



Expectancy biases underneath the Dark Triad traits: Associations with optimism, pessimism, and hopelessness



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ABSTRACT

Personality traits play a key role in understanding optimism, but few studies have examined how “darker” aspects of personality relate to individual differences in trait-level optimism. We examined whether the Dark Triad traits (i.e., narcissism, psychopathy, and Machiavellianism) were associated with individual differences in optimism (i.e., Life Orientation Test; Lerner Optimism Scale; Beck Hopelessness Scale). Our results were rather compelling in that across measures and countries sampled, narcissism was associated with more optimism whereas psychopathy and Machiavellianism were associated with less. Results are discussed in terms of how such outlooks or expectancies are likely to color the social interactions that people characterized by the Dark Triad traits engage in and the social consequences they may experience.

1. Introduction

For most of the 20th century, psychological research presented a rather bleak view of people with its focus on Freudian (e.g., neuroses) and Behaviorist (e.g., stimulus response) models (Hergenhahn, 2005). With the emergence of Third-Force, Humanistic, and Positive Psychology, more attention has been drawn to how psychology can inform on and even improve people's happiness (Diener, 1999). Happiness can reflect a stable-trait that captures individual differences how positive individuals view their world and lives (Sheldon & Lucas, 2014). Various researchers have pointed to the role of personality traits in accounting for individual differences in happiness (Argyle & Lu, 1990; Argyle, Martin, & Crossland, 1989; Brebner, Donaldson, Kirby, & Ward, 1995). For example, researchers have focused on the Big Five personality traits, Eysenck's personality traits, and self-esteem (Hills & Argyle, 1998; Tkach & Lyubomirsky, 2006). For example, extraversion, self-esteem, and neuroticism are correlated with happiness (Cheng & Furnham, 2003). However, these traits may be restrictive in that they only tap socially desirable aspects of personality and happiness, alone, may describe a desirable affective state as opposed to a deeper, dispositional bias. In this study, we examine how three socially aversive personality traits relate to individual differences in optimism. The way people view the world (i.e., optimism v. pessimism) is likely to have

serious implications for how they interact with it and may improve our understanding of the underlying motivations of personality (Anderson & Galinsky, 2006; Lerner & Keltner, 2001; Snyder, 2002) and to capture expectancy biases.

The Dark Triad traits are a collection of socially undesirable personality features that have become a topic of interest for researchers around the world (see Muris, Merckelbach, Otgaar, & Meijer, 2017). The Dark Triad traits are characterized by grandiosity and self-centeredness (i.e., narcissism), manipulation and cynicism (i.e., Machiavellianism), and callous social attitudes and impulsivity (i.e., psychopathy). The traits are linked to various undesirable outcomes like exploitive sexual attitudes (e.g., Jonason, Girgis, & Milne-Home, 2017), counterproductive workplace behaviors (Spain, Harms, & LeBreton, 2014), and limited empathy (Jonason, Lyons, Bethell, & Ross, 2013). Despite correlations among the Dark Triad traits and similar links to some psychosocial phenomena, there is a fundamental division emerging suggesting that narcissism may be distinct from Machiavellianism and psychopathy in terms of their relative “darkness” (McDonald, Donnellan, & Navarrete, 2012). For example, psychopathy is associated with dysfunctional impulsivity whereas narcissism is associated with functional impulsivity (Jones & Paulhus, 2011), self-interested values are linked to narcissism whereas antigroup values are associated with Machiavellianism and psychopathy (Jonason, Strosser, Kroll,

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Duineveld, & Baruffi, 2015), and psychopathy is also associated with psychosocial and health costs (e.g., diminished life expectancy) overall and whereas narcissism is linked to an apparent resilience (potentially as a function of denser social networks) from various psychosocial and physical costs (Jonason, Baughman, Carter, & Parker, 2015). We expect to observe this division when correlating the Dark Triad traits with individual differences in optimism.

One short-coming, thus far, in research on the Dark Triad traits is limited knowledge about potential biases that underlie these traits (e.g., Jonason & Fletcher, 2018); one such bias may be captured with individual differences in optimism. Optimism, and its related anti-traits of pessimism and hopelessness, may reflect dispositional patterns in how individuals view the world and the probability of experiencing good and bad events based on their prior experiences (Scheier & Carver, 1985; Weinstein, 1980), thus operating as expectancy biases. That is, experience with unpredictable childhoods may drive pessimism whereas predictable childhoods may drive optimism just like they are associated with psychopathy and narcissism, respectively (Jonason, Icho, & Ireland, 2016; Jonason, Lyons, & Bethell, 2014). These views of the world color how people interact with the world, but there are individual differences in how optimistic or pessimistic people view the world that may be accountable with personality traits like the Dark Triad. Related work suggests narcissism is associated with more happiness and psychopathy is associated with less happiness (Aghahabaei & Blachino, 2015; Egan, Chan, & Shorter, 2014). If narcissists grow up in more favorable conditions (Jonason et al., 2014), they should also have positive expectancies (e.g., optimism) about their future, whereas psychopaths and Machiavellians, growing up in harsher conditions (Jonason et al., 2016), should have more negative expectations about their future (e.g., pessimism).

In this brief, multinational study, we investigate how the Dark Triad traits are associated with individual differences in optimism. We expect narcissism to predispose people to have a positive outlook on life because it facilitates their approach-orientation to the world (Foster & Trimm, 2008) and the related trait of self-esteem is associated with more optimism and lack of hopelessness (Lyubomirsky, Tkach, & DiMatteo, 2006). In contrast, we expect psychopathy (in particular) and Machiavellianism (to a lesser degree) to predispose people to have a more negative outlook on life that enables their cynicism (Jones & Paulhus, 2009) and exploitive approach to life (Jonason et al., 2013).

2. Method

2.1. Participants and procedure

Participants ($N_{Grand} = 937$) were 300 Hungarians (129 men), 306 Brazilian (91 men), and 331 American (90 men) undergraduates ($M_{Age} = 22.67$, $SD_{Age} = 4.66$, $Range = 18$ to 47) who participated in a larger online (translated and back-translated in the Hungarian and Brazilian samples) study about “personality and views of the future” (see Jonason, Foster, et al., 2017) in exchange for course credit in their psychology classes. Site-specific, sample size minimums were determined to have 95% power to detect the average effect size in social and personality psychology ($r \approx 0.20$; Richard, Bond Jr, & Stokes-Zoota, 2003) and to produce stable correlations (Schönbrodt & Perugini, 2013).

2.2. Measures

The 27-item Short Dark Triad scale (Jones & Paulhus, 2014) was used to measure Machiavellianism (e.g., “I like to use clever manipulation to get my way.”), narcissism (e.g., “I insist on getting the respect I deserve.”), and psychopathy (e.g., “People who mess with me always regret it.”). Participants indicated their agreement to the above (1 = *strongly disagree*; 5 = *strongly agree*). Items for each scale, in each country, were averaged together to create indexes of narcissism

(Cronbach's α s = 0.51 to 0.71), Machiavellianism (α s = 0.59 to 0.75), and psychopathy (α s = 0.60 to 0.78).¹

We measured individual differences in optimism with the Lerner's Optimism Scale (LOS; Lerner & Keltner, 2001). The scale is composed of 15 items asking participants to estimate their own chances (−4 = *extremely unlikely*; +4 = *extremely likely*) of experiencing 15 future life events relative to the average chances of same-sex students at their own university where approximately half of items were desirable events (e.g., “My achievements were written up in a newspaper.”) and the other half reflected undesirable events (e.g., “I chose the wrong profession.”). Responses to undesirable event items were reverse-coded and all 15 responses were averaged to create a single index of optimism in each country (α s = 0.64 to 0.70).

Optimism was also measured with the Life Orientation Test (LOT; Scheier & Carver, 1985). Participants reported their agreement (1 = *strongly disagree*; 5 = *strongly agree*) with three optimistically worded items (e.g., “In uncertain times, I usually expect the best.”) and three pessimistically worded items (e.g., “If something can go wrong for me, it will.”). Pessimistically worded items were reverse-scored and all six items were averaged to create a single index of optimism in each country (α s = 0.57 to 0.79).²

We measured individual differences in pessimism—as anti-optimism—via the Beck Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974). The scale is composed of 20 forced-choice, true-false questions (e.g., “I might as well give up because I can't make things better for myself.”). Responses (1 = *True*; 0 = *False*) were averaged to create a single index of pessimism in each country (α s = 0.78 to 0.84).

Because this was a multinational project, we needed to translate scales from their native language (when called for) to Brazilian Portuguese and Hungarian. The Short Dark Triad has been translated successfully into Hungarian already (e.g., Birkás & Csathó, 2016). For this scale, the Brazilian Portuguese translation was done by having two researchers, who were fluent in both languages, independently translate the scale from English to their respective languages and a third researcher translating it back. Where disagreements arose, the three resolved them together. The same procedure was used for the optimism scales in Hungarian and Brazilian Portuguese.

3. Results

Table 1 shows descriptive statistics and correlations among the Dark Triad traits and optimism variables observed in the United States, Hungary, and Brazil. Because the LOT, LOS, and BHS were all putative measures of optimism, we sought to simplify the analyses by creating a latent optimism variable reflected by these three observed variables. This would permit relatively simple testing of structural paths representing associations between the three Dark Triad traits and optimism.

3.1. Testing measurement invariance of latent optimism

Because data were collected in three different countries, it was important to first test whether the latent construct of optimism was measured equivalently cross-nationally. Because the goal of this study was to examine structural paths between Dark Triad traits and optimism, it was necessary to establish what is commonly referred to as metric invariance. Metric invariance means that factor loadings between the observed optimism variables (i.e., LOT, LOS, and BHS) and latent optimism were consistent across the three countries. In short, this

¹ In the full sample Machiavellianism was correlated with narcissism ($r = 0.24$, $p < .01$) and psychopathy ($r = 0.55$, $p < .01$) and psychopathy was correlated with narcissism ($r = 0.32$, $p < .01$). These correlations held up across the different samples. Cronbach's alphas were the lowest in Brazil for each of the Dark Triad traits (see Jonason, Foster, et al., 2017).

² It was Brazil that had the lowest internal consistency.

Table 1
Descriptive statistics and correlation matrix of all variables split by country.

	United States (n = 331)						Hungary (n = 300)						Brazil (n = 306)					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
1. SDT-N	–						–						–					
2. SDT-P	0.30	–					0.33	–					0.33	–				
3. SDT-M	0.28	0.59	–				0.24	0.56	–				0.19	0.45	–			
4. LOT	0.27	–0.26	–0.21	–			0.34	–0.12	–0.23	–			0.20	–0.15	–0.14	–		
5. LOS	0.29	–0.18	–0.15	0.42	–		0.43	–0.13	–0.18	0.50	–		0.20	–0.08	–0.06	0.41	–	
6. BHS	–0.19	0.31	0.25	–0.54	–0.45	–	–0.37	0.13	0.18	–0.65	–0.58	–	–0.19	0.11	0.18	–0.54	–0.53	–
Mean	3.03	2.11	2.99	3.30	0.73	0.18	2.78	2.21	3.03	3.42	0.43	0.22	2.70	1.96	2.88	3.57	0.52	0.19
SD	0.55	0.60	0.64	0.68	1.05	0.18	0.64	0.68	0.74	0.84	1.03	0.21	0.50	0.52	0.51	0.60	0.98	0.16

Notes. SD-N = Short Dark Triad-Narcissism; SDT-P = Short Dark Triad-Psychopathy; SDT-M = Short Dark Triad-Machiavellianism; LOT = Life Orientation Test; LOS = Lerner Optimism Scale; BHS = Beck Hopelessness Scale; all correlations significant at $p < .001$.

suggests that participants in the three countries interpreted the measures of optimism similarly. Metric invariance is sometimes called weak invariance and is one step higher than the most basic type of invariance, which is commonly called configural invariance. Configural invariance means that the basic factor structure—in this case, one latent variable reflected by three observed variables—holds cross-nationally. While metric invariance is important to establish prior to testing structural associations, configural invariance is necessary to establish prior to testing for metric invariance. Finally, scalar invariance (sometimes called strong invariance) indicates that mean scores on a variable mean the same thing cross-nationally. This is only necessary to establish if one wishes to compare groups (e.g., countries) using means scores. For the present study, scalar invariance was not necessary, although we tested it nevertheless for informational purposes.

Fig. 1 shows both the measurement model (i.e., latent optimism reflected by observed LOT, LOS, and BHS) and structural model (i.e., paths connecting the Dark Triad traits with latent optimism). The structural model was included in this round of measurement invariance testing to ensure that it did not create serious problems with fit or

model admissibility that would later undermine attempts to conduct structural tests. Table 2 shows the results of the invariance testing. As can be seen, the model representing configural invariance showed strong fit to the data (e.g., CFI = 0.99, SRMR = 0.02). Most importantly, the model representing metric invariance also showed strong fit and non-significantly worse fit compared to the model representing configural invariance. Finally, the model representing scalar invariance showed poor fit to the data and significantly worse first than the model representing metric invariance.

These results suggest the latent variable for optimism was sufficiently invariant for the purposes of the present study. That is, the measures used to model optimism appeared to be interpreted similarly by participants in the United States, Hungary, and Brazil. Although unnecessary to establish for the present study, it was interesting that scalar variability existed across the three countries. Future research may wish to examine this further, but it suggests that participants in these three countries may possess differing levels of optimism even if they report the same scores on these measures of optimism. Again, however, for the purposes of the present study (i.e., to test structural

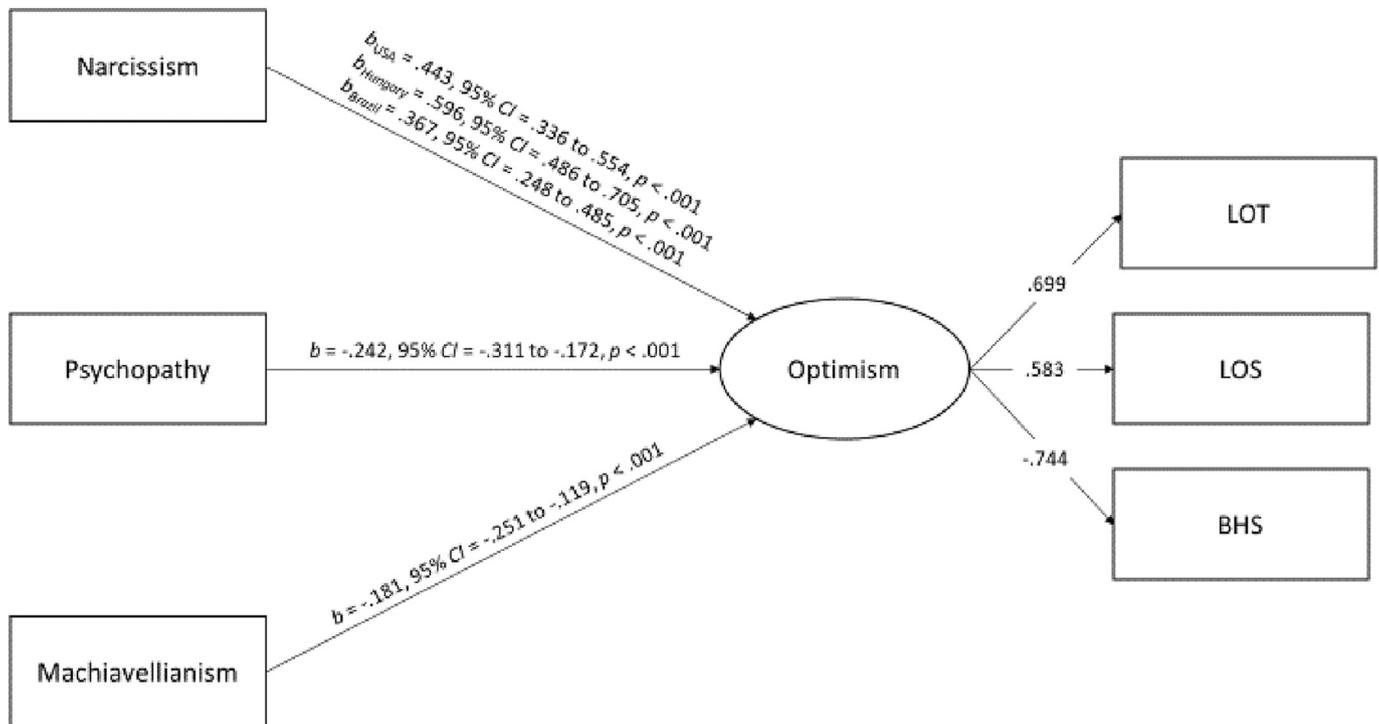


Fig. 1. Measurement and structural model showing associations between Dark Triad traits and optimism. Notes. b = unstandardized regression coefficient; 95% CI = bootstrapped (10,000 samples) estimate of 95% confidence interval of b; coefficients linking latent optimism with LOT, LOS, and BHS are standardized factor loadings taken from the United States sample (similar loadings were attained from Hungary and Brazil).

Table 2
Invariance testing of measurement and structural models of Dark Triad traits and optimism.

Model		χ^2	df	Comparison model	$\Delta\chi^2$	Δdf	p	CFI	TLI	RMSEA	SRMR
1	Configural	32.68	18					0.99	0.97	0.05	0.02
2	Metric	37.20	22	1	4.52	4	< .341	0.99	0.98	0.05	0.03
3	Scalar	112.93	28	2	75.73	6	< .001	0.91	0.90	0.10	0.06
4	Structural: all paths constant	52.89	28	2	15.69	6	< .016	0.98	0.97	0.05	0.06
5	Structural: narcissism path free to vary	42.80	26	4	10.10	2	< .007	0.98	0.98	0.05	0.04
6	Structural: psychopathy path free to vary	48.45	26	4	4.44	2	< .109	0.98	0.97	0.05	0.06
7	Structural: Machiavellianism path free to vary	52.01	26	4	0.88	2	< .645	0.97	0.96	0.06	0.06

Notes. Comparison model represents the model number that was compared to the model in that row of the table.

associations between Dark Triad Traits and optimism), the latent variable constructed to reflect optimism had sufficient cross-national invariance to proceed with analysis.

3.2. Testing structural invariance of paths between Dark Triad traits and optimism

In the previous round of invariance testing, we established that the latent variable of optimism was sufficiently invariant to process to structural tests. In this round of testing, we examined whether the structural paths representing associations between each of the three Dark Triad traits and optimism are invariant across the three countries (Table 2). The first model tested was one in which all three structural paths (e.g., path between narcissism and optimism) were held constant across the three countries. This model (Model 4), showed worse fit than the model representing metric invariance, which allowed each structural path to be freely estimated. Thus, we rejected the model representing full structural invariance. Next, we tested a model that freed the structural path between narcissism and optimism specifically. This model (Model 5) showed significant improvement relatively to the model representing full structural invariance. Additionally, and not shown in the table, this model was not significantly worse fitting than the metric invariance model ($\Delta\chi^2(\Delta df = 4) = 5.59, p < .24$). In short, this model showed good fit to the data, better fit than the full structural invariance model, and fit as well as the metric invariance model. The last two models tested freed up the path between psychopathy and optimism (Model 6) or Machiavellianism and optimism (Model 7). As is shown in Table 2, neither of these models fit significantly better than the full structural invariance model.

The results of the structural invariance testing suggest that Model 5 fit the data best and was, therefore, retained for further examination. The direction and strength of the structural paths contained in this model are shown in Fig. 1. First, structural paths involving psychopathy and Machiavellianism were invariant cross-nationally and could, therefore, be accurately described with a single path coefficient representing all three countries. As can be seen, both paths were significant and negative, indicating that participants who scored higher in psychopathy and Machiavellianism reported less optimistic outlooks. In contrast, the path involving narcissism was not cross-nationally invariant. This path was best described using three path coefficients, one for each country. In addition, although the three path coefficients differed in terms of strength, they were all significant and positive, indicating that participants who scored higher in narcissism reported more optimistic outlooks. The 95% CIs reported in the figure were bootstrap estimates (10,000 samples) and it is notable that while the United States CI overlapped with both Hungary and Brazil's, Hungary and Brazil's CIs did not overlap. This suggests that the association between narcissism and optimism was significantly stronger for participants in the Hungarian sample compared to the Brazilian sample.

4. Discussion

The purpose of the present study was to understand the associations

between the Dark Triad traits and individual differences in optimism. We hypothesized that psychopathy and Machiavellianism would manifest a pessimistic outlook and narcissism would be associated with an optimistic outlook. We tested these hypotheses using a multinational, convenience sample consisting of participants from the United States, Hungary, and Brazil. The results were unambiguously supportive of our hypotheses, although some cross-national variability was observed. Specifically, although narcissism was positively associated with optimism in all three countries, the association was strongest in Hungarian and weakest in Brazilian participants. Nevertheless, our results build on prior research on the Dark Triad traits (Aghahabaei & Blachino, 2015) and personality in general (Argyle et al., 1989; Brebner et al., 1995) relative to important positive psychology factors like happiness and well-being, but do so in (1) in a multinational sample and (2) relying on a latent measurement of optimism composed of measures of individual differences in optimism, pessimism, and hopelessness. Importantly, prior research treated happiness as a downstream product of personality (Egan et al., 2014), whereas, we consider individual differences in optimism as latent biases that characterize the Dark Triad traits.

Additionally, some evidence of scalar invariance was observed regarding the measurement of optimism. This finding suggests that mean scores on optimism, at least when measured using the measures used in the present study, may not be directly comparable across the three countries sampled in this study. Although this did not affect the results of the present study, it may affect how future, cross-national research on optimism should be conducted (e.g., using alternative measures that are more strongly cross-nationally invariant). Nevertheless, this has implications for work on multinational assessments of related traits like subjective well-being as what defines a “good life” may differ by local socioecological conditions, values, and traditions.

It was noted at the outset that narcissism is often considered to be the “brighter” of the Dark Triad traits (McDonald et al., 2012). The results of the present study add more credence to this perspective. There are numerous possible causes of this difference. Some prior research suggests that narcissism may be associated with more favorable attachment systems and childhood conditions compared to either psychopathy or Machiavellianism (Jonason et al., 2014). These socio-environmental conditions may predispose narcissists to being optimistic and psychopaths/Machiavellians to being pessimistic. Alternatively, the divide might be a function of the kinds of variables being assessed. When examining correlations with evolutionarily-relevant outcomes like sex (Jonason, Girgis, et al., 2017), the three traits may line-up in ways that they do not when assessing evolutionarily novel traits like creativity (Jonason, Abboud, Tomé, Dummett, & Hazer, 2017). That is natural selection may act as an organizing force for related traits to enable the successful completion of adaptive tasks like survival and mating. Nevertheless, we would contend that personality traits, paired with appropriate expectancy biases, as found in individual differences in optimism/pessimism, may be partly responsible for the various outcomes linked to the Dark Triad traits. For example, those high in psychopathy may engage in counterproductive work behavior (Spain et al., 2014) because they have a pessimistic disposition which motivates them to be exploitive through enabling a “why not” attitude.

Future work will need to test this mediation hypothesis.

It was also noted earlier that narcissism and psychopathy/Machiavellianism are differentially linked to a variety of psychological and health outcomes that suggest narcissism is the healthiest (most functional) of the Dark Triad traits. Similarly, narcissism is linked to more happiness and psychopathy is linked to less happiness. Because dispositional optimism is also differently linked to positive and negative outcomes, respectively (Anderson & Galinsky, 2006; Lerner & Keltner, 2001; Scheier & Carver, 1985; Snyder, 2002; Weinstein, 1980), it may be the case that individual differences in optimism may explain some of the outcome discrepancies associated with the Dark Triad traits.

4.1. Limitations and conclusions

Despite the use of data drawn from three countries and three assessment methods of individual differences in optimism, our study was characterized by several limitations. First, because our data was exclusively drawn from college students, it was biased towards more women than men and could be described as educated, industrialized, rich, and democratic, but not exclusively western (Henrich, Heine, & Norenzayan, 2010) and was convenience in nature. Second, internal consistency estimates were generally acceptable-to-good. While most coefficients passed the standard (i.e., 0.70) threshold (Nunnally, 1978), a few only passed the more liberal threshold (i.e., 0.50) as set out for basic research (Schmitt, 1996), but as the range of these values was not particularly large and we found similar effects in each country, these concerns are diminished. Third, we adopted a short measure of the Dark Triad traits which may not have been as well tested as longer alternatives and is not reducible to constituent parts to provide even finer grained detail in the analysis. Fourth, we confined our tests to understanding the biases in the Dark Triad traits but failed to examine the downstream consequences of those biases. For example, one might examine what outcomes are linked to psychopathy as opposed to narcissism as a function of their respective optimism rates. Fifth, the work here fails to examine what kinds of strategies those characterized by the Dark Triad traits might use to find happiness (Tkach & Lyubomirsky, 2006). Future work should endeavor to address these limitations in more multiculturally and methodologically diverse studies.

In three countries, we showed how the Dark Triad traits were associated with systematic trends in optimism. We revealed that narcissists have a “rosy” view of life whereas psychopathic and Machiavellian people have a “grey” view of life; effects that were robust to country-wise and methodological differences. Our study constitutes the first (we know of) multisample-multimethod assessment of how the Dark Triad traits correlate with individual differences in optimism. Such work informs both clinicians interested in the psychologies of those with dark personality traits and addresses important conceptual issues in relation to the expectancy biases associated with the Dark Triad traits.

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