (92)	.0003 (82)	.0004 (83)	.0252 (20)

Notes. S-P = sadism-psychopathy-relation; S-M = sadism-machiavellianism-relation; S-N = sadism-narcissism-relation; S-HH = sadism-honesty-humility-relation. F = proportion of females in the sample; age= mean age of the sample; culture = the participants' cultural background; S-test = operationalizations of sadism; D3/HH-test = operationalizations of D3/HH; grey = publication status of the study; year = year of publication. The values in the cells show amount of heterogeneity explained in the sadism-D3/S relation by the moderators (Q-statistic for test of moderators / total Q-statistic). A "-" in a cell indicates no variance in the variable hence no moderator analysis was possible. Studies with NAs were omitted from model fitting. The k that the moderator analysis is based on is in each case shown in parentheses.

Table 7

Meta-analytic subgroup analysis for sadism-operationalizations

S-test	S-P	S-M	S-N	S-HH
CAST	.6016 (29)	.4668 (28)	.3356 (28)	-.4170 (9)
VAST	.5477 (13)	.4557 (10)	.2612 (11)	-.4608 (3)
SSIS	.5688 (30)	.4373 (25)	.2347 (25)	-.3327 (4)
HS	.3028 (2)	.3944 (2)	.3417 (2)	-
ASP	.6719 (14)	.5383 (13)	.3428 (13)	-.5376 (3)
SD4	.5103 (2)	.3702 (2)	.2051 (2)	-
DTAW	.6703 (1)	.2802 (1)	.2102 (1)	-.3903 (1)

Notes. S-P = sadism-psychopathy-relation; S-M = sadism-machiavellianism-relation; S-N = sadism-narcissism-relation; S-HH = sadism-honesty-humility-relation.

Test abbreviations: CAST = Comprehensive Assessment of Sadistic Tendencies; VAST = Varieties of Sadistic Tendencies; SSIS = Short Sadistic Impulse Scale; HS = Hurting Scale; ASP = Revised Assessment of Sadistic Personality; SD3 = Short Dark Triad; SD4 = Short Dark Tetrad; DTAW = Dark Tetrad at work.

The values in the cells show the overall meta-analytic effect sizes (with the corresponding k in parentheses) for the subset of studies that used the sadism-test depicted on the left. All outcomes are based on the random-effects model.

Table 8

Meta-analytic subgroup analysis for D3-operationalizations

P-test	S-P	M-test	S-M	N-test	S-N
SRP	.6217 (11)	MACH	.4223 (13)	NPI	.3197 (12)
SD3	.6386 (53)	SD3	.4614 (48)	SD3	.2677 (48)
SD4	.5103 (2)	SD4	.3702 (2)	SD4	.2051 (2)
DD	.4975 (16)	DD	.5144 (16)	DD	.3551 (16)
DTAW	.6703 (1)	DTAW	.2802 (1)	DTAW	.2102 (1)
LSRP	.4972 (3)			HSNH	.1501 (1)
YPI	.3204 (3)			BPNI	.2821 (1)
PPI	.2510 (1)			NARQ	.4408 (1)
TriPM	.3683 (1)				

Notes. S-P = sadism-psychopathy-relation; S-M = sadism-machiavellianism-relation; S-N = sadism-narcissism-relation.
Test abbreviations: SRP = Self-Report Psychopathy Scales; SD3 = Short Dark Triad; SD4 = Short Dark Tetrad; DD = Dirty
Dozen; DTAW = Dark Tetrad at work; LSRP = Levenson Self-Report Scale; YPI = Youth Psychopathic Trait Inventory; PPI
= Psychopathic Personality Inventory; TriPM = Triarchic Psychopathy Measure; NPI = Narcissistic Personality
Inventory; BNPI = Brief Pathological Narcissism Inventory; NARQ = Narcisistic Admirationand Rivalry Questionnaire.
The values in the cells show the overall meta-analytic effect sizes (with the corresponding *k* in parentheses) for the
subset of studies that used the sadism-test depicted on the left. All outcomes are based on the random-effects model.

Table 9

Overall multivariate meta-analytic relationships between the dark tetrad traits

Relation	$\bar{r}_{RE}$	95% CI (RE)	$\bar{r}_{FE}$	95% CI (FE)	I^2
sadism-psychopathy	.590	[.562; 618]	.580	[.574; .587]	.946
sadism-machiavellianism	.455	[.434; .476]	.450	[.442; .457]	.849
sadism-narcissism	.291	[.268; .314]	.285	[.276; .294]	.833
psychopathy-machiavellianism	.530	[.509; .553]	.535	[.528; .542]	.892
psychopathy-narcissism	.352	[.330; .374]	.350	[.341; .358]	.829
machiavellianism-narcissism	.351	[.324; .374]	.353	[.344; .362]	.898

Notes. k = 81; N = 39708; $\bar{r}_{FE}$ = overall effect size for a FE model; $\bar{r}_{RE}$ = overall effect size for a RE model; 95% CI = 95% confidence interval for ρ (FE/RE model); I^2 = proportion of variance in observed effect sizes that is due to heterogeneity.

Table 10

Overall multivariate meta-analytic relationships between the dark tetrad traits. Effect sizes are corrected for unreliability.

Relation	$\bar{r}_{\text{RE}}$	95% CI (RE)	$\bar{r}_{\text{FE}}$	95% CI (FE)	I^2
sadism-psychopathy	.759	[.727; 791]	.758	[.753; .762]	.980
sadism-machiavellianism	.569	[.544; .595]	.567	[.560; .575]	.920
sadism-narcissism	.369	[.342; .397]	.366	[.357; .375]	.886
psychopathy-machiavellianism	.689	[.660; .718]	.695	[.690; .701]	.964
psychopathy-narcissism	.479	[.448; .511]	.470	[.462; .478]	.930
machiavellianism-narcissism	.450	[.415; .485]	.451	[.443; .459]	.942

Notes. k = 75; *N* = 35265; $\bar{r}_{\text{FE}}$ = overall effect size for a FE model; $\bar{r}_{\text{RE}}$ = overall effect size for a RE model; 95% CI = 95% confidence interval for ρ (FE/RE model); I^2 = proportion of variance in observed effect sizes that is due to heterogeneity.

Table 11

Overall multivariate meta-analytic relationships between the dark tetrad and HEXACO factors

Variable	1	2	3	4	5	6	7	8	9	10
1 Psychopathy	-	.547	.351	.643	-.508	-.235	-.087	-.411	-.306	-.079
2 Machiavellianism		-	.303	.435	-.554	-.107	-.140	-.338	-.143	-.104
3 Narcissism			-	.260	-.377	-.177	.498	-.138	.070	.124
4 Sadism				-	-.429	-.222	-.086	-.290	-.253	-.089
5 Honesty-Humility					-	.057	.030	.366	.242	.073
6 Emotionality						-	-.203	-.080	.016	-.042
7 Extraversion							-	.212	.258	.138
8 Agreeableness								-	.128	.072
9 Conscientiousness									-	.153
10 Openness										-

Notes. k = 11, *N* = 6173.

Table 12

Overall multivariate meta-analytic relationships between the dark tetrad traits and predictive variables.

Relation	$\bar{r}_{FE}$	95% CI (FE)
predictor-sadism	.299	[.278; .321]
predictor-psychopathy	.317	[.297; .338]
predictor-machiavellianism	.252	[.230; .274]
predictor-narcissism	.155	[.132; .177]
sadism-psychopathy	.462	[.444; .481]
sadism-machiavellianism	.400	[.381; .420]
sadism-narcissism	.269	[.248; .291]
psychopathy-machiavellianism	.541	[.525; .557]
psychopathy-narcissism	.322	[.301; .342]
machiavellianism-narcissism	.415	[.396; .434]

Notes. $k = 13$; $N = 7161$; $\bar{r}_{FE}$ = overall effect size for a FE model; 95% CI = 95% confidence interval for ρ (FE model). "Predictor" refers to all external criteria combined, regardless the criterion category.

Figures

Figure 1

Higher order model of the D3 (Model (a)). Additionally, in model (b), HH and a latent correlation between the D3 core and HH are included.
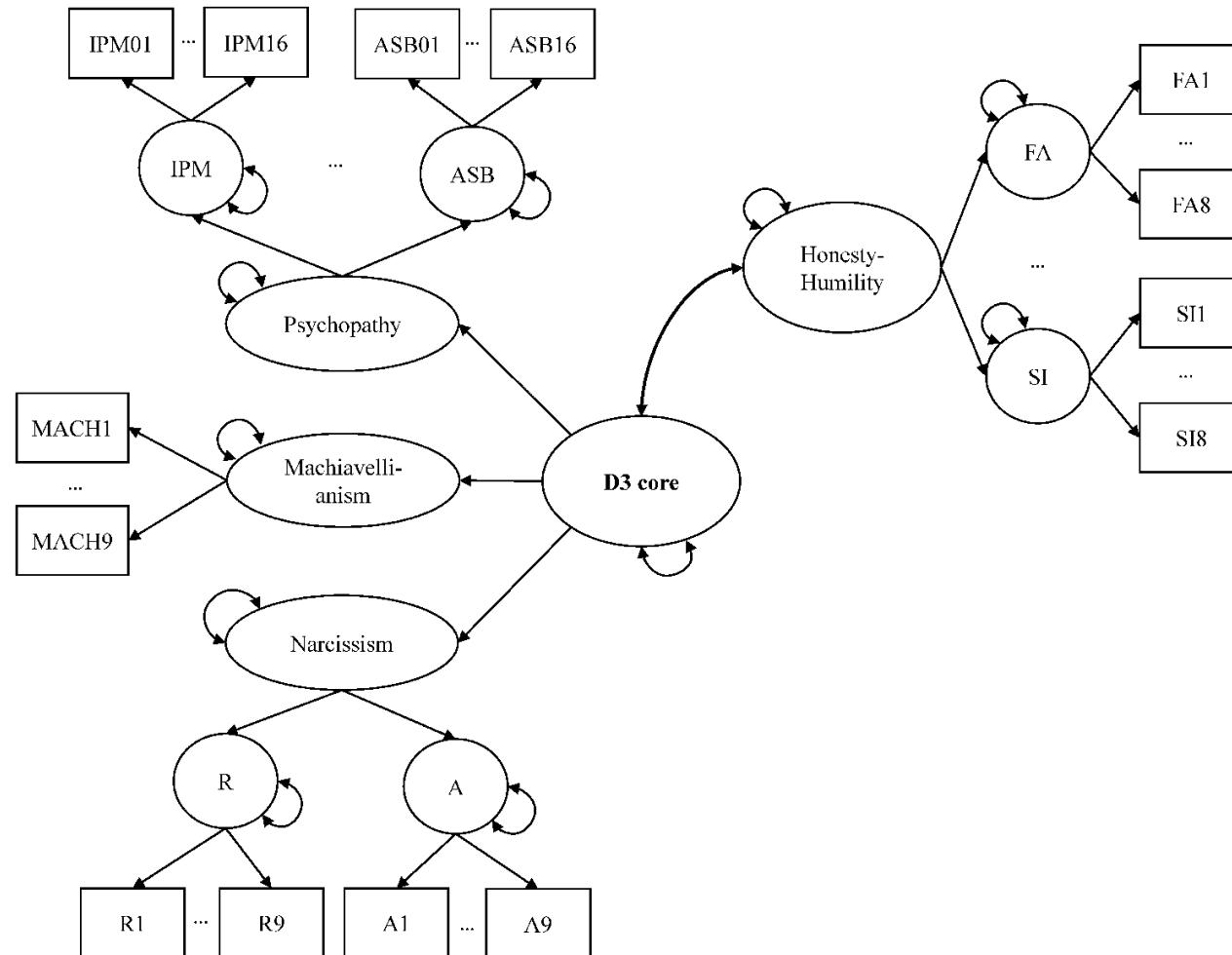
Figure 2

Higher order model of the D4 (Model (c)). Additionally, in model (d), HH and a latent correlation between the D4 core and HH are included.
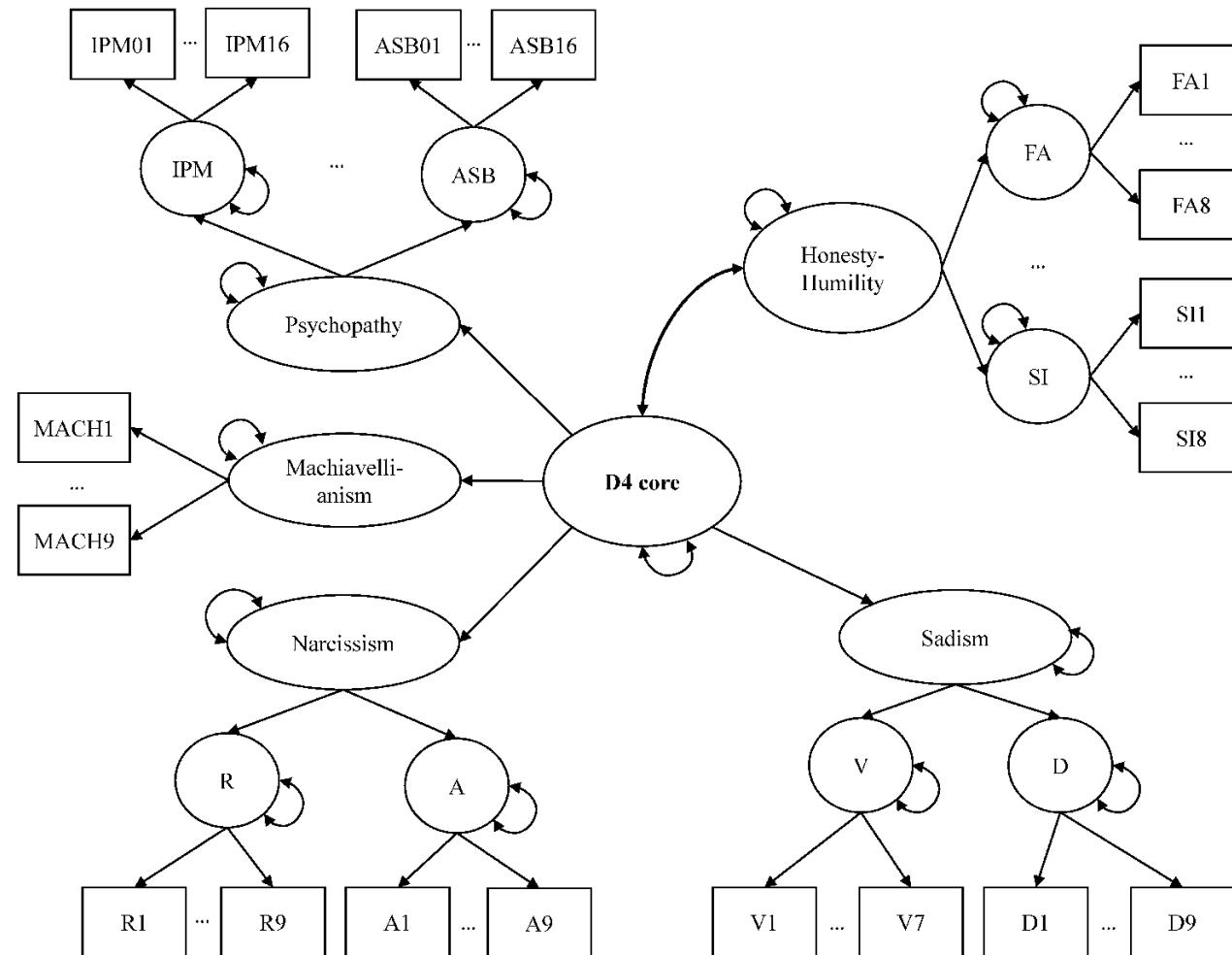
Figure 3

Flow chart for the systematic literature search for the sadism-dark-triad-HH-relations and the search for predictive validity.
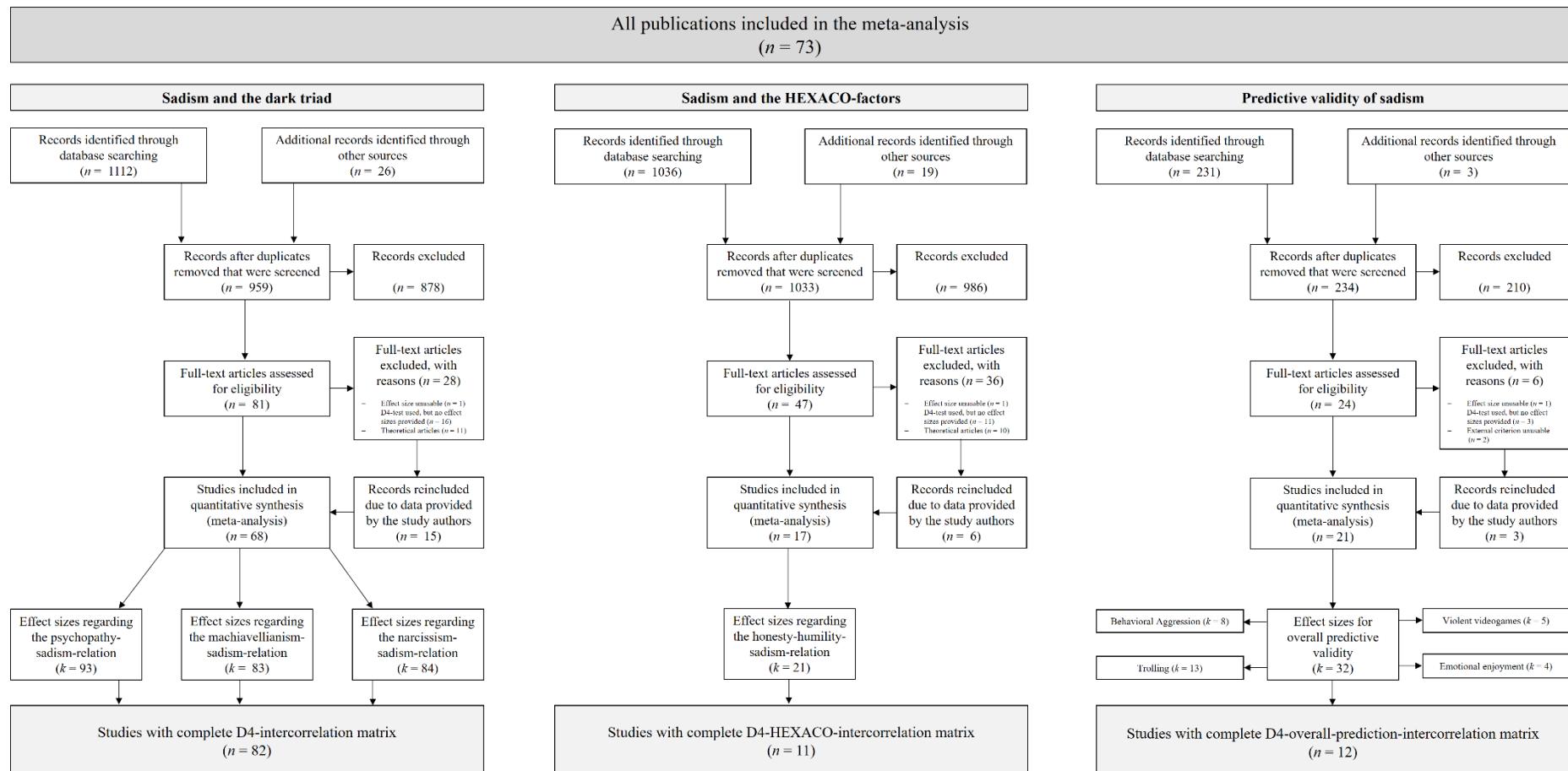
12. Zusammenfassung der Ergebnisse

In diesem Kapitel werden die Kernergebnisse der sieben Einzelstudien noch einmal zusammenfassend dargestellt und zur Beantwortung der Fragestellungen integriert.

1. <u>General Intelligence and the Dark Triad: A Meta-Analysis</u> (Studie 1):
Diese Metaanalyse betraf den Zusammenhang zwischen allgemeiner Intelligenz und den Konstrukten der D3. Während für Psychopathie eine große Zahl an Studien und Effektstärken vorlag, lag die Zahl der Effektstärken für Machiavellismus und Narzissmus im niedrigen zweistelligen Bereich. Während sich für Psychopathie und Intelligenz sehr kleine, aber signifikante Ergebnisse zeigten, waren die Zusammenhänge für Machiavellismus und Narzissmus nicht signifikant. Es fanden sich überdies keine unterschiedlichen Effektmuster für verbale und non-verbale Intelligenz. Es fanden sich keine bedeutsamen Hinweise für das Wirksamwerden eines Publikationsbias. Die Heterogenität der Effektstärken konnte in Teilen durch explorative Meta-Regressionen aufgeklärt werden. Die Ergebnisse zeigen insgesamt überzeugend, dass die D3-Merkmale nicht bedeutsam mit kognitiven Fähigkeiten in Beziehung stehen.

2. <u>Emotional Intelligence and the Dark Triad: A Meta-Analysis</u> (Studie 2):
Der mögliche Zusammenhang zwischen den Merkmalen der dunklen Triade und emotionaler Intelligenz wurde ebenso im Rahmen einer Metaanalyse untersucht. Hierbei wurden die Zusammenhänge zu selbstberichteter EI (trait EI) und mit Leistungstests gemessener EI (ability EI) getrennt betrachtet. Für ability EI lagen nur wenige Studien vor, es zeigten sich durchgängig kleine, negative Beziehungen mit der D3. Auf ability EI-Facettenebene zeigten sich primär Defizite im Emotionswissen und in der Emotionsregulation. Basierend auf einer zweistelligen Zahl an Effektgrößen korrelierte trait EI gering negativ mit Psychopathie, Machiavellismus und vulnerablem Narzissmus, aber gering positiv mit grandiosem Narzissmus und Honesty-Humility. Es fanden sich keine bedeutsamen Hinweise auf einen Publikationsbias, allerdings zeigte sich auch eine geringe Robustheit gegenüber einem möglichen Publikationsbias (fail-safe N) als Folge der insgesamt

geringen Zahl der Effektstärken. Die Ergebnisse weisen insgesamt auf leicht ausgeprägte emotionale Defizite bei D3-Personen hin.

3. <u>The Ability to Lie and its Relations to the Dark Triad and General Intelligence</u> (Studie 3):

   In dieser Studie wurden N = 50 Probanden in einer Laboruntersuchung auf Video aufgenommen, während sie insgesamt drei erlebnis- und nicht-erlebnisbasierte kurze Geschichten berichteten. Ein Raterteam von N = 13 Personen beurteilte alle Videos (als Laien) in Bezug auf ihre Glaubhaftigkeit. Ein daraus abgeleiteter „Lügenfähigkeits-Score" korreliert nicht wie (teils) prognostiziert mit den D3 und allgemeiner Intelligenz. Ebenso fanden sich keine Belege für prognostizierte Interaktionseffekte für Psychopathie und Machiavellismus in Verbindung mit allgemeiner Intelligenz in Bezug auf Lügenfähigkeit. Es fand sich aber eine nicht-prognostizierte moderat-positive Beziehung zwischen Lügenfähigkeit und der Antisozialitätsfacette der Psychopathie. Insgesamt unterstützen die Ergebnisse nicht die Annahme, dass D3-Personen effektive Lügner wären.

4. <u>The Dark Triad and Social Effectiveness: A Study on Complex Social Tasks and the Prisoner's Dilemma</u> (Studie 4):

   Diese Studie behandelte einerseits das Verhalten von D3-Personen im Gefangenendilemma sowie dessen Effektivität. Darüber hinaus wurde die Leistungsfähigkeit in sozial eingebetteten kognitiven Aufgaben untersucht. Es zeigten sich dabei leichte Hinweise für eine Tendenz zu unkooperativem Verhalten, allerdings kovariierte die D3 nicht mit Erfolg (Punktzahl) im Gefangenendilemma. Auch die prognostizierten Interaktionseffekte für Psychopathie und Machiavellismus in Verbindung mit Intelligenz in Bezug auf Punktegewinn zeigten sich nicht. Psychopathie, Machiavellismus und Narzissmus standen nicht in Beziehung mit der erreichten Punktzahl der komplexen sozialen Aufgaben. Insgesamt weisen die Ergebnisse nicht auf eine besondere soziale Adaptivität der D3 hin.

5. <u>Searching for Successful Psychopathy: A Typological Approach</u> (Studie 5):

   In dieser Studie wurden in einer moderat großen Stichprobe (N = 617) Psychopathie-Typen basierend auf dem four-factor-model identifiziert und anschließend in Bezug auf Unterschiede in positiv konnotierten psychologischen Variablen (z.B. Intelligenz, Lebenszufriedenheit) und selbstberichteten Kriterien des

sozialen, beruflichen und akademischen Erfolgs untersucht. Nach der Identifikation von fünf abgrenzbaren Psychopathie-Typen fanden sich kaum Unterschiede zwischen diesen Typen. Insgesamt zeigten die Ergebnisse, dass eine Untersuchung Psychopathie-Typen wenig erfolgsversprechend ist bezüglich psychosozialer Erfolgskriterien.

6. <u>Adaptivität der dunklen Triade im Arbeits- und Organisationskontext: Ein systematischer Review</u> (Studie 6):

Die Studie fasst im Rahmen eines systematischen Literaturreviews die Empirie zur Bedeutung und Adaptivität der D3 im Arbeitsleben zusammen. Es wurden *n* = 42 Untersuchungen im Review berücksichtigt und auch hinsichtlich der Studienqualität beurteilt. Die Befundlage legt eher nahe, dass D3-Personen schädlich für den Arbeitskontext sind und selbst auch nicht beruflich erfolgreicher sind.

7. <u>Should there be a Dark Tetrad: A Meta-Analytic Review and Analysis of Latent Structure and Consequences for Dark Personality Research</u> (Studie 7):

Im Rahmen einer Online-Studie (*N* = 701) wurden bei Personen die Merkmale der D4 sowie HH erhoben, um die konzeptuell angenommene Struktur der D3 und der D4 empirisch zu prüfen und um die Beziehung des Higher-Order-Faktor der D3/D4 zu HH zu testen. Die theoretisch angenommene Struktur konnte sowohl bei der D3 als auch D4 bestätigt werden und es zeigten sich sehr hohe Korrelationen zwischen HH und einem D3-Kern und auch einem D4-Kern. Im Rahmen eines metaanalytischen Reviews wurden die Zusammenhänge von Sadismus bezüglich der dunklen Triade und Honesty-Humility untersucht. Es fanden sich durchweg moderate bis hohe, positive Zusammenhänge zur D3 und moderate, negative Zusammenhänge zu HH. Zusammenhänge mit P fielen überraschend hoch aus. Es fanden sich keine Hinweise für einen Publikationsbias und Heterogenität in den Effektstärken konnte durch Meta-Regressions- und Subgruppenanalysen nur teilweise erklärt werden. Die Interpretation und Verallgemeinerbarkeit der Ergebnisse ist in Teilen nur beschränkt möglich – begründet durch die Auswahl der Primärstudien und der verwendeten meta-analytischen Methodologie. Eine metaanalytische Strukturprüfung zeigte einen zumindest akzeptablen Fit des D4-Models. S zeigte sehr geringe inkrementelle Validität über die D3 hinaus bei der Vorhersage von grausamen Verhaltensweisen. Die Ergebnisse zur Aufnahme von Sadismus in eine D4 waren insgesamt inkonsistent.

12.1 Beantwortung Fragestellung 1 – Fähigkeiten

Fragestellung 1 behandelt die Beziehungen der D3 zu kognitiven und emotionalen Fähigkeiten als eine mögliche Grundlage für das (Nicht-)Erreichen von anderen Erfolgskriterien. Die beiden durchgeführten Metaanalysen zur allgemeinen und emotionalen Intelligenz zeigen, dass (a) M und N unkorreliert sind mit allgemeiner Intelligenz, (b) P schwach negativ korreliert ist mit allgemeiner Intelligenz, (c) die D3 schwach negativ mit ability EI korreliert ist, (d) P und M schwach negativ korreliert sind mit trait EI und (e) N schwach positiv korreliert ist mit trait EI. Während für P vergleichsweise viel Empirie vorliegt, existieren bzgl. M und N nur wenige Studien. Aufgrund der stellenweise geringen Qualität der Testverfahren, die zur Messung der interessierenden Konstrukte eingesetzt wurden, sind einige Ergebnisse unter Vorbehalt zu interpretieren (vor allem M und ability EI). Ebenfalls zu berücksichtigen ist die Debatte um die Messbarkeit von Fähigkeitskonstrukten durch den Selbstbericht im Falle von trait EI (Wilhelm, 2005). Insgesamt deuten die Ergebnisse darauf hin, dass die D3 nicht oder nur schwach negativ mit basalen Fähigkeiten, die zum Durchführen von *manchen* erfolgreichen Verhaltensweisen dienlich erscheinen, kovariiert.

12.2 Beantwortung Fragestellung 2 – Erfolg

Studien 3 bis 6 bezogen sich auf eine breite Auswahl an Erfolgskriterien und erfolgreichem Verhalten. Die ausgewählten Außenkriterien könnten mit Einschränkungen teilweise dem Fähigkeitsbereich zugeordnet werden (Lügenfähigkeit in Studie 3, Fähigkeit komplexe soziale Aufgaben zu lösen in Studie 4), jedoch erscheinen die zum Einsatz gekommenen Operationalisierungen für eine solche Zuordnung nicht hinreichend validiert. Die Studienergebnisse weisen insgesamt darauf hin, dass die Merkmale der D3 überwiegend unkorreliert sind mit den ausgewählten Erfolgskriterien – es zeigen sich auch keine bedeutsamen Unterschiede für jeweils Psychopathie, Machiavellismus und Narzissmus. Für die moderated-expression-Hypothese der erfolgreichen Psychopathie, die in dieser Arbeit auch auf Machiavellismus übertragen wurde, fanden sich keinerlei Belege.

12.3 Beantwortung Fragestellung 3 – Konzepte

Fragestellung 3 bezieht sich auf die Legitimation der D3-Konzeptualisierung selbst. Im Rahmen von Studie 7 wurden konzeptuelle Annahmen der D3 (und der D4)

im Detail erläutert und empirisch geprüft. Es zeigte sich, dass durch einen konzeptuellen Vergleich eine Tendenz zur Indifferenz als gemeinsames „erklärendes" Kernmerkmal identifiziert werden kann – sowohl für die D3 als auch die D4. Angemessene Korrelationen zwischen der D3 und Sadismus konnten gezeigt werden und die konzeptuell angenommene Struktur der D4 wurde teils bestätigt.

Als konzeptuell nicht unproblematisch erweist sich dabei der Befund, dass die empirischen Überlappungen zwischen den D4-Merkmalen durch Honesty-Humility erklärt werden können, was sich konzeptuell nicht als D3-/D4-Kern identifizieren lässt. Im Hinblick auf (a) die wachsende Bedeutung von anderen sozial-aversiven Persönlichkeitsmerkmalen, (b) die gering elaborierte Begründungsfigur, weshalb es eine dunkle Triade als Überbau-Begriff für drei Persönlichkeitsmerkmale geben sollte, (c) die sehr unterschiedliche Qualität der Operationalisierungen der D4 und die ungelöste Frage der Kontrolle von sozial erwünschtem Antwortverhalten und (d) die Befunde aus der Primärstudie in Studie 7 bzgl. der sehr hohen Zusammenhänge des D3-Kerns mit HH (nicht verschieden von $r = 1$), wird hier empfohlen, dass die D3 als übergeordneter Konzeptbegriff für die drei Merkmale Psychopathie, Machiavellismus und Narzissmus nicht weiter verwendet werden sollte. Trotz der Befunde aus Studie 7 erscheint eine Integration der D3 mit Honesty-Humility als wenig zielführend, da geringe HH kaum als konzeptueller Kern einer dunklen Triade argumentierbar ist. Stattdessen sollte Forschung zu diesen Merkmalen auf die einzelnen Merkmale fokussiert werden, wobei jedoch eine konzeptuelle Ausdifferenzierung (empirische Überlappung P und S, konzeptuelle Abgrenzbarkeit aller Merkmale voneinander) von Vorteil erscheint. Eine eher radikale Alternative zur Integration wäre in Anbetracht der Befunde ein vollständiges Vernachlässigen der D3 und ein Fokus auf HH: da geringe HH in Anbetracht der vorliegenden Befunde und denen aus der sonstigen Literatur die *empirischen* Überlappungen zumindest der D3-Merkmale angemessen erklären kann, könnte man ebenso im Sinne der Sparsamkeit nur noch HH (und ggfs. Verträglichkeit) im Kontext von sozial-averivem Verhalten heranziehen.

Aussagen zu den Beziehungen der einzelnen Merkmale P, M und N zu interessierenden externen Variablen (hier: Fähigkeiten und Erfolgskriterien) können ungeachtet weiterhin interpretiert werden. Gleichwohl, die Schlussfolgerungen aus Fragestellung 3 delegitimieren retrospektiv durchaus einen bedeutsamen Teil der anfänglichen Begründungsfigur für diese Arbeit.

13. Allgemeine Diskussion

Abschließend sollen die Gesamtergebnisse der vorliegenden Arbeit im Kontext der Differentiellen Psychologie diskutiert und in die Literatur eingeordnet werden. Hierbei sind zunächst Limitationen der Einzelstudien und der Arbeit im Ganzen zu erläutern. Anschließend werden die Ergebnisse mit Blick auf weitere D3-Forschung und die Persönlichkeitspsychologie im Allgemeinen beurteilt.

13.1 Limitationen der Dissertation

13.1.1 Konzeptuelle Probleme

Ein Kernproblem ist, dass unklar bleibt, was die D3 eigentlich sein „soll". Wie die meisten Konstrukte in der Psychologie ist die D3 ist ein Merkmalsverbund, der am ehesten als „open concept" (siehe Meehl, 1986) bezeichnet werden kann: es existiert kein gemeinsames, zeitstabiles Verständnis eines Merkmals und jegliche Autoren können frei zur Konzeptdefinition „beitragen". Mit Aufkommen der dunklen Triade wurde kein Persönlichkeitsmodell von sozial-aversivem Verhalten aufgestellt, bei welchem konzeptuell und ggfs. auch empirisch verdeutlicht wurde (a) über welchen Verhaltens- und Erlebensbereich Aussagen getroffen werden sollen (was ist sozial-aversiv?), (b) warum welche Merkmale in dieses Modell aufgenommen werden und welche nicht und (c) welche möglicherweise kausalen Beziehungen zwischen den Merkmalen bestehen und wie dadurch relevantes Verhalten erklärt werden kann. Die Ursache für eine wissenschaftliche Auseinandersetzung mit der D3 scheint weniger im Elaborationsgrad der ursprünglichen Begründungsfigur zu liegen, sondern vielmehr in einem stetig wachsenden Interesse am eigentlichen Forschungsgegenstand D3 durch andere Wissenschaftler. Marcus und Zeigler-Hill (2015) nahmen diese konzeptuelle Unschärfe gar zum Anlass ein „big tent of dark personality traits" (S. 435) jenseits der D4 aufzuspannen.

Ebenfalls problematisch für die D3 ist *construct creep* – die fortschreitende konzeptuelle Erweiterung von Merkmalen über die ursprüngliche Definition hinaus (siehe Haslam, 2016). In dem Bestreben einzelne D3-Merkmale umfassender zu konzeptualisieren, wurden sie teils so stark ausgeweitet, dass die D3-Merkmale „im Revier der anderen jagen". Deutlich wird dies beispielsweise an der Subskala *Machiavellian Egocentricity* des P-Tests PPI-R, der narzissmuslastigen Psychopathie-

Facette 1 oder der Psychopathie-artigen Rivalry-Subskala des N-Tests NARQ. Zwar sind konzeptuelle Erweiterung oder Neuspezifikationen von Persönlichkeitsmerkmalen weder ungewöhnlich noch per se problematisch – allerdings wird in diesem Fall die Spezifikation eines hierarchisch übergeordneten D3-Modells dadurch nicht erleichtert. Ähnliches gilt für die *jangle fallacy* (Kelley, 1927): verschiedene Bezeichnungen für inhaltlich gleichartige Phänomene. Dies scheint primär für die Überlappungen von Machiavellismus und Psychopathie zuzutreffen – beide Merkmale sind konzeptuell schwierig und empirisch (zumindest im Selbstbericht) kaum voneinander abgrenzbar (siehe Kapitel 2.2.3). Ebenso die *jingle fallacy* (Thorndike, 1904): gleiche Bezeichnungen für unterschiedliche psychologische Merkmale. Zwar sind die verschiedenen Konzepte der Psychopathie, des Machiavellismus und des Narzissmus (siehe Kapitel 2.2.1 bis 2.2.3) zum überwiegenden Teil inhaltlich recht homogen – trotzdem sind bedeutsame Differenzen vorhanden: z.B. ist das M-Konzept von Jones und Paulhus (2011) im Vergleich zum Konzept von Christie und Geis (1970) deutlich erweitert, die Frage, ob Kriminalität zu P gehört, wird unterschiedlich beantwortet und die Bezeichnung Narzissmus kann sich sowohl auf grandiosen, aber auch (sehr verschiedenen) pathologischen Narzissmus beziehen.

Watts et al. (2017) plädieren für einen verstärkten Fokus auf die von ihnen angenommene „multidimensionality" (S. 963) der einzelnen D3-Merkmale und der Untersuchung der jeweiligen P-, M- und N-Facetten (siehe dazu auch Miller et al., 2019) – sie deuten damit indirekt auch ein Abwendung vom D3-Überbau an und eine Refokussierung auf einzelne dunkle Merkmale. Die Autoren kommen zu einem Schluss, der vom Autor dieser Arbeit geteil wird: „ The world of dark traits appears not to sort itself into three distinct and clearly defined constructs, or at least the three constructs as operationalized by standard DT measures." (S. 965).

Obwohl im Zuge dieser Arbeit immer wieder implizit eine Präferenz für deduktiv-rationales Vorgehen bei der Testkonstruktion und Merkmalskonzeptualisierung deutlich werden mag, soll dies nicht bedeuten, dass induktives Vorgehen abgelehnt wird. Bei neuen Phänomenbereichen ohne bestehende Modelle sind erste Merkmalskonzeptialisierungen „inductive summaries" bestehender Daten (Conbach & Meehl, 1995; p. 292). Induktion ist ein Standardvorgehen in der Psychologie und spielte beispielsweise bei der Big-5-Konzeptualsierung im Rahmen des lexikalischen Ansatzes die zentrale Rolle (siehe Goldberg, 1990), sowie dem daran

angelehnten Fünf-Faktoren-Modell (Costa & McCrae, 1985). Auch der D3-Überbegriff ist das Ergebnis von induktivem Vorgehen. Problematisch ist nicht der Versuch eine Gruppe von Merkmalen zusammenzustellen, die einen wohldefinierten Verhaltensbereich akkurat beschreiben und erklären. Vielmehr ist das Problem der D3, dass es weder einen wohldefinierten Verhaltensbereich gibt, noch nachvollziehbare Ein- und Ausschlusskriterien für die einzubeziehenden Merkmale. Nachträgliche Versuche der Schaffung eines theoretischen Überbaus sind dabei nicht zielführend.

13.1.2 Probleme der Messung

Die Interpretierbarkeit von Studienergebnissen ist stets abhängig von der Güte der Operationalisierungen der interessierenden Merkmale. Dies betrifft in dieser Arbeit natürlich sowohl die Merkmale der dunklen Triade selbst als auch die untersuchten Außenkriterien. Allgemein problematisch für die Messung der D3 ist die große Menge an zur Verfügung stehenden Testverfahren, wodurch die Gefahr eines *nominalistic fallacy* (Cliff, 1983) verstärkt gegeben zu sein scheint: Allein die Namensgebung für ein Merkmal und die Schaffung einer dazugehörigen manifesten Variable gewährleitet noch nicht, dass die latent angenommene Variable auch tatsächlich gemessen wird (siehe dazu auch McGrath, 2005). Watts et al. (2017) beklagen bzgl. der D3 gar eine „'fallacy of reification' […] in which measures are implicitly equated with their corresponding constructs." (S. 965).

Die Qualität von D3-Testverfahren ist heterogen (siehe Zitationen der hiesigen Testverfahren oder Paulhus & Jones, 2015) – umfassend validierten und reliablen Testverfahren wie die PCL-R oder dem NARQ stehen eine hohe Zahl an Verfahren gegenüber mit teils geringer Reliabilität (SRP, LSRP, MACH-IV, MACH-VI, Dirty Dozen, SD3) unklaren Befunden zur Konstruktvalidität (MACH-IV, NPI, PPI-R), mangelnden Belegen zur Kriteriumsvalidität (MACH-VI, PNI) und unzureichender Inhaltsvalidität (MACH-IV, MACH-VI, Dirty Dozen). Kaum ein D3-Verfahren ist gut normiert. Diese Probleme werden im Hinblick auf die „Konkurrenz" durch HH umso deutlicher: Zwar existieren für das HEXACO-Modell nach Wissen des Autors nur wenige publizierte Alternativen zum HEXACO-PI-R (z.B. *IPIP-HEXACO*; Ashton et al., 2007 oder *HEXACO-SPI*; De Vries & Born, 2013) – was letztlich aber für die Konzeptualisierung und Messung von HH von Vorteil ist. Der HEXACO-PI-R ist ein reliables und extensiv validiertes Verfahren (siehe etwa Moshagen et al., 2019), ist das quasi konkurrenzlose

Verfahren zur HH-Messung und es gibt keine divergierenden Konzeptualisierung von HH. Dieser hohe Grad an Zentralisierung bezüglich Konzept und Messung kann von der D3 nicht in Anspruch genommen werden, ermöglicht eine flächendeckende Interpretation von HH-Befunden, geht aber auch mit dem Risiko eines Mono-Operationalisierungs-Bias einher.

Auch allgemeine Probleme der Messung sind zu diskutieren. Als grundsätzliche Herausforderung in der Messung von psychologischen Merkmalen gilt das *Faking*, die Tendenz zur inakkuraten Selbstdarstellung (für eine Übersicht an Faking-Definitionen siehe MacCann et al., 2012). Da besonders für P und M eine Neigung zur Manipulation und Täuschung konzeptuell angenommen wird, die sich auch empirisch regelhaft zeigt (Jones & Paulhus, 2017), steht grundsätzlich infrage, ob D3-Personen im Selbstbericht überhaupt zu trauen ist. Zwar kann in einem Forschungskontext mit angemessener Instruktion (Freiwilligkeit, Anonymität, keine Vorteile durch bestimmte Selbstpräsentationen) der Probanden durchaus davon ausgegangen werden, dass Faking keine besondere Rolle bei der Beantwortung der Items gespielt haben dürfte, eine Restunsicherheit bleibt jedoch. Gleichzeitig wird hier ein Paradoxon deutlich: Wenn Personen sich im Selbstbericht als manipulative Lügner beschreiben, wiederspricht das zum Teil ihren selbstberichteten Verhaltensdispositionen. Gleichzeitig kann bei niedrigen D3-Werten nicht von einer niedrigen D3-Ausprägung ausgegangen werden, da sich tatsächliche D3-Personen im Selbstbericht möglicherweise grundsätzlich nicht als sozial-aversiv darstellen. Metaanalytische Befunde zum Zusammenhang von selbstberichteter P und Faking sind hier wenig erhellend (Ray et al., 2013): Es finden sich schwach negative Beziehungen zu Faking good und fast moderat positive Beziehungen mit Faking bad. Die Autoren interpretieren die Befunde als Beleg für ein Fehlen von Validitätseinschränkungen bei der Messung von selbstberichteter Psychopathie – während die Ergebnisse eigentlich nur zeigen, dass Personen, die sich selbst als psychopathisch beschreiben, weniger zu sozial erwünschtem Antwortverhalten neigen (was angesichts der sozial wenig erwünschten Iteminhalte für P nicht überraschen sollte; Beispielitem für den SRP: „I rarely follow the rules." Beispielitem für das *Balanced Inventory of Desirable Responding* (Paulhus, 1991): „I sometimes drive faster than the speed limit." [rekodiert]). Gleichzeitig ist anzunehmen, dass psychopathische Personen, die sich aber nicht als psychopathisch beschreiben, vermutlich eher zu sozial erwünschtem Antwortverhalten neigen würden.

Ein grundsätzliches Fehlen von Faking-Verhalten bei psychopathischen Personen, lässt sich nicht ableiten. Der Versuch Faking durch den Einsatz von Kontrollskalen (z.B. die *Unaufrichtige Beantwortung*-Skala des PPI-R) kann als wenig zielführend betrachtet werden (siehe dazu Piedmont et al., 2000). Zumindest für P wird eine mangelnde Selbsteinsicht in eigene Verhaltens- und Erlebensmuster erwartet (Lilienfeld & Fowler, 2006) und damit einhergehend eine mangelnde Möglichkeit eigene psychopathische Eigenschaften korrekt wahrzunehmen und daraufhin im Selbstbericht widerzugeben. Ob Persönlichkeit (und welche Persönlichkeitsbereiche) besser durch einen selbst oder andere beurteilt werden kann, ist allgemein vielfach (Vazire, 2010) und für die D3 im Speziellen (Lämmle et al., 2019) diskutiert worden. Es zeigt sich, dass Selbst- und Fremdbericht (anders als sonst bei anderen Persönlichkeitsmerkmalen) nur bei Narzissmus und nicht bei Psychopathie und Machiavellismus hoch korrelieren (Lämmle et al., 2019).

Problematisch ist der in der D3-Forschung durch Selbstberichte bestehende Mono-Methoden-Bias. Zwar wird als Fremdbericht die PCL-R regelmäßig in Forschung und Praxis eingesetzt (dessen Stellenwert wiederum mit dem Risiko der Mono-Operationalisierungs-Bias einhergeht), jedoch sind Selbstberichte die Standard-Erhebungsmethode (siehe dazu auch Ziegler et al., 2013). Nach Kenntnis des Autors existieren keine veröffentlichten Testverfahren, die etwa in der Tradition von *Objektiven Persönlichkeitstest* oder *Situational Judgement Tests* stehen.

Nicht nur die Qualität der Messung der D3, sondern auch die Angemessenheit der Operationalisierungen bezüglich interessierenden Außenkriterien determiniert die Gültigkeit von Schlussfolgerungen zu D3-Beziehungen. Dies betrifft in dieser Arbeit (a) allgemeine Intelligenz, (b) emotionale/soziale Intelligenz und (c) die unterschiedlichen Erfolgskriterien (Lügenfähigkeit, domänenspezifischer Erfolg, Kooperation). Während allgemeine Intelligenz allgemein gut messbar ist, sind Tests zur Messung von emotionaler und sozialer Intelligenz umstritten (siehe Pérez et al., 2005; Weis & Süß, 2005). In der Vergangenheit wurde von verschieden Autoren kritisch diskutiert, dass in psychologischer Forschung zu selten „echtes" Verhalten gemessen würde (Back, 2020; Baumeister et al., 2007). In dieser Arbeit war es ausdrücklich gewünscht dem Rechnung zu tragen und möglichst wenige Selbstberichte zu verwenden (besonders in Studie 3, aber auch Studie 4, teils in Studie 5). Diese neu konzipierten Messmethoden wurden bereits in den Studien selbst kritisch diskutiert und die Messung von Verhalten ohne

den Selbstbericht geht allgemein sowohl mit Vorteilen als auch Nachteilen einher (siehe dazu Furr, 2009).

13.1.3 Probleme der Metaanalyse

Die vorliegende Arbeit wird dominiert von Metaanalysen. Daher kann es nicht verwundern, dass sowohl allgemeine Probleme der Metaanalyse als auch Spezifika der drei konkreten Metaanalysen auftauchten. Während allgemeine Probleme hier nicht diskutiert werden sollen (siehe dazu etwa Kapitel 43 in Borenstein et al., 2009), soll nur auf einige spezifische Probleme eingegangen werden. Das *file-drawer-Problem* wird in den einzelnen Metaanalysen extensiv adressiert und ein Publikationsbias erscheint insgesamt unwahrscheinlich. Dem *apples-and-oranges-Problem* wird durch vergleichsweise feingliedrige Subgruppen- und Subfacetten-Analysen begegnet, da die konzeptuelle Heterogenität der einbezogenen Messinstrumente eine Aggregation von Effektgrößen in einigen Bereichen fragwürdig erscheinen ließe. Problematischer ist die teils geringe Studienzahl, welche das konservativere fixed-effect-Modell zur Effektaggregation zur Methode der Wahl machen. Ebenso können Probleme der *range restriction* nicht ausgeschlossen werden (Hunter et al., 2006). Das *garbage-in-garbage-out-Problem* scheint in den hiesigen Metaanalysen von hervorgehobener Bedeutung zu sein: In einfachen Korrelationsstudien (überwiegender Teil der untersuchten Primärstudien) ist beinahe der einzige Qualitätsindikator die verwendeten Testverfahren. Wie oben bereits ausgiebig beschreiben, sind einige D3-Testverfahren von fraglicher Validität. Die Festsetzung eines Ausschlusskriteriums in Form eines transparent argumentierten „Test-Qualitäts-Cut-Offs" als Ergebnis einer kritischen Würdigung der jeweiligen Gütekriterien der auftauchenden Testverfahren ist ein aus Sicht des Autors empfehlenswertes, aber eben auch teils subjektives Vorgehen, wenn es um einen Abwägungsprozess von Kennwerten einzelnen Gütekriterien geht. Zwar wurden im Rahmen der Metaanalysen auch Studien mit unzureichenden D3-Tests ausgeschlossen, allerdings waren diese Ausschlusskriterien vergleichsweise liberal (Ausschluss z.B. nur von Studien mit Psychopathen-Klassifikation basierend auf dem *Minnesota Multiphasic Personality Inventory* (MMPI, Hathaway & Meehl, 1951), dem *Millon Adolescent Clinical Inventory* (MACI; Millon, 1993), klinischen Diagnosen ohne Angaben des Diagnose-Verfahrens oder „Soziopathie"-Diagnosen als Konsequenz einer Diskrepanz im Verbal- zum Handlungs-IQ). Im Zweifel wurden aber Studien mit Tests

eingeschlossen, die die D3-Merkmale wenigstens im Namen trugen (siehe nominalistic fallacy), da die Studienzahl zur Effektaggregation ansonsten zu klein geworden wäre. Gleichwohl: alle Datensätze sind frei verfügbar und können auch instrumentspezifisch ausgewertet werden.

Von allen metaanalytischen Gesamteffekten dieser Arbeit, ist nach Einschätzung des Autors (unter der Beachtung der Parameter Studienzahl, Diversität der Stichproben, Gesamt-N, Qualität der eingesetzten Operationalisierungen, Diversität der eingesetzten Operationalisierungen) ein einziger Gesamteffekt kaum anzweifelbar: der sehr kleine negative Effekt zwischen Psychopathie und allgemeiner Intelligenz.

13.1.4 Weitere Probleme

In Bezug auf D3-Beziehungen zu relevanten Fähigkeitsmerkmalen und Erfolgskriterien finden sich in dieser Arbeit überwiegend nicht-signifikante und wenn signifikant dann kleine Effekte. Allerdings stellte bereits Mischel (1968) fest, dass Persönlichkeit in aller Regel selten mit Außenkriterien (die nicht durch Fragebögen erfasst werden) über $r = .30$ korreliert. Daher sind große Effekte auch kaum zu erwarten. Des Weiteren erlaubt die bloße Abwesenheit von signifikanten Effekten in Bezug auf Fähigkeiten und Erfolgskriterien in dieser Arbeit (und auch anderen zitierten) nicht den Schluss, dass solche Effekte (bezogen auf alle möglichen Erfolgskriterien) nicht existieren. Im namentlich treffenden Papier „Absence of evidence is not evidence of absence" von Altman und Bland (1995) wird dies mit mangelnder Power in Primärstudien in Verbindung gebracht: Eine Begründungsfigur, die durchaus auf einige Studien dieser Arbeit zutrifft. Stichprobenumfangsplanungen für Untersuchungen, bei denen kleine Effekte erwartet werden ($r = .2$) und gerichtet getestet wird (mit $\alpha = .05$ und $1-\beta = .80$) ergeben eine anzuvisierende Stichprobengröße von $n = 150$ – weder Studie 3 noch 4 erreichen diese Größenordnung. Nichtsdestotrotz ist die vorliegende Arbeit methodisch und inhaltlich vergleichsweise breit aufgestellt, um mögliche Beziehungen zu Fähigkeiten und Erfolgskriterien aufzudecken. Empirisch in dieser Arbeit und in den verschiedenen Literaturreviews finden sich kaum Hinweise auf positive Zusammenhänge, sondern wenn überhaupt negative Beziehungen – während von Beginn an schon konzeptuell solche Beziehungen unwahrscheinlich erschienen. Daraus kann zwar nicht sicher abgeleitet werden, dass D3-Personen per se nicht zum erfolgreichen Handeln tendieren, denn kritisch-rationalistisch betrachtet ist

ein solcher generalisierender, induktiver Schluss stets mit Unsicherheiten behaftet –
trotzdem: Die Annahme von einer adaptiven D3 (Kapitel 2.4.2) erscheint nun weiterhin
unwahrscheinlich. Ähnlich der Analogie einer „kosmischen Teekanne" (Russel, 1952):
Die Beweislast lag von Beginn an und liegt nach dieser Arbeit umso mehr bei den
Vertretern der Erfolgsannahmen. Derweil sollte nicht (mehr) von besonderen
Fähigkeiten und erfolgreichen Verhaltensweisen ausgegangen werden.

13.2 Einordnung der Ergebnisse in die Literatur

   D3-Personen tendieren in Teilen zu emotionalen und sehr leichten kognitiven
Defiziten. Konzeptuell war dies überwiegend zu erwarten und zeigt, dass D3-Personen
eher nicht die Voraussetzungen erfüllen, um ihren sozial-aversiven Verhaltensstil auch
effektiv und zielführend umsetzen zu können. Dies zeigt sich auch in den Studien 3 bis 6
in welchen die D3 überwiegend nicht mit Kriterien des sozialen, beruflichen oder
akademischen Erfolgs oder erfolgreichem manipulativem Verhalten in Beziehung stand.
Die Annahmen, dass D3-Personen zum erfolgreichen Verhalten tendieren (Kapitel 2.4.1)
werden in dieser Arbeit nicht bestätigt. Es ist aber durchaus bemerkenswert, dass die in
dieser Arbeit auftauchenden Hinweise der Maladaptivität nicht noch deutlicher
ausgefallen sind (vgl. theoriegeleitete Erwartung in Kapitel 2.4.2). Dass eine Tendenz
zur interpersonellen Ausbeutung des Umfelds nicht automatisch mit gravierenden
Funktionseinschränkungen (als Reaktion dieses Umfelds) einhergeht, kann
gegebenenfalls noch dadurch erklärt werden, dass die D3 in den Primärstudien dieser
Arbeit nicht „in voller Breite" (range restriction) untersucht wurde. Die extremen
Verhaltensweisen der D3 (und ggfs. vollzogene soziale Sanktionen des Umfelds) würden
damit von den Studien nicht erfasst und tatsächliche Effekte könnten dadurch
unterschätzt worden sein – gleichwohl unterstützen die Ergebnisse eher die Annahme
von Paulhus und Williams (2002), die konstatieren, dass Persönlichkeitsmerkmale
universell weder adaptiv noch maladaptiv seien (wobei in den Studien dieser Arbeit
auch keine kontextspezifische Adaptivität oder Maladaptivität deutlich wurde).

   Kausale Erklärungen für die z.T. leicht negativen Zusammenhänge der D3-
Merkmale mit Fähigkeiten und Erfolgskriterien sind eher schwierig. Einleitend (Kapitel
3.4) wurden keine globalen positiven oder negativen Effekterwartungen aufgestellt, in
den Studien selbst wurden positive, negative und auch keine Effekte erwartet. Negative
Zusammenhänge mit EI wurden in Studie 2 post hoc erklärt durch mögliche mangelnde

Lernmöglichkeiten für prosoziale Verhaltensweisen für D3-Personen, da diese tendenziell weniger an solchen Interaktionen teilhaben. Für das Erreichen von Erfolgskriterien in sozialen und gesellschaftlichen Kontexten erscheint Emotionswissen in prosozialen Kontexten sinnvoll. D3-Personen hätten entsprechende Defizite und wären weniger dazu in der Lage diese Erfolgskriterien zu erreichen. Eine ähnliche Erklärung ist verknüpft mit der im Kontext der Life History Theory bekannten Annahme, dass in sozial stark regulierten Umwelten/Gesellschaften verträgliches und gewissenhaftes Verhalten eher belohnt wird und damit zielführend sei (slow life strategy, siehe Studie 5). In vielen sozialen Situationen werde Kooperation erwartet. D3-Personen würden mit ihrer fast life strategy eher Probleme mit dem sozialen Umfeld bekommen und damit weniger Erfolg (zugesprochen) bekommen. Eine andere Erklärung wäre, dass Personen vermehrt D3-Verhaltensweisen durchführen als Reaktion auf ein eigenes Scheitern in prosozialen Kontexten und sozial-aversive Handlungen als verbliebenes Mittel zur Zielerreichung betrachten. Zur Prüfung dieser Annahme wären auch Studien zur zeitlichen Stabilität von D3-Merkmalen notwendig, die es bis auch wenige Ausnahmen (etwa Zettler et al., 2020) kaum gibt.

Bezüglich der in der Literatur diskutierten drei Erklärungsmodelle der successful psychopathy (siehe Kapitel 2.4.2) und die hier teils auch auf M übertragen wurden, erfahren in dieser Arbeit keine der Modelle besondere empirische Unterstützung: Es konnten keine bedeutsamen Moderatoreffekte von Intelligenz auf Beziehungen zwischen P/M und Erfolgskriterien nachgewiesen werden (moderated expression). Auch zeigte sich nicht, dass bestimmte P-Konfigurationen besonders erfolgreiche P-Typen entstehen lassen würden. Das differential-severity model (= erfolgreiche Psychopthen sind weniger extrem psychopathisch – zumindest bezogen auf ausgewählte P-Facetten bzw. P-Aspekte – als unerfolgreiche Psychopathen) wurde in dieser Arbeit nicht einbezogen, dafür wären explizit forensische Psychopathen notwendig gewesen. Jedoch stehen die Ergebnisse mit den tendenziell leicht negativen Beziehungen zwischen P und Fähigkeiten und Erfolgskritieren nicht im Widerspruch zu jenem Modell.

Die Ergebnisse bedeuten konkret, dass sozial-aversive Verhaltensstrategien eher nicht zum Erfolg führen. In den sozialen Kontexten, in welchen die vorliegenden Studien durchgeführt wurden bzw. aus welchen die einbezogene Literatur stammt, scheinen eher prosoziale Verhaltensweisen belohnt zu werden und sind eher erfolgreich. Das

schließt nicht aus, dass weiterhin Kontexte bestehen können, in welchen D3-Verhaltensweisen erfolgreich sein können und ggfs. sogar erfolgreicher sind als prosoziale Verhaltensweisen. Mehrere Autoren verweisen immer wieder auf solche möglichen Kontexte (Furnham et al., 2013; Jonason & Webster, 2012; Paulhus, 2014) und kontextabhängige Adaptivität bzw. Maladaptivität. Die in diesem Zusammenhang genannten Nischen zeichnen sich in der Regel dadurch aus, dass sie für psychologische Forschung kaum zugänglich sind (Terroristen, Mitglieder von Straßengangs, das organisierte Verbrechen, Sektenanführer, Führungskräfte in Unternehmen). Fraglich ist auch, ob entsprechende erfolgreiche Manifestationen von D3-Personen überhaupt existierien, denn während für Psychopathie umfangreiche Fallberichte solcher Personen dokumentiert sind (Babiak, 1995; Boddy, 2017), ist die Existenz des „erfolgreichen Machiavellisten" durchaus nicht gesichert (siehe Kapitel 2.2.2). Vorstellungen von verborgenen erfolgreichen Manifestationen oder dunklen Nischen sind ohne entsprechende Empirie lediglich Spekulation.

Unklar bleibt in diesem Zusammenhang allerdings auch, ob Personen mit sozial-aversiven Verhaltensdispositionen andersartige Ziele verfolgen und daher auch andere Parameter des Erfolgs angelegt werden müssten (siehe dazu auch Kapitel 9). Gegenbenenfalls haben D3-Personen Ziele, die auch ohne besondere Fähigkeiten (allgemeine Intelligenz, emotionale Intelligenz) zu erreichen sind und inhaltlich außerhalb der in dieser Arbeit untersuchten Dömanen liegen – aber auch diese Überlegungen sind weitestgehend im Bereich der Spekulation.

Ob Merkmale jenseits der Big-5 sinnvoll sind, wird kontrovers diskutiert: Saucier und Goldberg (1998) argumentieren in ihrer Analyse zum lexikalischen Ansatz, dass es zwar Attribute (z.B. Religiosität, Attraktivität) jenseits der Big-5 gäbe, diese aber keinen Status als tatsächliche Persönlichkeitseigenschaften haben könnten. In einer Reanalyse mit weniger restriktiven Analysekriterien berichteten Paunonen und Jackson (2000) von Wortclustern jenseits der Big 5, die den D3 inhaltlich ähneln (sly, deceptive, manipulative; honest, ethical, moral; egotistical, conceited, snobbish). Während versucht wurde diese Inhalte teils im *Supernumerary Personality Inventory* (SPI; Paunonen et al., 2003) zu repräsentieren, meinten Lee et al. (2005), dass diese Inhalte bereits überwiegend in ihrem sechsten Globalfaktor HH enthalten seien. Eine Möglichkeit Persönlichkeitsmerkmale jenseits der Big 5 zu legitimieren, ist der

Nachweis inkrementeller Validität bei der Vorhersage von relevanten Außenkriterien. Feher und Vernon (2020) finden hierzu in ihrem Review allerdings gemischte Ergebnisse: Die D3 zeigte nur gegenüber inhaltlich sehr spezifischen Inhaltsbereichen eine (meist geringe) Vorhersagekraft über die Big-5 hinaus, wie z.B. Gesundheitsverhalten, Haltungen zu Vergewaltigungen oder Vorurteilen. Carton und Egan (2017) fanden keine Belege inkrementeller Validität bezgl. Partnerschaftsgewalt durch die D3 über Verträglichkeit hinaus. Pilch und Górnik-Durose (2016) berichten inkrementelle Validität der D3 bei der Vorhersage von materialistischen Überzeugungen gegenüber den HEXACO-Merkmalen. Burtăverde et al. (2016) berichten inkrementelle Validität der D3 über die Big-5 bzgl. aggressivem Fahrverhalten. Muris et al. (2017) fassen in ihrem metaanalytischen Review ebenfalls Befunde zusammen und befinden überwiegend Redundanz und mangelnde inkrementelle Validität der D3 gegenüber globalen Persönlichkeitsmodellen. Auch innerhalb der D3 steht der Wert der einzelnen Merkmale infrage, Glenn und Sellbom (2015) finden keine inkrementelle Validität für M und N über P hinaus bei der Vorhersage von relevanten Außenkriterien.

Ob psychologische Merkmale redundant sind und aggregiert werden sollen, gilt nicht nur für die D3, sondern wird in der Differentiellen Psychologie auch allgemein diskutiert: Da sich viele Merkmale als „alter Wein in neuen Schläuchen" herausstellen würden (Back, 2020; Pfattheicher et al., 2017), plädieren eine Reihe von Autoren (DPPD Good Personality Science Task Force, 2020) für zentral gesteuerte Terminologie bezüglich psychologischer Merkmale: „Ideally, that precision should be perfect, meaning that a given term is used for exactly one thing, and no other term is used for that thing." (S. 9). Indirekt befürworten sie gar eine Elimination von als redundant deklarierten Merkmale und eine möglichst geringe Zahl an Operationalisierungen für die verbleibenden Merkmale. Gleichzeitig werden solche integrativen Ansätze auch kritisch rezipiert: Noordhof et al. (2017) argumentieren, dass nur teilweise aggregierbare Ansätze in der Psychologie eher befruchtend wirken würden und vollständige Zusammenführungen von Konzepten eher innovationshinderlich seien. Während die konzeptuelle Studie dieser Arbeit (Studie 7) zwar die Modell-Annahmen in Bezug auf die D3 teilweise bestätigen, wird in dieser Arbeit infrage gestellt, ob die D3 in ihrer derzeitigen Konstellation überhaupt gemeinsam untersucht werden sollten. Was manche Autoren als neutral „overlap" bezeichnen mögen (etwa Jones & Paulhus, 2011), kann auch als konzeptuelle Redundanz verstanden werden (Muris et al., 2017). Die

Frage kann auch auf das Fünf-Faktoren- oder HEXACO-Modell bezogen werden: Welche Daseinsberechtigung können (D3-)Persönlichkeitskonstrukte haben, die jenseits eines Persönlichkeitsmodell angesiedelt sind, welches für sich in Anspruch nimmt Persönlichkeit global und in ihrer ganzen Breite beschreiben zu können? Oder wenn diese neuen (D3-)Merkmale gar bloße Konfigurationen dieser globalen Persönlichkeitsmerkmale sein könnten? Mehrere Autoren konstatieren, dass die D3 nicht mehr als eben solche inhaltichen Konfigurationen seien (Collison et al., 2018; Lynam et al., 2011; O'Boyle et al., 2015; Miller et al., 2001; Thomaes et al., 2017). Tatsächlich scheinen viele inhaltliche Aspekte vor allem von P und M eher sehr speziellen Persönlichkeitsprofilen auf den Big-5 (nicht nur Verträglichkeit, sondern auch Gewissenhaftigkeit, Neurotizismus, Extraversion und in deutlich geringerem Ausmaß Offenheit) zu entsprechen – konzeptuelle Aspekte, die inhaltlich nicht auch in den Big-5 zu finden wären, sind rar: Auch die in Studie 7 identifizierte inhaltliche Gemeinsamkeit der D4 – kurz Indifferenz – ist in der Verträglichkeitsfacette Gutherzigkeit/Tender-Mindedness repräsentiert. Ein bedeutsamer konzeptueller Unterschied (auch gegenüber geringer HH) besteht nach Ansicht des Autors in den zwar gleichartigen, aber doch extremeren Verhaltensausprägungen auf Seiten der D3: das D3-Itemuniversum „sprengt" jede Verträglichkeitsskala. Der Nutzen der D3 scheint damit dann doch eher im Bereich der Pathologie und nicht im Bereich subklinischer Verhaltens- und Erlebensweisen zu liegen.

In diesem Zusammenhang stellt sich jedoch die Frage, welche Konsequenzen gezogen werden sollten, sofern „Redundanz" erkannt wird. Welche Merkmale sollten beibehalten werden, sofern sie in Konkurrenz zueinander stehen und welche sollten eben nicht beibehalten werden? Im vorliegenden Fall der dunklen Persönlichkeitseigenschaften (D3 und darüber hinaus) sind die naheliegenden alternativen Merkmale der globalen Persönlichkeitsmodelle Verträglichkeit (vs. Antagonsimus) und Honesty-Humility. Der Umstand, dass diese Persönlichkeitsmodelle als „global" beschrieben werden, geht jedoch nicht zwingend damit einher, dass diese Modelle gegenüber Einzelmerkmalen auch zu präferieren sind. Es existieren neben den Big-5 auch andere globale Persönlichkeitsmodelle, wie die *Alternative Five* (siehe dazu Zuckermann et al., 1993) oder eben das HEXACO-Modell. Entsprechend gibt es keine Erfordernis, dass nur noch globale Persönlichkeitsmerkmale und nur noch Merkmale, die keine Überschneidung zu globalen Persönlichkeitsmerkmalen aufweisen, beforscht

werden. Andererseits erscheint es aber auch nicht zielführend immer wieder scheinbar neue Merkmale zu konzeptualisieren, obwohl es bedeutsame Schnittmengen mit anderen bestehenden Merkmalen gibt.

Abschließend wird sich in dieser Arbeit wiefolgt positioniert: Die Nützlichkeit eines Merkmal-Konzepts sollte nicht allein aufgrund eines möglichen inhaltlichen Überschneidungsgrads mit verbreitetenten globalen Persönlichkeitsmodellen beurteilt werden oder allein auf Basis von Belegen inkrementeller Validität. Es sollte einzelfallabhängig geprüft werden, ob das Merkmal isoliert betrachtet relevantes Verhalten und Erleben von Personen akkurat beschreiben, erklären und vorhersagen kann. Auch das mögliche Vorhandensein umfangreich validierter Erklärungmodelle für Merkmale jenseits globaler Persönlichkeitseigenschaften ist dabei zu berücksichtigen. Im Zuge solcher Abwägungen sollte auch die Güte der für das Merkmal zur Verfügung stehenden Operationierungsmöglichkeiten einbezogen werden. Für den Kontext der sozial-aversiven oder „dunklen" Merkmale zeigt sich, dass globale Persönlichkeitsmodelle bereits einen hohen Erklärungswert aufweisen bezüglich bedeutsamer Außenkriterien, wie antisozialem Verhalten (Vize, Miller et al., 2018), White-Collar Crime (Pusch & Holtfreter, 2020), akademischem Fehlverhalten (Cuadrado et al., 2021) sowie kontraproduktivem Arbeitsverhalten (Lee et al., 2019) und umfangreich validierte Testverfahren zur Verfügung stehen (NEO-PI-R, HEXACO-PI-R). Alternierende Konzepte für sozial-aversives Verhalten müssen sich an daran messen. Dies ist (bezüglich der D3) für einige Merkmale sicherlich einfacher argumentierbar als für andere, soll an dieser Stelle aber nicht ausgeführt werden, da es über die Fragestellung dieser Arbeit zu weit hinausginge. In Gesamtschau der Ergebnisse dieser Arbeit erscheint es aus hiesiger Sicht aber klar, dass übergreifende Begriffe wie „dunkle Triade", „dunkle Tetrade" oder andere dunkle Zusammenschlüsse empirisch und konzeptuell schwach begründbar sind und wenig zum Verständnis des Gegenstandsbereichs beitragen.

13.3 Ausblick und abschließende Bemerkungen

Die Zukunft der D3 ist ungewiss. Mutmaßungen über erfolgreiche sozial-aversive Wesen werden wohl nach wie vor getätigt werden und eine Adaptivität in sehr spezifischen Kontexten ist für die D3 weiterhin denkbar. Gleichwohl sollten die Ergebnisse dieser Arbeit die Erwartungen in diese Richtung entsprechend relativieren.

Die D3 ist eine weder adaptive noch maladaptive Gruppierung von Persönlichkeitsmerkmalen.

Konzeptuell sieht der Autor dieser Arbeit wenig Anlass für eine weitere gemeinsame Beforschung der dunklen Triade. Zwar ließen sich an dieser Stelle wissenschaftliche Allgemeinplätze formulieren: man müsse an einer klareren konzeptuellen Ausarbeitung der einzelnen D3-Merkmale arbeiten, einen gemeinsamen Kern „finden", bessere Operationalisierungen konstruieren (vor allem in Bezug auf Inhaltsvalidität) oder Belege der inkrementellen Validität gegenüber den Big-5 und HEXACO erzeugen. Teils mögen das sinnvolle Einzelmaßnahmen sein, die den Kern des Problems aber nicht treffen: eine schwache Begründungsfigur dazu, was „dark" nicht im Sinne eines Kerns, sondern eines gesamten Abdeckungsbereichs sein soll. Der Autor ist wenig optimistisch, dass dieser Abdeckungsbereich so formuliert werden kann, dass lediglich die D3 darunter fallen (und keine weiteren dunklen Merkmale) und gleichzeitig eine Daseinsberechtigung neben geringer Honesty-Humility oder Antagonsismus argumentiert werden kann. Stattdessen empfiehlt der Autor eine Abschaffung der Triade: Als einzelne Merkmale kann jedes Mitglied der D3/D4 einen erklärenden Beitrag leisten zum besseren Verständnis und zur Vorhersage von Verhalten, das von Personen als sozial-aversiv interpretiert wird. Geringe Honesty-Humility / Verträglichkeit wird nicht alle Varianten von sozial-aversivem Verhalten angemessen erklären können – der Vorteil von Psychopathie, Machiavellismus und Narzissmus (und Sadismus) kann darin liegen darüber hinaus jeweils unterschiedliche, sehr spezifische Phänomene präziser erklären/vorhersagen zu können – jedoch besser ohne ein wenig erhellendes D3-Banner.

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Anhänge

Anhang A. Beschreibung der D3-Batterie

Die Merkmale der dunklen Triade wurden in Studie 3, 5 und 7 mit dem SRP, NARQ und MACH-VI erhoben, in Studie 4 mit dem FPP, NARQ und MACH-VI.

Die Items wurden in Studie 3 und 6 in Papierform und untereinander vermischt dargeboten und in Studie 5 mit der Software *Inquisit 4* präsentiert.

Bei beiden Versionen wurden mit der folgenden Instruktion eingeleitet:

Probandencode:_____

Bitte geben Sie oben rechts Ihren Probandencode an. Es folgen nun einige Fragen über Ihre Erlebensweisen, Ihre Verhaltensgewohnheiten und Ihre Einstellungen zu sich und anderen Personen.

Bitte lesen Sie jede Aussage sorgfältig durch und wählen Sie durch Ankreuzen aus den vorgegebenen Antwortmöglichkeiten jeweils die für Sie am besten passende Antwort aus. Wählen Sie eine Zahl zwischen

(1) „trifft gar nicht zu" bis (6) „trifft vollständig zu" aus.

Sollten Sie sich unsicher sein, so kreuzen Sie diejenige Antwort an, die noch am ehesten auf Sie zutrifft. **Lassen Sie bitte keine Aussage aus**!

Anhang B. Instruktionstext für Probanden der Studie 3

Den Probanden wurde vor der Wahrnehmung des Termins die folgende Instruktion per E-Mail zugesandt:

Wir bitten Sie, für die Teilnahme an der Studie vorab sowohl eine erfundene, als auch zwei wahre Geschichten über sich vorzubereiten. Wir werden Sie im Rahmen unserer Studie bitten, diese drei Geschichten vorzutragen, um sie von uns auf Video aufzuzeichnen zu lassen.

Bitte nehmen Sie sich ausreichend Zeit (ca. 60 Minuten) um eine jeweils 3-minütige, aber maximal 5-minütige erfundene und zwei ähnlich lange wahre Geschichten vorzubereiten. Die Geschichten sollten einen relativ klaren Anfang und ein Ende haben. Inhaltlich sind beispielsweise die folgenden emotional negativen Themenbereiche möglich: ein erlebter Unfall, eine erlittene Verletzung, ein Diebstahl oder Überfall, ein Einbruch, ein Streit mit einer nahstehenden Person oder Ähnliches. Möglich ist aber auch ein positives Erlebnis wie z.B. die Zusage für einen Job, eine einmalig durchgeführte angenehme Freizeitaktivität mit besonderen Vorkommnissen, eine ereignisreiche Party oder ein persönlich verbindendes Erlebnis mit einer anderen Person. Wichtig ist, dass die Geschichten sich NICHT über einen Zeitraum von mehreren Tagen erstrecken sollen und einen relativ klaren Beginn und ein relativ klares Ende hat.

Versuchen Sie bitte die erfundene Geschichte so überzeugend und glaubhaft zu erzählen wie Ihnen nur möglich. Versuchen Sie hingegen bitte NICHT die beiden wahren Geschichten so zu erzählen als seien diese hingegen erfunden!

Bezüglich der erfundenen Geschichte ist es wichtig, dass Sie kein selbst erlebtes Geschehnis lediglich in Details abändern und vortragen, sondern, dass die Geschichte von Ihnen zum überwiegenden Teil erdacht ist. Holen Sie sich bitte keine Hilfe bei der Erstellung der Geschichten. Übernehmen Sie bitte auch nicht einfach eine Geschichte einer anderen bekannten Person und geben sie als Ihre eigenen aus. Verraten Sie bitte NICHT, welche Geschichten wahr und welche erfunden sind. Sie werden bei der Durchführung des Versuchs die Möglichkeit haben, dies auf einem Zettel anzugeben – Ihr Interviewer soll hingegen nicht wissen, welche Geschichte war oder erfunden ist.

Im Anschluss an die Videoaufnahme werden wir einige psychologische Tests mit Ihnen bearbeiten wollen. Die aufgezeichneten Videoaufnahmen sollen dafür verwendet werden, dass sie anderen Personen gezeigt werden, um von diesen auf Glaubhaftigkeit geprüft werden. Jegliche Angaben zu Ihrer Person oder Ihren Testdaten werden diesen anderen Personen NICHT zur Verfügung gestellt werden.

Anhang C. Komplexe soziale Aufgaben der Studie 4

C.1 Testheft für die Probanden

Im Folgenden soll überprüft werden, wie gut Sie dazu in der Lage sind auf der Basis von sozialen Informationen aus Kurzgeschichten die Effektivität von Verhaltensweisen im Hinblick auf ein festgelegtes Ziel zu beurteilen. Hierbei werden Sie zunächst eine Geschichte lesen können, bei denen mehrere Personen miteinander interagieren.

Eine der Personen möchte dabei ein bestimmtes Ziel erreichen. Sie sollen anschließend beurteilen, welches Verhalten die Person zeigen sollte, um dieses Ziel zu erreichen. Ihnen werden dabei immer sechs Verhaltensweisen vorgelegt, bei denen Sie jeweils beurteilen sollen wie effektiv das Verhalten zur Erreichung des definierten Ziels ist. Sie sollen dabei jeweils beurteilen, ob das entsprechende Verhalten 1) **zielführend** 2) **kontraproduktiv** oder 3) **ohne Effekt** ist. Dabei bedeuteten…

1) **zielführend**, dass das Verhalten auf Basis der in der Geschichte genannten Informationen zum gewünschten Ziel führt, bzw. als deutliche Zielannäherung verstanden werden kann,

2) **kontraproduktiv**, dass das Verhalten auf Basis der in der Geschichte genannten Informationen *nicht* zum gewünschten Ziel führt und nach dem Zeigen des Verhaltens das Ziel auch nicht mehr erreicht werden kann, bzw. das Verhalten zu einer deutlichen Entfernung vom Ziel führt und

3) **ohne Effekt**, dass das Verhalten auf Basis der in der Geschichte genannten Informationen *nicht* zum gewünschten Ziel führt, *aber* nach dem Zeigen des Verhaltens das Ziel immer noch erreicht werden kann.

Betrachten Sie nun bitte eine Beispielaufgabe:

Es ist Sommer. *Thomas* möchte gern ein bekanntes Musikfestival besuchen, dessen Karten sehr begehrt sind. Er und sein Freund *Andreas* haben schon seit Längerem vor für einen Tagestrip vorbeizukommen. Andreas ist kein Kenner der Szene: Ihn zieht es wegen der Atmosphäre und nicht wegen der Musik auf das Festival.

Ebenfalls dabei ist *Mareike* – eine gute Freundin der beiden. Thomas konnte für Mareike über Kontakte zu den Festivalbetreibern noch eine Karte besorgen. Mareike ist ihm deswegen sehr dankbar und meinte, dass sie Thomas etwas schuldig sei.

Die drei sind eine kleine Clique, allerdings war der Umgang untereinander oft kompliziert: Andreas lässt sich von Thomas selten etwas sagen und reagiert auf nachdrückliche oder unfreundliche Aufforderungen mit vollständiger Verweigerung. Mareike war in der Vergangenheit oft eine Art Vermittlerin und Andreas hörte auf Mareikes Rat. Sie und Andreas studieren dasselbe Fach, wobei Mareike die deutlich fähigere Studentin ist. Sie konnte Andreas schon häufiger helfen und er nahm die Hilfe in der Vergangenheit immer dankend an.

Das Wochenende des Ausflugs naht, allerdings gibt Andreas nun an, dass er wahrscheinlich keine Zeit mehr habe, da die Abgabefrist seiner Bachelorarbeit bald ende. Er stehe im Moment vor einem Problem, dass er nicht lösen könne und brauche die Zeit. Thomas ist deswegen enttäuscht und hätte gern, dass Andreas doch mitkommt.

Beurteilen Sie die folgenden Verhaltensweisen, die Thomas zeigen könnte, um zu erreichen, dass Andreas doch zum Festival mitkommt:

Verhaltensweise 1:	Thomas bittet Mareike, dass sie Andreas ihre Hilfe bei der Bachelorarbeit anbieten solle und versuchen solle ihn dazu zu bringen mitzukommen.
Verhaltensweise 2:	Thomas weist Andreas ärgerlich darauf hin, dass es abgemacht gewesen sei, dass er mitkomme und er erwarte, dass er dies nun auch tue.
Verhaltensweise 3:	Thomas sagt Andreas, dass das doch schade sei, da er den Auftritt einer sehr bekannten Band verpasse.

Die Verhaltensweisen sind hinsichtlich ihrer Effektivität eindeutig einschätzbar:

Verhaltensweise 1 ist eindeutig zielführend: Es ist sehr wahrscheinlich, dass Mareike zunächst Thomas Bitte nachkommen wird, da sie bekundet, dass sie Thomas einen Gefallen schuldig sei. Darüber hinaus hörte Andreas in der Vergangenheit auf Mareikes Ratschläge und es ist davon auszugehen, dass er dies auch wieder tun wird. Außerdem ist bekannt, dass Mareike sehr viel kompetenter ist als Andreas, Andreas in der Vergangenheit dankend Mareikes Hilfsangebote annahm und Mareike daher sehr wahrscheinlich Andreas Probleme mit der Bachelorarbeit beheben können wird. Dadurch hätte Andreas keinen Grund mehr nicht zum Festival mitzukommen.

Verhaltensweise 2 ist eindeutig kontraproduktiv: Im Rahmen der Geschichte wird deutlich, dass Andreas auf nachdrückliche oder unfreundliche Aufforderungen mit vollständiger Verweigerung reagiert. Es ist zu erwarten, dass er bei Thomas Verhalten wieder so reagieren wird, wodurch er sehr sicher nicht zum Festival mitkommen wird.

Verhaltensweise 3 ist eindeutig ohne Effekt: In der Geschichte wird deutlich, dass Andreas sich nicht für die Musik auf dem Festival interessiert und zu Beginn aus anderen Gründen auf das Festival wollte. Er wird sich dadurch also nicht überzeugen lassen auf das Festival zu gehen. Gleichzeitig wird das Verhalten auch nicht dazu führen, dass sich Andreas endgültig gegen das Festival entscheidet, da Thomas sich nicht unfreundlich geäußert hat. Prinzipiell wäre es danach noch möglich Andreas zum Mitkommen zu bewegen.

Beachten Sie dabei, dass Sie nicht so antworten sollen, wie *Sie* sich verhalten würden oder wie Sie glauben, dass Sie sich verhalten *sollten*. Bitte beurteilen Sie die Verhaltensweisen lediglich auf Basis der Informationen darüber, wie zielführend die verschiedenen Verhaltensweisen voraussichtlich sein werden.

Bitte bearbeiten Sie nun die folgenden Aufgaben. Geben Sie ihre Lösung bitte NUR auf dem beiliegenden Antwortblatt ein und NICHT im vorliegenden Testheft!

Aufgabe 1

Lara ist eine intelligente, leistungsstarke Studentin und hat sich auf einen Hilfskraftjob an einem Lehrstuhl ihres Fachbereichs beworben. Für das Vorstellungsgespräch muss eine Aufgabe vorbereitet werden, sie ist aber gut vorbereitet. Lara weiß von einem Kommilitonen – *Jonas* – dass dieser sich auch auf den Job bewirbt. Sie kennt Jonas als kompetenten Studenten und schätzt, dass Jonas gute Chancen auf den Job hat. Allerdings ist er im Moment auch mit einem Referat beschäftigt, welches für Jonas eine höhere Priorität hat. Er soll dieses Referat mit *Manuela* – einer Kommilitonin – halten, diese hat aber in letzter Zeit kaum mitgearbeitet. Im Moment arbeitet Manuela mit, aber wenn sie wieder ausfällt, wird Jonas seine gesamte Zeit dafür aufwenden müssen das Referat allein zu bearbeiten.

Lara weiß noch, dass *Michael* sich auch auf den Job bewirbt. Michael ist inkompetent und hat schlechte Chancen auf den Job. Er befindet sich im Streit mit seiner Freundin Manuela. Michael hat Manuela wichtige Informationen über den Handlungsverlauf einer TV-Serie verraten, woraufhin Manuela sich zurückgezogen hat und nicht mehr für ihr Studium gearbeitet hat. Manuela hat in der Vergangenheit immer so reagiert, wenn ihr Informationen über die TV-Serie gegeben wurden.

Manuela hat Kontakte zu den Entscheidungsträgern am Lehrstuhl, sie kann einen Bewerber auf den Hilfskraftjob verhindern, sie kann einen Kandidaten aber nicht sicher ermöglichen. Manuela hat deutlich gemacht, dass sie der nächsten Person, die ihr Informationen zur TV-Serie mitteilen wird, schaden will.

Beurteilen Sie die folgenden Verhaltensweisen, die Lara zeigen könnte, um ihre Chancen beim Vorstellungsgespräch zu erhöhen.

(a) Lara bittet Manuela ein gutes Wort für sie beim Mitarbeiter am Lehrstuhl einzulegen.

(b) Lara spricht Manuela an und verrät ihr einige relevante Informationen zur neuen Episode der Serie.

(c) Lara drückt Manuela gegenüber aus, dass sie Michaels Verhalten furchtbar findet und empfiehlt, dass Manuela Michaels Bewerbung torpedieren solle.

(d) Lara schickt mehrere anonyme, nicht-zurückverfolgbare Nachrichten an Manuela, in welchen Handlungsdetails aus der neuen Episode der Lieblingsserie erwähnt werden.

(e) Lara bittet Manuela ein gutes Wort für sie beim Mitarbeiter am Lehrstuhl einzulegen – im Gegenzug hilft Lara Manuela bei ihrer derzeitigen Arbeit.

(f) Lara bereitet sich sehr gut auf das Vorstellungsgespräch vor.

Aufgabe 2

Daniel arbeitet seit einiger Zeit als Angestellter in einem Unternehmen. Er und sein Kollege *Ralf* haben gemeinsam ein Projekt geleitet, aber dieses Projekt ist gescheitert. Sie haben beide Fehler begangen und sollen sich deswegen vor ihrem Vorgesetzten *Herrn Wagener* verantworten.

Daniel kommt ins Gespräch mit einer Kollegin – *Tina*. Tina hat in der Vergangenheit häufig Personen angelogen, damit sie selbst ihre Ziele erreicht – sie und Daniel haben eigentlich ein schlechtes Verhältnis. Tina rät Daniel überraschend, dass er bei Herrn Wagener Ralf anschwärzen und selbst keine Fehler zugeben solle. Später spricht Daniel mit Ralf. Dieser berichtet, dass Tina ihm geraten habe, er solle zu seinen Fehlern stehen. Ralf meint, er habe vor Tinas Rat zu folgen, falls Daniel nicht einen anderen Rat für ihn habe.

Daniel trifft auch auf *Moritz* – einen anderen vertrauenswürdigen Kollegen und ein Mitglied des Betriebsrats: Moritz rät Daniel, dass er zu seinen Fehlern stelle solle, da Herr Wagener keine Petzen möge – er erwarte, dass man professionell zu seinen Fehlern stehe. Moritz berichtet, dass Herr Wagener auf jeden Fall eine Person kündigen werde, falls das Projekt nicht zu retten sei. Er werde aber nicht Daniel und Ralf zusammen kündigen können – die Kündigung von zwei Personen würde der Betriebsrat verhindern. Bei solchen Entscheidungen lasse sich Herr Wagener auch von niemandem reinreden.

Daniel sichtet daraufhin noch einmal das gescheiterte Projekt und entdeckt Möglichkeiten bedeutsame Teile davon zu retten. Nötig wären dafür aber sowohl Daniels als auch Ralfs Sachkenntnis.

Beurteilen Sie die folgenden Verhaltensweisen, die Daniel zeigen könnte, um möglichst nicht entlassen zu werden.

(a) Daniel bittet Tina sehr höflich, dass sie sich für Daniel und Ralf einsetzen solle.

(b) Daniel schiebt im Gespräch mit Herrn Wagener die Schuld am Scheitern des Projekts vollständig auf Ralf.

(c) Daniel schlägt Ralf vor gemeinsam Herrn Wagener zu berichten, dass sie bedeutsame Fehler gemacht haben, aber einen Plan hätten, wie das Projekt gerettet werden könne.

(d) Daniel fordert Tina sehr ungehalten dazu auf, dass sie sich für Daniel und Ralf einsetzen solle.

(e) Daniel bietet Ralf an, die volle Verantwortung zu übernehmen, Ralf solle ihm die Schuld zuschieben. Anschließend gibt Daniel im Gespräch mit Herrn Wagener zu, dass er und Ralf gemeinsam Fehler begangen haben.

(f) Daniel geht im Gespräch mit Herrn Wagener nicht auf das Projekt ein, sondern stellt fest, dass er ohnehin nicht gekündigt werden könne, da der Betriebsrat das verhindern werde.

Aufgabe 3

Bernd lebt in einer kleinen Gemeinde. Er ist ein politisch aktiver Bürger und auch Mitglied im Gemeinderat Bernd ist gegen ein angekündigtes Bauvorhaben: Unmittelbar neben einem Fast-Food-Restaurant befindet sich ein kleines, parkähnliches Gebiet, das seit Jahren traditionell von den Bewohnern der Gemeinde als Erholungsraum genutzt wird. Der Park gehört *Steffen*, der sich in der Vergangenheit darum kümmerte und dies als Dienst an der Gemeinde verstand. Nun soll das Stück Land aber an *Flora* – die Besitzerin des Fast-Food-Restaurants – verkauft werden. Sie möchte die Parkplatzfläche ihres Restaurants erweitern und dafür das Stück Land von Steffen nutzen. Ansonsten gibt es keine Interessenten, die den Park kaufen wollen würden.

Bernd hat den geplanten Verkauf des Gebiets bereits im Gemeinderat thematisiert. *Bastian* – ein anderes Gemeinderatsmitglied – hat zu Bernd ein sehr gutes Verhältnis, sie können einander vertrauen. Hier meint er jedoch, dass Steffen und Flora jedes Recht hätten den Verkauf zu vollziehen. Eine Baugenehmigung für den Parkplatz müsste aber noch eingeholt werden. *Christopher* – ein Beamter des Bauamts – war in der Vergangenheit für das Erteilen dieser Genehmigungen zuständig. Er gilt als unbestechlich und führte seine Arbeit in der Vergangenheit stets mit absoluter Gewissenhaftigkeit durch. Es heißt, schon viele hätten versucht Christopher zu beeinflussen – immer ohne Erfolg.

Auf Nachfrage Bernds berichtet Steffen, dass er keine Zeit mehr habe, um sich um die Pflege des Parks zu kümmern, da er bei der ehrenamtlichen Tätigkeit als Telefonseelsorger zu stark eingespannt sei. Momentan komme die andere Seelsorgerin – *Suzan*, Christophers Ehefrau – nur noch selten zum Dienst, wodurch er zu stark eingespannt sei. Die Seelsorger-Tätigkeit hält Steffen für wichtiger als die Parkpflege – er würde aber lieber weniger bei der Seelsorge arbeiten und sich um den Park kümmern, sieht dafür aber keine Möglichkeit.

Steffen sieht das Engagement Bernds kritisch: er meint, dass die Bewohner der Gemeinde schätzen sollten, dass er den Park all die Jahre zur Verfügung gestellt habe. Wenn sich nun organisierter Wiederstand in Form eines Protestmarsches gegen ihn selbst richten würde, habe er auf jeden Fall vor zu verkaufen. Falls er aber nicht verkaufen könne, würde er sich weiter zähneknirschend um den Park kümmern.

Bastian berichtet Bernd, dass Flora von der Situation überfordert sei und unbedingt verhindern wolle, dass es zu einem Eklat in der Gemeinde komme, da sie um ihre Kundschaft fürchte. Flora gilt als eine Person, die sich sehr schnell einschüchtern lasse. Für sie sei der Erhalt der Kundschaft wichtiger als ein zusätzlicher Parkplatz. Bei einem Protestmarsch vor ihrem Restaurant – so Bastian – sei er sich absolut sicher, dass Flora von ihrem Kaufvorhaben Abstand nähme.

Suzan ist ebenfalls im Gemeinderat aktiv. Sie gilt als politische Gegnerin Bernds, arbeitete mit Bernd in der Vergangenheit aber auch bei bestimmten Themen zusammen. Nur wenn Bernd und Suzan zusammen arbeiteten, war Bernd in der Lage Protestmärsche zu organisieren. In der Vergangenheit liefen solche Protestmärsche in der Regel nicht friedlich ab und es wurden auch beleidigende Transparente verwendet. Bernd spricht mit Suzan: Sie schlägt ihm vor, dass er ihr bei der Organisation der Eröffnungsfeier eines Autobahnabschnitts unterstütze. Dann werde sie ihm helfen – auch wenn es nicht um den Protestmarsch gehe. Dies nehme im Moment ihre ganze Zeit in Anspruch – sie könne im Moment deswegen auch nicht als ehrenamtliche Telefonseelsorgerin arbeite, was sie eigentlich wieder tun wolle.

Beurteilen Sie die folgenden Verhaltensweisen, die Bernd zeigen könnte, damit aus dem Stück Land kein Parkplatz wird.

(a) Bernd unterstützt Suzan bei der Organisation des Fests und organisiert einen Protestmarsch vor Floras Restaurant.

(b) Bernd unterstützt Suzan bei der Organisation des Fests und bittet sie ihren Mann Christopher dazu zu bringen, dass er einen eventuell eingehenden Bauantrag für den Parkplatz verhindert.

(c) Bernd unterstützt Suzan bei der Organisation des Fests und organisiert einen Protestmarsch vor Steffens Haus.

(d) Bernd organisiert allein einen eigenen friedlichen Protestmarsch, der Parks im Allgemeinen befürwortet.

(e) Bernd überlässt es vollständig Bastian den Parkplatz zu verhindern und tut selbst nichts.

(f) Bernd unterstützt Suzan bei der Organisation des Fests und bittet sie ihre Tätigkeit als Seelsorgerin wieder aufzunehmen.

Aufgabe 4

Tino arbeitet in einem Unternehmen als Teamleiter in einer Abteilung, in der viele Mitarbeiter unzufrieden sind. Tinos Chefs wollen von Tino, dass er Ordnung in die Abteilung bringt und es nicht zu einem Streik kommen darf. Tino darf Personen entlassen oder versetzen lassen, aber nicht mehr als zwei Personen und nicht wenn sein unmittelbarer Vorgesetzter in der Abteilung eindeutig dagegen ist.

Tinos unmittelbarer Vorgesetzter in der Abteilung heißt *Günter*. Günter ist ein Vorgesetzter, der wenig Freude an seiner Tätigkeit hat. Er würde lieber nur technische Aufgaben erledigen und keine Personalverantwortung mehr haben. Früher war noch ein weiterer Vorgesetzter in der Abteilung: *Philipp*. Philipp wurde in der Vergangenheit von den Mitarbeitern respektiert. Dieser hat allerdings deutlich gemacht, dass er nicht mehr in der Abteilung arbeiten wolle.

Eine Mitarbeiterin in der Abteilung – *Nicole* – ist unzufrieden mit den Aufgaben, die sie zu erledigen hat. Sie möchte, dass Sie und ihre Kollegen versetzt werden. Sie hat bereits über die Dienst-E-Mail-Adresse einen Streikaufruf an die Mitarbeiter der Abteilung versendet. Nicole und Tino haben eine sehr schlechte Beziehung. Nicole hat in der Vergangenheit nie das gemacht, worum Tino sie gebeten hat. Günter hat aber klar gemacht, dass er Nicole nicht kündigen werde. Günter ist sich aber sicher, dass wenn Nicole nicht mehr in der Abteilung arbeite, sie nicht mehr am Streikvorhaben festhalten würde. Die Abteilung hat aber auch den Ruf sensibel auf autoritäres Verhalten zu reagieren: In der Vergangenheit führten Drohungen, die sich gegen alle Mitarbeiter richteten, zu Arbeitsverweigerungen in der Abteilung.

Beurteilen Sie die folgenden Verhaltensweisen, die Tino zeigen könnte, um das Streikvorhaben zu unterbinden.

(a) Tino kontaktiert Philipp, damit er wieder die Leitung der Abteilung übernimmt.

(b) Tino bittet die Zentrale darum, dass Günter in eine Technik-Abteilung versetzt wird. Anschließend lässt er Nicole kündigen mit Verweis auf die unzulässige Verwendung der Dienst-E-Mail-Adresse.

(c) Tino unterstützt Nicole bei ihrem Vorhaben zu streiken und dem Vorhaben die Belegschaft versetzen zu lassen.

(d) Tino bietet Günter an, die Abteilung kommissarisch zu leiten. Er lässt Nicole darüber hinaus versetzen.

(e) Tino droht der gesamten Abteilung, dass sie entlassen würden, wenn der angedrohte Streik nicht unmittelbar abgesagt würde.

(f) Tino fordert Nicole nachdrücklich und wütend auf, ihr Streikvorhaben zu unterlassen.

Aufgabe 5

Stefan ist ein Student an einer Filmhochschule und möchte mit seinen drei Kommilitonen Lisa, Anna und Marius einen Kurzfilm drehen. Schnell stoßen die vier auf künstlerische Differenzen:

Während Stefan und Marius gänzlich unterschiedliche Meinungen hinsichtlich der musikalischen Untermalung haben, hat Anna hier keine Meinung, sie enthält sich. Allerdings haben Anna und Marius sehr unterschiedliche Meinung zur Gestaltung des Filmendes. Stefan ist in dieser Frage unentschieden. Auch beim technischen Equipment gibt es Meinungsverschiedenheiten, Marius will eine besonders moderne Kamera einsetzen, Anna enthält sich, Stefan ist dagegen. Lisa hat in allen Fragen die gleiche Meinung wie Marius.

Bei früherer Zusammenarbeit hat sich in aller Regel gezeigt, dass Marius sehr energisch für seine Positionen gestritten hat, allerdings auch immer Kompromissbereitschaft zeigte: Wenn er in einem Punkt Recht bekam, zeigte er sich oft sehr versöhnlich in allen anderen Punkten. Wenn er aber den Eindruck hatte, dass ihm kein Respekt für seine Position entgegengebracht wird, zeigte sich Marius in der Vergangenheit sehr unkooperativ. Lisa bewundert Marius sehr und vertritt in der Regel die gleiche Meinung wie Marius, da sie selten eine eigene Meinung hat. Stefan weiß noch mehr über Lisa: Sie hat mehr als nur freundschaftliche Gefühle für Anna, will dies aber unter allen Umständen verbergen. Stefan glaubt, dass Lisa so ziemlich alles tun würde, damit ihre Gefühle ein Geheimnis bleiben. Anna war es bei ähnlichen Arbeiten in der Vergangenheit am wichtigsten, dass sie ihre Meinung im Hinblick auf die Handlung des Films durchsetzt, Aspekte der Bild- und Tongestaltung waren letztlich für sie sekundär. Stefan gegenüber macht Anna aber frustriert deutlich, dass wenn ihre Vorstellungen hinsichtlich des Filmendes nicht erfüllt werden, sie das ganze Projekt verlassen wird, wodurch die Arbeiten am Film beendet wären.

Falls in der Vergangenheit kein Gesamtkompromiss erzielt werden konnte, wurde in Einzelfragen per Mehrheitsbeschluss entschieden.

Beurteilen Sie die folgenden Verhaltensweisen, die Stefan zeigen könnte, um die musikalische Untermalung nach seinen Vorstellungen durchsetzen zu können.

(a) Stefan droht Lisa, dass er ihr Geheimnis ausplaudern werde, falls sie nicht dafür stimmen werde, dass Annas Ende und Stefans Musikvorstellungen durchgesetzt werden.

(b) Stefan droht Lisa, dass er ihr Geheimnis ausplaudern werde, falls sie nicht dafür stimmen werde, dass Annas Ende durchgesetzt werde.

(c) Stefan zeigt Verständnis für Marius Einsatz der modernen Kamera, damit er sich kompromissbereit bei den anderen Streitpunkten zeigt.

(d) Stefan gibt Marius hinsichtlich des Endes des Films Recht, damit er sich kompromissbereit bei den anderen Streitpunkten zeigt.

(e) Stefan wirft Marius mangelnde Kenntnis hinsichtlich des Filmthemas vor und legt argumentativ dar, dass Marius Meinung schlecht ist.

(f) Stefan versucht Lisa davon zu überzeugen, dass die von ihm favorisierten Komponisten die bessere Wahl sind.

C.2 Antwortbogen für die Probanden

Antwortblatt TSV – Version: WS18/19

Tragen Sie bitte oben rechts ihren Probandencode (VP-Code) ein.

Geben Sie an, ob die Verhaltensweise **kontraproduktiv** (0), **ohne Effekt** (1) oder **zielführend** (2) ist. Kreuzen Sie die jeweils zutreffende Lösung an.

Aufgabe 1

Beurteilen Sie die folgenden Verhaltensweisen, die Lara zeigen könnte, um ihre Chancen beim Vorstellungsgespräch zu erhöhen.	0	1	2
(a) Lara bittet Manuela ein gutes Wort für sie beim Mitarbeiter am Lehrstuhl einzulegen.	○	○	○
(b) Lara spricht Manuela an und verrät ihr einige relevante Informationen zur neuen Episode der Serie.	○	○	○
(c) Lara drückt Manuela gegenüber aus, dass sie Michaels Verhalten furchtbar findet und empfiehlt, dass Manuela Michaels Bewerbung torpedieren solle.	○	○	○
(d) Lara schickt mehrere anonyme, nicht-zurückverfolgbare Nachrichten an Manuela, in welchen Handlungsdetails aus der neuen Episode der Lieblingsserie erwähnt werden.	○	○	○
(e) Lara bittet Manuela ein gutes Wort für sie beim Mitarbeiter am Lehrstuhl einzulegen – im Gegenzug hilft Lara Manuela bei ihrer derzeitigen Arbeit.	○	○	○
(f) Lara bereitet sich sehr gut auf das Vorstellungsgespräch vor.	○	○	○

Aufgabe 2

Beurteilen Sie die folgenden Verhaltensweisen, die Daniel zeigen könnte, um möglichst nicht entlassen zu werden.	0	1	2
(a) Daniel bittet Tina sehr höflich, dass sie sich für Daniel und Ralf einsetzen solle.	○	○	○
(b) Daniel schiebt im Gespräch mit Herrn Wagener die Schuld am Scheitern des Projekts vollständig auf Ralf.	○	○	○
(c) Daniel schlägt Ralf vor gemeinsam Herrn Wagener zu berichten, dass sie bedeutsame Fehler gemacht haben, aber einen Plan hätten, wie das Projekt gerettet werden könne.	○	○	○
(d) Daniel fordert Tina sehr ungehalten dazu auf, dass sie sich für Daniel und Ralf einsetzen solle.	○	○	○
(e) Daniel bietet Ralf an, die volle Verantwortung zu übernehmen, Ralf solle ihm die Schuld zuschieben. Anschließend gibt Daniel im Gespräch mit Herrn Wagener zu, dass er und Ralf gemeinsam Fehler begangen haben.	○	○	○
(f) Daniel geht im Gespräch mit Herrn Wagener nicht auf das Projekt ein, sondern stellt fest, dass er ohnehin nicht gekündigt werden könne, da der Betriebsrat das verhindern werde.	○	○	○

Bitte wenden!

Aufgabe 3

Beurteilen Sie die folgenden Verhaltensweisen, die Bernd zeigen könnte, damit aus dem Stück Land kein Parkplatz wird.	0	1	2
(a) Bernd unterstützt Suzan bei der Organisation des Fests und organisiert einen Protestmarsch vor Floras Restaurant.	○	○	○
(b) Bernd unterstützt Suzan bei der Organisation des Fests und bittet sie ihren Mann Christopher dazu zu bringen, dass er einen eventuell eingehenden Bauantrag für den Parkplatz verhindert.	○	○	○
(c) Bernd unterstützt Suzan bei der Organisation des Fests und organisiert einen Protestmarsch vor Steffens Haus.	○	○	○
(d) Bernd organisiert allein einen eigenen friedlichen Protestmarsch, der Parks im Allgemeinen befürwortet.	○	○	○
(e) Bernd überlässt es vollständig Bastian den Parkplatz zu verhindern und tut selbst nichts.	○	○	○
(f) Bernd unterstützt Suzan bei der Organisation des Fests und bittet sie ihre Tätigkeit als Seelsorgerin wieder aufzunehmen.	○	○	○

Aufgabe 4

Beurteilen Sie die folgenden Verhaltensweisen, die Tino zeigen könnte, um das Streikvorhaben zu unterbinden.	0	1	2
(a) Tino kontaktiert Philipp, damit er wieder die Leitung der Abteilung übernimmt.	○	○	○
(b) Tino bittet die Zentrale darum, dass Günter in eine Technik-Abteilung versetzt wird. Anschließend lässt er Nicole kündigen mit Verweis auf die unzulässige Verwendung der Dienst-E-Mail-Adresse.	○	○	○
(c) Tino unterstützt Nicole bei ihrem Vorhaben zu streiken und dem Vorhaben die Belegschaft versetzen zu lassen.	○	○	○
(d) Tino bietet Günter an, die Abteilung kommissarisch zu leiten. Er lässt Nicole darüber hinaus versetzen.	○	○	○
(e) Tino droht der gesamten Abteilung, dass sie entlassen würden, wenn der angedrohte Streik nicht unmittelbar abgesagt würde.	○	○	○
(f) Tino fordert Nicole nachdrücklich und wütend auf, ihr Streikvorhaben zu unterlassen.	○	○	○

Aufgabe 5

Beurteilen Sie die folgenden Verhaltensweisen, die Stefan zeigen könnte, um die musikalische Untermalung nach seinen Vorstellungen durchsetzen zu können.	0	1	2
(a) Stefan droht Lisa, dass er ihr Geheimnis ausplaudern werde, falls sie nicht dafür stimmen werde, dass Annas Ende und Stefans Musikvorstellungen durchgesetzt werden.	○	○	○
(b) Stefan droht Lisa, dass er ihr Geheimnis ausplaudern werde, falls sie nicht dafür stimmen werde, dass Annas Ende durchgesetzt werde.	○	○	○
(c) Stefan zeigt Verständnis für Marius Einsatz der modernen Kamera, damit er sich kompromissbereit bei den anderen Streitpunkten zeigt.	○	○	○
(d) Stefan gibt Marius hinsichtlich des Endes des Films Recht, damit er sich kompromissbereit bei den anderen Streitpunkten zeigt.	○	○	○
(e) Stefan wirft Marius mangelnde Kenntnis hinsichtlich des Filmthemas vor und legt argumentativ dar, dass Marius Meinung schlecht ist.	○	○	○
(f) Stefan versucht Lisa davon zu überzeugen, dass die von ihm favorisierten Komponisten die bessere Wahl sind.	○	○	○

C.3 Lösungsbegründungen

Es folgen die Aufgaben 1 bis 5 mit jeweiligen Lösungen, Lösungsbegründungen und intendierten Verträglichkeitsausprägungen. Die lösungsrelevanten Informationen sind mit Nummern gekennzeichnet.

Aufgabe 1

Lara ist eine intelligente, leistungsstarke Studentin (1) und hat sich auf einen Hilfskraftjob an einem Lehrstuhl ihres Fachbereichs beworben. Für das Vorstellungsgespräch muss eine Aufgabe vorbereitet werden, sie ist aber gut vorbereitet. Lara weiß von einem Kommilitonen – *Jonas* – dass dieser sich auch auf den Job bewirbt. Sie kennt Jonas als kompetenten Studenten und schätzt, dass Jonas gute Chancen auf den Job hat. Allerdings ist er im Moment auch mit einem Referat beschäftigt, welches für Jonas eine höhere Priorität hat (2). Er soll dieses Referat mit *Manuela* – einer Kommilitonin – halten, diese hat aber in letzter Zeit kaum mitgearbeitet. Im Moment arbeitet Manuela mit, aber wenn sie wieder ausfällt, wird Jonas seine gesamte Zeit dafür aufwenden müssen das Referat allein zu bearbeiten (3).

Lara weiß noch, dass *Michael* sich auch auf den Job bewirbt. Michael ist inkompetent und hat schlechte Chancen auf den Job (4). Er befindet sich im Streit mit seiner Freundin Manuela. Michael hat Manuela wichtige Informationen über den Handlungsverlauf einer TV-Serie verraten, woraufhin Manuela sich zurückgezogen hat und nicht mehr für ihr Studium gearbeitet hat. Manuela hat in der Vergangenheit immer so reagiert, wenn ihr Informationen über die TV-Serie gegeben wurden (5).

Manuela hat Kontakte zu den Entscheidungsträgern am Lehrstuhl, sie kann einen Bewerber auf den Hilfskraftjob verhindern, sie kann einen Kandidaten aber nicht sicher ermöglichen (6). Manuela hat deutlich gemacht, dass sie der nächsten Person, die ihr Informationen zur TV-Serie mitteilen wird, schaden will (7).

Beurteilen Sie die folgenden Verhaltensweisen, die Lara zeigen könnte, um ihre Chancen beim Vorstellungsgespräch zu erhöhen.

Kontraproduktiv (0)	
e) Lara bittet Manuela ein gutes Wort für sie beim Mitarbeiter am Lehrstuhl einzulegen – im Gegenzug hilft Lara Manuela bei ihrer derzeitigen Arbeit. (verträglich)	Dieses Verhalten ist **kontraproduktiv**, weil 1) Manuela keiner Person den Job sicher ermöglichen kann (Information 6) 2) und wenn Manuela geholfen wird, wird damit auch Jonas geholfen (Information 3) 3) und Jonas wird die Möglichkeit haben sich besser um die Job-Aufgabe vorzubereiten, da es zu keinem Prioritätskonflikt käme (Information 2) 4) und Jonas dadurch höhere Chancen auf den Job bekäme.
b) Lara spricht Manuela an und verrät ihr einige relevante Informationen zur	Dieses Verhalten ist **kontraproduktiv**, weil 1) Manuela die Möglichkeit hat einen Bewerber zu verhindern (Information 6)

neuen Episode der Serie. (unverträglich)	2) Manuela Lara dann schaden wollen werden wird (Information 7). 3) Es ist hier irrelevant, dass Jonas ebenfalls geschadet werden wird (Information 2 und Information 3), da Lara dann sicher ausfällt.
Ohne Effekt (1)	
a) Lara bittet Manuela ein gutes Wort für sie beim Mitarbeiter am Lehrstuhl einzulegen. (verträglich)	Dieses Verhalten ist **ohne Effekt**, weil 1) Manuela keinen Kandidaten sicher ermöglichen kann (Information 6)
c) Lara drückt Manuela gegenüber aus, dass sie Michaels Verhalten furchtbar findet und empfiehlt, dass Manuela Michaels Bewerbung torpedieren solle. (unverträglich)	Dieses Verhalten ist **ohne Effekt**, weil 1) Manuela möglicherweise dies – auch wegen Michaels Verhalten – tun würde, 2) aber Michael keine Konkurrenz ist (Information 4).
Zielführend (2)	
f) Lara bereitet sich sehr gut auf das Vorstellungsgespräch vor. (verträglich)	Dieses Verhalten ist **zielführend**, weil 1) Lara ohnehin schon gute Chancen hat (Information 1) und sie damit tendenziell erhöht 2) und die Möglichkeit besteht, dass Jonas doch mehr Zeit für das Referat aufwenden werden muss und daher weniger für die Job-Aufgabe tut (Information 2).
d) Lara schickt mehrere anonyme, nicht-zurückverfolgbare Nachrichten an Manuela, in welchen Handlungsdetails aus der neuen Episode der Lieblingsserie erwähnt werden. (unverträglich)	Dieses Verhalten ist **zielführend**, weil 1) Manuela dann nicht mehr für das Referat arbeiten wird (Information 5) 2) Manuela Lara nicht schaden können wird (Information 7) 3) Jonas dann mehr für das Referat tun wird (Information 2) 4) Jonas dann keine Zeit mehr für die Job-Aufgabe haben wird (Information 3) und 5) daher als Konkurrenz wegfällt. 6) Michael fällt als Konkurrenz ebenfalls weg (Information 4).

Aufgabe 2

Daniel arbeitet seit einiger Zeit als Angestellter in einem Unternehmen. Er und sein Kollege *Ralf* haben gemeinsam ein Projekt geleitet, aber dieses Projekt ist gescheitert. Sie haben beide Fehler begangen und sollen sich deswegen vor ihrem Vorgesetzten *Herrn Wagener* verantworten.

Daniel kommt ins Gespräch mit einer Kollegin – *Tina*. Tina hat in der Vergangenheit häufig Personen angelogen, damit sie selbst ihre Ziele erreicht (1) – sie und Daniel haben eigentlich ein schlechtes Verhältnis (2). Tina rät Daniel überraschend, dass er bei Herrn Wagener Ralf anschwärzen und selbst keine Fehler zugeben solle. Später spricht Daniel mit Ralf. Dieser berichtet, dass Tina ihm geraten habe, er solle zu seinen Fehlern stehen (3). Ralf meint, er habe vor Tinas Rat zu folgen, falls Daniel nicht einen anderen Rat für ihn habe (4).

Daniel trifft auch auf *Moritz* – einen anderen vertrauenswürdigen Kollegen (5) und ein Mitglied des Betriebsrats: Moritz rät Daniel, dass er zu seinen Fehlern stelle solle, da Herr Wagener keine Petzen möge – er erwarte, dass man professionell zu seinen Fehlern stehe (6). Moritz berichtet, dass Herr Wagener auf jeden Fall eine Person kündigen werde, falls das Projekt nicht zu retten sei (7). Er werde aber nicht Daniel und Ralf zusammen kündigen können – die Kündigung von zwei Personen würde der Betriebsrat verhindern (8). Bei solchen Entscheidungen lasse sich Herr Wagener auch von niemandem reinreden (9).

Daniel sichtet daraufhin noch einmal das gescheiterte Projekt und entdeckt Möglichkeiten bedeutsame Teile davon zu retten. Nötig wären dafür aber sowohl Daniels als auch Ralfs Sachkenntnis.

Beurteilen Sie die folgenden Verhaltensweisen, die Daniel zeigen könnte, um möglichst nicht entlassen zu werden.

Zusatz: Beurteilung der Empfehlung Tinas, dass Daniel Ralf verpetzen solle
- Tina hat in der Vergangenheit gelogen (Information 1)   - Tina hat ein schlechtes Verhältnis zu Daniel (Information 2)   - Moritz ist vertrauenswürdig (Information 5)   - Tina und Moritz geben unterschiedliche Ratschläge und Tina gibt einer anderen Personen einen anderen Ratschlag als Daniel (Information 3)
Folgerung: Moritz Ratschlag (Fehler eingestehen) kann vertraut werden – Tinas Ratschlag (verpetzen) nicht.

Kontraproduktiv (0)	
f) Daniel geht im Gespräch mit Herrn Wagener nicht auf das Projekt ein, sondern stellt fest, dass er ohnehin nicht gekündigt werden könne, da der Betriebsrat das verhindern werde. (verträglich)	Dieses Verhalten ist **kontraproduktiv**, weil 1) der Betriebsrat nur verhindern könne, dass beide gekündigt werden (Information 8) und 2) Daniel nicht den eigenen Fehler zugibt (Information 6).

b) Daniel schiebt im Gespräch mit Herrn Wagener die Schuld am Scheitern des Projekts vollständig auf Ralf. (unverträglich)	Dieses Verhalten ist **kontraproduktiv**, weil 1) Ralf vermutlich die Fehler eingesteht, was Herrn Wagener gefällt und (Information 4) 2) Herr Wagener Petzen nicht mag und Daniel als Petze gilt (Information 6) 3) und damit Daniel gekündigt wird und Ralf bleibt (Information 7)
Ohne Effekt (1)	
a) Daniel bittet Tina sehr höflich, dass sie sich für Daniel und Ralf einsetzen solle. (verträglich)	Dieses Verhalten ist **ohne Effekt**, weil 1) das Verhalten Tina nicht dazu bringen würde dies zu tun (Information 2) 2) Tinas Fürsprache auch nutzlos wäre (Information 9).
d) Daniel fordert Tina sehr ungehalten dazu auf, dass sie sich für Daniel und Ralf einsetzen solle. (unverträglich)	Dieses Verhalten ist **ohne Effekt**, weil 1) das Verhalten Tina nicht dazu bringen würde dies zu tun (Information 2) 2) Tinas Fürsprache auch nutzlos wäre (Information 9).
Zielführend (2)	
c) Daniel schlägt Ralf vor gemeinsam Herrn Wagener zu berichten, dass sie bedeutsame Fehler gemacht haben, aber einen Plan hätten, wie das Projekt gerettet werden könne. (verträglich)	Dieses Verhalten ist **zielführend**, weil 1) beide Fehler zugeben, was Herr Wagener mögen würde (Information 6) 2) es noch Möglichkeiten gibt das Projekt zu retten 3) Herr Wagener nur dann auf jeden Fall eine Person kündigt, wenn das Projekt nicht zu retten sei (Information 7).
e) Daniel bietet Ralf an, die volle Verantwortung zu übernehmen, Ralf solle ihm die Schuld zuschieben. Anschließend gibt Daniel im Gespräch mit Herrn Wagener zu, dass er und Ralf gemeinsam Fehler begangen haben. (unverträglich)	Dieses Verhalten ist **zielführend**, weil 1) Ralf wird die Schuld auf Daniel schieben (Information 4) 2) Herr Wagener Petzen nicht mag und Ralf als Petze gilt (Information 6) 3) Daniel nicht als Petze gelten wird 4) und daher wohl nicht entlassen wird.

Aufgabe 3

Bernd lebt in einer kleinen Gemeinde. Er ist ein politisch aktiver Bürger und auch Mitglied im Gemeinderat Bernd ist gegen ein angekündigtes Bauvorhaben: Unmittelbar neben einem Fast-Food-Restaurant befindet sich ein kleines, parkähnliches Gebiet, das seit Jahren traditionell von den Bewohnern der Gemeinde als Erholungsraum genutzt wird. Der Park gehört *Steffen*, der sich in der Vergangenheit darum kümmerte und dies als Dienst an der Gemeinde verstand. Nun soll das Stück Land aber an *Flora* – die Besitzerin des Fast-Food-Restaurants – verkauft werden. Sie möchte die Parkplatzfläche ihres Restaurants erweitern und dafür das Stück Land von Steffen nutzen. Ansonsten gibt es keine Interessenten, die den Park kaufen wollen würden (1).

Bernd hat den geplanten Verkauf des Gebiets bereits im Gemeinderat thematisiert. *Bastian* – ein anderes Gemeinderatsmitglied – hat zu Bernd ein sehr gutes Verhältnis, sie können einander vertrauen (2). Hier meint er jedoch, dass Steffen und Flora jedes Recht hätten den Verkauf zu vollziehen (3). Eine Baugenehmigung für den Parkplatz müsste aber noch eingeholt werden. *Christopher* – ein Beamter des Bauamts – war in der Vergangenheit für das Erteilen dieser Genehmigungen zuständig. Er gilt als unbestechlich und führte seine Arbeit in der Vergangenheit stets mit absoluter Gewissenhaftigkeit durch. Es heißt, schon viele hätten versucht Christopher zu beeinflussen – immer ohne Erfolg (4).

Auf Nachfrage Bernds berichtet Steffen, dass er keine Zeit mehr habe, um sich um die Pflege des Parks zu kümmern, da er bei der ehrenamtlichen Tätigkeit als Telefonseelsorger zu stark eingespannt sei. Momentan komme die andere Seelsorgerin – *Suzan*, Christophers Ehefrau – nur noch selten zum Dienst, wodurch er zu stark eingespannt sei (5). Die Seelsorger-Tätigkeit hält Steffen für wichtiger als die Parkpflege – er würde aber lieber weniger bei der Seelsorge arbeiten und sich um den Park kümmern, sieht dafür aber keine Möglichkeit (6). Steffen sieht das Engagement Bernds kritisch: er meint, dass die Bewohner der Gemeinde schätzen sollten, dass er den Park all die Jahre zur Verfügung gestellt habe. Wenn sich nun organisierter Wiederstand in Form eines Protestmarsches gegen ihn selbst richten würde, habe er auf jeden Fall vor zu verkaufen (7). Falls er aber nicht verkaufen könne, würde er sich weiter zähneknirschend um den Park kümmern (8).

Bastian berichtet Bernd, dass Flora von der Situation überfordert sei und unbedingt verhindern wolle, dass es zu einem Eklat in der Gemeinde komme, da sie um ihre Kundschaft fürchte. Flora gilt als eine Person, die sich sehr schnell einschüchtern lasse (9). Für sie sei der Erhalt der Kundschaft wichtiger als ein zusätzlicher Parkplatz. Bei einem Protestmarsch vor ihrem Restaurant – so Bastian – sei er sich absolut sicher, dass Flora von ihrem Kaufvorhaben Abstand nähme (10).

Suzan ist ebenfalls im Gemeinderat aktiv. Sie gilt als politische Gegnerin Bernds, arbeitete mit Bernd in der Vergangenheit aber auch bei bestimmten Themen zusammen. Nur wenn Bernd und Suzan zusammen arbeiteten, war Bernd in der Lage Protestmärsche zu organisieren (11). In der Vergangenheit liefen solche Protestmärsche in der Regel nicht friedlich ab und es wurden auch beleidigende Transparente verwendet. Bernd spricht mit Suzan: Sie schlägt ihm vor, dass er ihr bei der Organisation der Eröffnungsfeier eines Autobahnabschnitts unterstütze. Dann werde sie ihm helfen – auch wenn es nicht um den Protestmarsch gehe (12). Dies nehme im Moment ihre ganze Zeit in Anspruch – sie könne im Moment deswegen auch nicht als ehrenamtliche Telefonseelsorgerin arbeite, was sie eigentlich wieder tun wolle (13).

Beurteilen Sie die folgenden Verhaltensweisen, die Bernd zeigen könnte, damit aus dem Stück Land kein Parkplatz wird.

Kontraproduktiv (0)	
e) Bernd überlässt es vollständig Bastian den Parkplatz zu verhindern und tut selbst nichts. (verträglich)	Dieses Verhalten ist **kontraproduktiv**, weil 1) Bastian nicht vorhat den Parkplatz zu verhindern (Information 3) 2) Die Situation wird nicht verändert und daher werden der Verkauf und die Bebauung stattfinden. 3) nach der Durchführung dieses Verhaltens kann das Ziel nicht mehr erreicht werden.
c) Bernd unterstützt Suzan bei der Organisation des Fests und organisiert einen Protestmarsch vor Steffens Haus. (unverträglich)	Dieses Verhalten ist **kontraproduktiv**, weil 1) Suzan würde bei Hilfe den Protestmarsch ermöglichen (Information 13) 2) Steffen im Falle eines Protestmarsches auf jeden Fall verkaufen wird (Information 7) 3) es gibt keinen Grund für Flora nicht zu kaufen, da sich der Protestmarsch nicht gegen sie richtet (Information 10).
Ohne Effekt (1)	
d) Bernd organisiert allein einen eigenen friedlichen Protestmarsch, der Parks im Allgemeinen befürwortet. (verträglich)	Dieses Verhalten ist **ohne Effekt**, weil 1) Bernd allein keinen Protestmarsch organisieren kann (Information 11)
b) Bernd unterstützt Suzan bei der Organisation des Fests und bittet sie ihren Mann Christopher dazu zu bringen, dass er einen eventuell eingehenden Bauantrag für den Parkplatz verhindert. (unverträglich)	Dieses Verhalten ist **ohne Effekt**, weil 1) Suzan Bernds Bitte zwar möglicherweise nachkäme (Information 12) 2) aber Christopher immer unbestechlich war (Information 4)
Zielführend (2)	
f) Bernd unterstützt Suzan bei der Organisation des Fests und bittet sie ihre Tätigkeit als Seelsorgerin wieder aufzunehmen. (verträglich)	Dieses Verhalten ist **zielführend**, weil 1) Suzan in diesem Fall ihre Hilfe zusagt (Information 12) 2) Suzan ohnehin wieder als Seelsorgerin arbeiten möchte (Information 13) 3) Steffen dann keinen Grund mehr hätte, den Park zu verkaufen (Information 5)

	4) Steffen auch wieder lieber für den Park arbeiten würde (Information 6)
a) Bernd unterstützt Suzan bei der Organisation des Fests und organisiert einen Protestmarsch vor Floras Restaurant. (unverträglich)	Dieses Verhalten ist **zielführend**, weil 1) Suzan würde bei Hilfe den Protestmarsch ermöglichen (Information 12) 2) Flora sich schnell einschüchtern lässt (Information 9) 3) und bei einem Protestmarsch das Stück Land nicht kaufen werde (Information 10) 4) und diese Informationen vertrauenswürdig sind, da sie von Bastian stammen (Information 2) 5) und es keinen anderen Kaufinteressenten gibt (Information 1). 6) Im Falle eines gescheiterten Verkaufs würde Steffen sich weiter um den Park kümmern (Information 8).

Aufgabe 4

Tino arbeitet in einem Unternehmen als Teamleiter in einer Abteilung, in der viele Mitarbeiter unzufrieden sind. Tinos Chefs wollen von Tino, dass er Ordnung in die Abteilung bringt und es nicht zu einem Streik kommen darf. Tino darf Personen entlassen oder versetzen lassen, aber nicht mehr als zwei Personen und nicht wenn sein unmittelbarer Vorgesetzter in der Abteilung eindeutig dagegen ist (1).

Tinos unmittelbarer Vorgesetzter in der Abteilung heißt *Günter*. Günter ist ein Vorgesetzter, der wenig Freude an seiner Tätigkeit hat. Er würde lieber nur technische Aufgaben erledigen und keine Personalverantwortung mehr haben (2). Früher war noch ein weiterer Vorgesetzter in der Abteilung: *Philipp*. Philipp wurde in der Vergangenheit von den Mitarbeitern respektiert. Dieser hat allerdings deutlich gemacht, dass er nicht mehr in der Abteilung arbeiten wolle (3).

Eine Mitarbeiterin in der Abteilung – *Nicole* – ist unzufrieden mit den Aufgaben, die sie zu erledigen hat. Sie möchte, dass Sie und ihre Kollegen versetzt werden (4). Sie hat bereits über die Dienst-E-Mail-Adresse einen Streikaufruf an die Mitarbeiter der Abteilung versendet. Nicole und Tino haben eine sehr schlechte Beziehung (5). Nicole hat in der Vergangenheit nie das gemacht, worum Tino sie gebeten hat (6). Günter hat aber klar gemacht, dass er Nicole nicht kündigen werde (7). Günter ist sich aber sicher, dass wenn Nicole nicht mehr in der Abteilung arbeite, sie nicht mehr am Streikvorhaben festhalten würde (8). Die Abteilung hat aber auch den Ruf sensibel auf autoritäres Verhalten zu reagieren: In der Vergangenheit führten Drohungen, die sich gegen alle Mitarbeiter richteten, zu Arbeitsverweigerungen in der Abteilung (9).

Beurteilen Sie die folgenden Verhaltensweisen, die Tino zeigen könnte, um das Streikvorhaben zu unterbinden.

Kontraproduktiv (0)	
c) Tino unterstützt Nicole bei ihrem Vorhaben zu streiken und dem Vorhaben die Belegschaft versetzen zu lassen. (verträglich)	Dieses Verhalten ist **kontraproduktiv**, weil 1) es dann zu einem Streik käme und 2) die Zentrale deutlich gemacht hat, dass Versetzungen im großen Stil nicht möglich sein werden (Information 1).
e) Tino droht der gesamten Abteilung, dass sie entlassen würden, wenn der angedrohte Streik nicht unmittelbar abgesagt würde. (unverträglich)	Dieses Verhalten ist **kontraproduktiv**, weil 1) Tino die Drohung nicht durchsetzen könnte (Information 1) 2) Drohungen führten in der Vergangenheit zu Arbeitsverweigerungen (Information 9)
Ohne Effekt (1)	
a) Tino kontaktiert Philipp, damit er wieder die Leitung der Abteilung übernimmt. (verträglich)	Dieses Verhalten ist **ohne Effekt**, weil 1) Philipp nicht zurückkommen würde (Information 3).

f) Tino fordert Nicole nachdrücklich und wütend auf, ihr Streikvorhaben zu unterlassen. (unverträglich)	Dieses Verhalten ist **ohne Effekt**, weil 1) es wegen der schlechten Beziehung zu Nicole unwahrscheinlich erscheint, dass Nicole der Bitte folgen würde (Information 5) und 2) Nicole in der Vergangenheit nie einer Bitte von Tino folgte (Information 6). 3) Das Verhalten verändert insgesamt nicht die Gesamtsituation.
Zielführend (2)	
d) Tino bietet Günter an, die Abteilung kommissarisch zu leiten. Er lässt Nicole darüber hinaus versetzen. (verträglich)	Dieses Verhalten ist **zielführend**, weil 1) Günter ungern Aufgaben mit Personalaufgaben übernimmt (Information 2) und 2) Tino nun die Abteilung führen kann und 3) Nicole ihr Ziel zum Teil erreicht (Information 4) und 4) zumindest nicht mehr in dieser Abteilung Probleme bereitet (Information 8). 5) Tino darf Nicole auch versetzen (Information 1).
b) Tino bittet die Zentrale darum, dass Günter in eine Technik-Abteilung versetzt wird. Anschließend lässt er Nicole kündigen mit Verweis auf die unzulässige Verwendung der Dienst-E-Mail-Adresse. (unverträglich)	Dieses Verhalten ist **zielführend**, weil 1) Günter seine derzeitige Tätigkeit nicht mag und lieber eine technikbezogene Aufgabe machen würde (Information 2) und 2) Günter damit nicht mehr Nicoles Kündigung verhindern könnte (Information 7), weil er nicht mehr die Personalabteilung für die Abteilung hätte. 3) Nicole mit der Streik-E-Mail ein nachweisbar angreifbares Verhalten gezeigt hat und 4) Nicole gekündigt werden kann und sie nicht mehr streiken würde (Information 8) und könnte. 5) Tino damit die Abteilungsleitung übernehmen können wird.

Aufgabe 5

Stefan ist ein Student an einer Filmhochschule und möchte mit seinen drei Kommilitonen Lisa, Anna und Marius einen Kurzfilm drehen. Schnell stoßen die vier auf künstlerische Differenzen:

Während Stefan und Marius gänzlich unterschiedliche Meinungen hinsichtlich der musikalischen Untermalung haben, hat Anna hier keine Meinung, sie enthält sich. Allerdings haben Anna und Marius sehr unterschiedliche Meinung zur Gestaltung des Filmendes. Stefan ist in dieser Frage unentschieden. Auch beim technischen Equipment gibt es Meinungsverschiedenheiten, Marius will eine besonders moderne Kamera einsetzen, Anna enthält sich, Stefan ist dagegen. Lisa hat in allen Fragen die gleiche Meinung wie Marius.

Bei früherer Zusammenarbeit hat sich in aller Regel gezeigt, dass Marius sehr energisch für seine Positionen gestritten hat, allerdings auch immer Kompromissbereitschaft zeigte: Wenn er in einem Punkt Recht bekam, zeigte er sich oft sehr versöhnlich in allen anderen Punkten (1). Wenn er aber den Eindruck hatte, dass ihm kein Respekt für seine Position entgegengebracht wird, zeigte sich Marius in der Vergangenheit sehr unkooperativ (2). Lisa bewundert Marius sehr und vertritt in der Regel die gleiche Meinung wie Marius (3), da sie selten eine eigene Meinung hat. Stefan weiß noch mehr über Lisa: Sie hat mehr als nur freundschaftliche Gefühle für Anna (4), will dies aber unter allen Umständen verbergen (5). Stefan glaubt, dass Lisa so ziemlich alles tun würde, damit ihre Gefühle ein Geheimnis bleiben. Anna war es bei ähnlichen Arbeiten in der Vergangenheit am wichtigsten, dass sie ihre Meinung im Hinblick auf die Handlung des Films durchsetzt, Aspekte der Bild- und Tongestaltung waren letztlich für sie sekundär (6). Stefan gegenüber macht Anna aber frustriert deutlich, dass wenn ihre Vorstellungen hinsichtlich des Filmendes nicht erfüllt werden, sie das ganze Projekt verlassen wird, wodurch die Arbeiten am Film beendet wären (7).

Falls in der Vergangenheit kein Gesamtkompromiss erzielt werden konnte, wurde in Einzelfragen per Mehrheitsbeschluss entschieden (8).

Beurteilen Sie die folgenden Verhaltensweisen, die Stefan zeigen könnte, um die musikalische Untermalung nach seinen Vorstellungen durchsetzen zu können.

Kontraproduktiv (0)	
d) Stefan gibt Marius hinsichtlich des Endes des Films Recht, damit er sich kompromissbereit bei den anderen Streitpunkten zeigt. (verträglich)	Dieses Verhalten ist **kontraproduktiv**, weil 1) Marius zwar kompromissbereit in den anderen Punkten sein wird (Information 1) und Lisa folgen wird (Information 3), aber 2) Anna dann das Projekt verlassen wird und der Film beendet wäre (Information 7)
e) Stefan wirft Marius mangelnde Kenntnis hinsichtlich des Filmthemas vor und legt argumentativ dar, dass Marius Meinung schlecht ist. (unverträglich)	Dieses Verhalten ist **kontraproduktiv**, weil 1) Marius den Eindruck haben wird, dass seiner Position kein Respekt gezollt wird und 2) er sich dadurch auch nicht bei anderen Punkten kompromissbereit zeigen wird (Information 2) und 3) dadurch auch Annas Position zum Ende des Films scheitern würde (Marius und Lisa gegen Anna und Stefan enthält sich) und

	5) Anna dann das Projekt verlassen wird und der Film beendet wäre (Information 7).
Ohne Effekt (1)	
f) Stefan versucht Lisa davon zu überzeugen, dass die von ihm favorisierten Komponisten die bessere Wahl sind. (verträglich)	Dieses Verhalten ist **ohne Effekt**, weil 1) Lisa in der Regel zu Marius steht (Information 3) und 2) Marius eine andere Meinung hat als Stefan. 3) die Mehrheitsverhältnisse hinsichtlich allen Inhaltsbereichen unverändert wären.
b) Stefan droht Lisa, dass er ihr Geheimnis ausplaudern werde, falls sie nicht dafür stimmen werde, dass Annas Ende durchgesetzt werde. (unverträglich)	Dieses Verhalten ist **ohne Effekt**, weil 1) es zu einem Abstimmungsprozess käme (Information 1) 2) Lisa Stefans Forderung folgen würde (Information 4, Information 5) 3) Annas Ende durchgesetzt würde (3 gegen Marius / 2 gegen Marius + eine Enthaltung) 4) Anna den Film nicht verlassen würde 5) die Mehrheitsverhältnisse hinsichtlich der Musik aber unverändert wären.
Zielführend (2)	
c) Stefan zeigt Verständnis für Marius Einsatz der modernen Kamera, damit er sich kompromissbereit bei den anderen Streitpunkten zeigt. (verträglich)	Dieses Verhalten ist **zielführend**, weil 1) Marius in einem Punkt Recht bekommen wird und sich dadurch in allen anderen Punkten kompromissbereit zeigen wird (Information 1) 2) Lisa sich dem anschließen wird (Information 3) und 3) Anna sich dem fügen wird, da es für sie sekundär ist (Information 6) 4) dadurch eine Mehrheit für das Film-Ende und die Filmmusik möglich ist.
a) Stefan droht Lisa, dass er ihr Geheimnis ausplaudern werde, falls sie nicht dafür stimmen werde, dass Annas Ende und Stefans Musikvorstellungen durchgesetzt werden. (unverträglich)	Dieses Verhalten ist **zielführend**, weil 1) es zu einem Abstimmungsprozess käme (Information 1) 2) Lisa Stefans Forderung folgen würde (Information 4, Information 5) 3) Annas Ende durchgesetzt würde (3 gegen Marius / 2 gegen Marius + eine Enthaltung) 4) Anna den Film nicht verlassen würde 5) Stefans Musikvorstellung durchgesetzt würde (2 gegen Marius + eine Enthaltung)

Anhang D. Messung der Außenkriterien in Studie 5

Hier werden die für die Studie generierten zusätzlichen Items aufgeführt.

Skala *success leisure*

- Ich schaffe es meine Freizeit für mich befriedigend zu gestalten.
- Andere Menschen würden meine Freizeitgestaltung als erstrebenswert beschreiben.
- In meiner Freizeit mache ich eigentlich nichts Besonderes.
- Ich betreibe Hobbies, die andere spannend und beeindruckend finden.
- Meine Freizeitgestaltung ist toll.
- Ich kann so gut wie nie spannende Geschichten aus meiner Freizeit erzählen.

Skala *success social*

- Es fällt mir leicht neue Freundschaften zu schließen.
- Es fällt mir leicht intensive Freundschaften zu schließen.
- Ich bin mit der Qualität meines sozialen Netzwerks zufrieden.

Anhang E. Ethikvotum der Studie 7

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Votum der Ethik-Kommission

Sehr geehrte Herren,

hiermit teile ich Ihnen in meiner Eigenschaft als zuständiger Prorektor mit, dass der von Ihnen gestellten Antrag zur Durchführung des Forschungsvorhabens *„The dark tetrad of personality: A meta- and factor-analytical review"* beraten und positiv, d. h. für die Unbedenklichkeit der projektierten Studie votiert ist.

Mit freundlichen Grüßen

Prof. Dr. Michael Scheffel