



The Dark Triad traits and views of time in three countries[☆]



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ABSTRACT

In samples drawn from Australia, Japan, and Russia ($N = 1032$) we replicated an extended work on the relationships between the Dark Triad traits (i.e., narcissism, psychopathy, and Machiavellianism) and individual differences in time perspectives. We documented that narcissism was associated with recollections of favorable pasts, whereas psychopathy and Machiavellianism were associated with recollections of unfavorable pasts. Consistent with life history models of the Dark Triad traits, the Dark Triad traits were associated with hedonism and limited future concerns. Country-wise comparisons suggested that narcissism was associated with *less* future concerns in Australia and Russia but *more* future concerns in Japan. Sex differences in future concerns were mediated by individual differences in psychopathy but suppressed by individual differences in narcissism. Results are discussed using a life history framework.

1. Introduction

There are individual differences in how people orient to time (Carstensen, Isaacowitz, & Charles, 1999; Keough, Zimbardo, & Boyd, 1999). These individual differences include positive and negative recollections of one's past and childhood, a tendency to pursue immediate pleasure (i.e., hedonism), a tendency to be concerned with the future, and fatalism (Zimbardo & Boyd, 1999). Time perspectives have been linked to various life outcome and psychological factors. For instance, people with a present orientation (i.e., high hedonism and limited future concerns) are often aggressive, anger-prone, and impulsive, are characterized by “dysfunctional” attachment, and engage in drug or alcohol abuse and risk-taking (Chisholm, 1999; Keough et al., 1999; Stolarski, Bitner, & Zimbardo, 2011). One limitation of this work, however, is that it rarely examines the relationships between these perspectives and domain-general personality traits and instead has focused on behavioral syndromes like risky driving or impulsivity (Zimbardo et al., 1997). One set of personality traits that might be particularly worthy of investigation in relation to individual differences in time perspectives is the Dark Triad (i.e., psychopathy, narcissism, and Machiavellianism). These traits account for variance in similar behavioral syndromes like reward-seeking biases (Birkás, Csathó, Gács, & Bereczkei, 2015; Foster & Trimm, 2008), a tendency to choose smaller, immediate rewards over larger, delayed ones, and to engage in various “short-sighted” behaviors like excessive drinking, use of illegal

drugs, casual sex, and cigarette smoking (Jonason, Koenig, & Tost, 2010; Jonason, Li, Webster, & Schmitt, 2009), and link with impulsivity (Jones & Paulhus, 2011). In this study, we examine the correlations between the Dark Triad traits and individual differences in time perspectives.

Truth be told, there are already (at least) three studies (Birkás & Csathó, 2016; Moraga, Nima, & Garcia, 2017; Stolarski, Czarna, Malesza, & Szymańska, 2017) that have examined these associations, making another study seemingly unwarranted. These studies revealed that the Dark Triad traits are associated with a present hedonistic outlook, limited future concerns, and fatalism. Unfortunately, these studies are limited by being confined to two Eastern European countries and one Northern European country, relatively small sample sizes, a reliance (in two cases) on the Dirty Dozen measure of the Dark Triad traits which has been criticized for limited heterogeneity in the items (Miller et al., 2012), and a failure (in two cases) to examine potential sex-related moderation and mediation effects despite the importance of both when trying to understand the Dark Triad traits, especially from an evolutionary framework (Jonason et al., 2009; Jonason, Lyons, Bethell, & Ross, 2013). Therefore, we examine these links with an alternative, brief measure of the Dark Triad traits in men and women sampled from Australia, Russia, and Japan.

In the last 10 years, there has been intense interest in the Dark Triad traits (Furnham, Richards, & Paulhus, 2013; Muris, Merckelbach, Otgaar, & Meijer, 2017). The Dark Triad traits are characterized by

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grandiosity and self-centeredness (i.e., narcissism), manipulation and cynicism (i.e., Machiavellianism), and callous social attitudes and impulsivity (i.e., psychopathy). One reason for this intense interest has been their integration into a life history theory (Wilson, 1975) paradigm; a paradigm that suggests individual differences reflect different adaptive trade-offs between immediate and mating needs and delayed and survival needs (Figueredo et al., 2006). Using this paradigm, we make several predictions. First, life history researchers contend that personality traits should be related to childhood conditions (Bjorklund & Pellegrini, 2000; Chisholm, 1999) and the Dark Triad traits are correlated with childhood conditions (Jonason, Icho, & Ireland, 2016; Jonason, Lyons, & Bethell, 2014). However, the childhood conditions associated with each of these dispositions appear to be somewhat different, with narcissism being sensitive to positive childhood experiences and psychopathy and Machiavellianism being sensitive to negative childhood conditions. As such, we expect narcissism to be correlated with viewing their past in a more positive light, whereas psychopathy and Machiavellianism will be correlated with viewing their past in more negative terms. Second, the life history view of the Dark Triad traits contends that these traits generally facilitate operating on a shorter, immediate timeline (Jonason et al., 2010). If so, the traits should be linked to both a hedonistic orientation (i.e., prioritizing pleasure) and limited concerns about the future. However, given differences in each trait (Jones & Paulhus, 2009; McDonald, Donnellan, & Navarrete, 2012), we expect narcissism to be particularly linked to hedonistic goals, psychopathy should be linked to limited concerns about the future, and Machiavellianism should be associated with concerns about the future. Third, if we assume that childhood experiences of those high in each trait act to create expectancy heuristics about the future, we expect those high on the Dark Triad—psychopathy and Machiavellianism in this case (Birkás & Csathó, 2016)—to be linked to fatalism as they may have been unable to affect change for the better in their childhoods, thus, setting the stage for both these traits, but also a sense of learned helplessness as seen in fatalistic thinking.

There is also potential moderation by country of these associations and mediation effects for sex differences in time perspectives by individual differences in the Dark Triad traits. We test the possibility that there may be some country-level differences in the relationships between the Dark Triad traits and time perspectives. For instance, narcissism may be linked to *more* future concerns in Western countries (i.e., Russia and Australia), but *less* future concerns in Eastern countries (i.e., Japan) given the distinction between agentic and communal narcissism (Gebauer, Sedikides, Verplanken, & Maio, 2012). If Western countries are more individualistic and Eastern countries are more collectivistic, narcissistic individuals may differentially get the respect and power they desire by conforming to group-specific norms regarding future planning (i.e., self-centrality breeds self-enhancement; Gebauer, Wegner, Sedikides, & Neberich, 2013). And, last, if the sexes differ in how they view the world, this might be a function of (i.e., mediation) individual differences in the Dark Triad traits. For example, and in direct relation to the life history model of the traits, men may be more likely to have diminished future concerns relative to women given their *fast* (*r*-selected) life history strategy (Figueredo et al., 2006) and this may be a function of men's tendency to also be more psychopathic than women are (Jonason et al., 2009; Jonason et al., 2017).

In this study, we attempt to improve on prior work linking the Dark Triad traits to individual differences in time perspectives (Birkás & Csathó, 2016; Stolarski et al., 2017). In three countries, we report “global” correlations, country-specific correlations and potential moderation effects, and test whether sex differences in the time perspectives is, in part, a function of individual differences in the Dark Triad traits. We adopt an adaptationist framework to understand why the Dark Triad traits might each differently be related to various perspectives on time.

2. Method

2.1. Participants and procedure

Participants ($N_{Grand} = 1032$) were 310 Australian (97 men), 351 Japanese (135 men), and 371 Russian (94 men) undergraduates ($M_{Age} = 20.13$, $SD_{Age} = 2.77$, $Range = 16$ to 45) who participated in an online (translated and back-translated in Russian and Japanese) study about “personality and views of the future” (see Jonason et al., 2017b) who were solicited through psychology classes. Participants, in their respective languages, were informed of the nature of the study, asked to consent and, if provided, completed a series of measures (items were randomized within measures). Upon completion participants were thanked and debriefed. Sample size minimums for each country were determined based on power analysis (> 0.80) for the average effect size in social and personality psychology ($r \approx 0.20$; Richard, Bond, & Stokes-Zoota, 2003) and guidelines ($N \approx 250$) set for reducing estimation error in personality psychology (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.”); a measure that has been validated in Japanese (Shimotsukasa & Oshio, 2017). Participants indicated their agreement to the above (1 = *strongly disagree*; 5 = *strongly agree*) items which were averaged to create indexes of narcissism (Cronbach's $\alpha = 0.68$ to 0.79), Machiavellianism ($\alpha = 0.69$ to 0.77), and psychopathy ($\alpha = 0.72$ to 0.73).¹

We used the 56-item Zimbardo and Boyd (1999) Perspectives on Time Scale which has been validated in a Japanese sample (Shimojima, Sato, & Ochi, 2012). It is composed of five dimensions tapping individual differences in (1) recollections of a difficult past (*past negative*; e.g., “I think about the bad things that have happened to me in the past.”), (2) recollections of a pleasant past (*past positive*; e.g., “It gives me pleasure to think about the past.”), (3) taking pleasure in immediate rewards (*present hedonistic*; e.g., “Ideally, I would live each day as if it were my last.”), (4) perception that one has little control over future outcomes (*fatalistic*; e.g., “My life path is controlled by forces I cannot influence.”), and (5) orientation towards long-term goals and pursuits (*future concerns*; e.g., “I complete projects on time by making steady progress.”). Participants were asked their agreement (1 = *strongly disagree*; 5 = *strongly agree*) with each item which were averaged ($\alpha = 0.72$ to 0.84).²

3. Results

Table 1 contains correlations between the Dark Triad traits and individual differences in time perspectives overall (top panel) and in each country (2nd, 3rd, and 4th panel). We begin by talking about “global” effects. All three of the Dark Triad traits were linked by a hedonistic bias but, that is where the convergence ends. Psychopathy and Machiavellianism were both positively correlated with individual differences in recollections of a bad past while fatalism and

¹ In the full sample Machiavellianism was not correlated with narcissism ($r = -0.02$) but it was correlated with psychopathy ($r = 0.46$, $p < 0.01$) and psychopathy was correlated with narcissism ($r = 0.15$, $p < 0.01$). The three were better correlated in the Australian ($r_s = 0.34$ to 0.55) and the Russian ($r_s = 0.15$ to 0.44) samples but less so in the Japanese sample ($r_s = -0.05$ to 0.41). Overall, there was limited evidence for problematic skew (-0.23 to 0.34) or kurtosis (-0.13 to -0.32).

² Overall, there was limited evidence for problematic skew (-0.37 to 0.40) or kurtosis (-0.32 to 1.37).

Table 1
Correlations between the Dark Triad traits and time perspectives.

		Narcissism	Psychopathy	Machiavellianism
Overall	Mean (SD)	(N = 1032)		
Past negative	3.03 (0.75)	−0.15**	0.25**	0.24**
Present hedonistic	3.30 (0.54)	0.20**	0.17**	0.19**
Future concerns	3.47 (0.54)	0.18**	−0.28**	−0.04
Past positive	3.49 (0.68)	0.21**	−0.25**	−0.09**
Fatalistic	2.78 (0.59)	−0.08**	0.26**	0.28**
Australia		(n = 310)		
Past negative	3.33 (0.67)	0.03	0.18**	0.28**
Present hedonistic	3.30 (0.53)	0.30**	0.29**	0.25**
Future concerns	3.44 (0.51)	−0.06	−0.32**	−0.07
Past positive	3.34 (0.66)	0.05	−0.14**	−0.13**
Fatalistic	2.76 (0.59)	0.19**	0.28**	0.22**
Japan		(n = 351)		
Past negative	3.16 (0.71)	−0.15**	0.25**	0.41**
Present hedonistic	3.20 (0.57)	0.08	0.21**	0.33**
Future concerns	3.27 (0.52)	0.24**	0.00	0.23**
Past Positive	3.22 (0.61)	0.13*	−0.12*	0.10
Fatalistic	2.91 (0.57)	−0.10	0.18**	0.38**
Russia		(n = 371)		
Past negative	2.66 (0.70)	−0.22**	0.25**	0.29**
Present hedonistic	3.38 (0.49)	0.14**	0.24**	0.18**
Future concerns	3.69 (0.48)	0.06	−0.26**	−0.07
Past positive	3.88 (0.59)	0.16**	−0.21**	−0.12*
Fatalistic	2.67 (0.57)	−0.11*	0.19**	0.18**

Note. Results were generally similar in the sexes and across countries ($p < 0.001$).

* $p < 0.05$.

** $p < 0.01$.

psychopathy, alone, was also negatively correlated with future concerns. In contrast, narcissism was negatively correlated with individual differences in negative recollections of the past and positively correlated with individual differences in positive recollections of the past and future concerns. Correlations did not differ across participant's sex, consistent with Moraga et al. (2017), with an adjusted alpha ($p < 0.001$), given the large number of comparisons (i.e., 45), and when we compared correlations from Table 1 across countries, we found few with the same adjustment to alpha. When comparing correlations between Australian and Japan we found four (20%) significant effects, suggesting that being high on the Dark Triad traits (Fisher's z 's = -3.89 to -4.24) might lead to less future concerns in Australia but more in Japan. As similar pattern emerged when comparing Russian and Japanese (two significant effects, 10%) correlations for psychopathy ($z = 3.56$) and Machiavellianism ($z = 4.07$), with the test for narcissism ($z = 2.47$, $p < 0.02$) dropping below our more conservative p -value. And when comparing Australia to Japan ($z = 3.74$) and Russia ($z = 3.92$), but not Japan to Russia ($z = 0.14$), we found evidence that more narcissism was linked to more fatalism in Australia only but not in Japan or Russia. Full details available upon request.

Before testing mediation of sex differences, we test for sex differences in time perspectives and the Dark Triad traits. Men were more narcissistic, psychopathic, and Machiavellian than women were, as previously reported (Jonason et al., 2017), there was no sex difference in individual differences in recollections of a bad childhood ($F = 0.29$),³ there was a sex difference ($F(1, 1032) = 12.44$, $p < 0.01$, $\eta_p^2 = 0.01$) in recollections of a positive past such that women ($M = 3.53$, $SE = 0.02$) reported more positive childhood than men did ($M = 3.38$, $SE = 0.02$),⁴ there was no sex differences in individual

³ When we included sex and country in an ANOVA, there was no interaction ($F = 0.65$), but there was a significant country difference ($F(2, 1032) = 73.56$, $p < 0.01$, $\eta_p^2 = 0.13$) such that Australia ($M = 3.32$, $SE = 0.04$) reported the highest past negative recollections, followed by Japan ($M = 3.16$, $SE = 0.04$) and Russia ($M = 2.64$, $SE = 0.04$).

⁴ When we included sex and country in an ANOVA, there was no interaction ($F = 0.22$), but there was a country difference ($F(2, 1032) = 95.49$, $p < 0.01$, $\eta_p^2 = 0.16$) with Russia ($M = 3.85$, $SE = 0.04$) reporting the highest past positive,

differences in hedonism ($F = 2.77$),⁵ there was a sex difference ($F(1, 1032) = 10.30$, $p < 0.01$, $\eta_p^2 = 0.01$) in individual differences in future concerns such that women ($M = 3.50$, $SE = 0.02$) had stronger future concerns than men did ($M = 3.39$, $SE = 0.03$),⁶ and there was no sex difference in individual differences in fatalism ($F = 0.69$).^{7,8} Given this, we confined ourselves to two time perspective variables to test for mediated sex differences.

Indirect (i.e., mediation) effects were tested for significance (i.e., whether the 95% CI overlaps with zero) using 10,000 bootstrapped samples. The first set of mediation tests examined whether sex differences in positive evaluations of one's past are mediated by narcissism, psychopathy, and Machiavellianism. Sex differences in narcissism ($b = -0.10$, 95% CI [-0.19 , -0.01]) grew (i.e., suppression) when positive childhood environments was added to the model ($b = -0.15$, 95% CI [-0.23 , -0.06]). Sex differences in psychopathy ($b = -0.33$, 95% CI [-0.41 , -0.23]), shrunk when positive childhood recollections was added to the model ($b = -0.29$, 95% CI [-0.27 , -0.21]). Sex differences in Machiavellianism ($b = -0.17$, 95% CI [-0.25 ,

(footnote continued)

followed by Australia ($M = 3.31$, $SE = 0.04$) and Japan ($M = 3.20$, $SE = 0.03$).

⁵ When we included sex and country in an ANOVA, there was no interaction ($F = 1.95$), but there was a country difference ($F(2, 1032) = 7.44$, $p < 0.01$, $\eta_p^2 = 0.01$) such that Russia ($M = 3.34$, $SE = 0.03$) reported the highest present hedonistic bias, followed by Australia ($M = 3.32$, $SE = 0.03$) and Japan ($M = 3.19$, $SE = 0.03$).

⁶ When we included sex and country in an ANOVA, there was no interaction ($F = 1.99$), but there was a country difference ($F(2, 1032) = 47.48$, $p < 0.01$, $\eta_p^2 = 0.09$) with Russia ($M = 3.66$, $SE = 0.03$) reporting the highest future concerns, followed by Australia ($M = 3.41$, $SE = 0.03$) and Japan ($M = 3.26$, $SE = 0.03$).

⁷ When we included sex and country in an ANOVA, there was an interaction ($F(2, 1032) = 3.41$, $p < 0.05$, $\eta_p^2 = 0.01$) such that there were no sex differences were observed in Australia ($t = 0.70$) and Japan ($t = 0.47$), but there was a significant sex difference observed in Russia ($t = -2.63$, $p < 0.05$) with women ($M = 2.71$, $SD = 0.57$) being more fatalistic than men were ($M = 2.54$, $SD = 0.55$). There was a country difference ($F(2, 1032) = 19.05$, $p < 0.01$, $\eta_p^2 = 0.05$) such that Japan ($M = 2.91$, $SE = 0.03$) reported the highest fatalism, followed by Russia ($M = 2.63$, $SE = 0.03$) and Australia ($M = 2.77$, $SE = 0.04$).

⁸ On average, we had no problematic (Levene's) heterogeneity of variance ($M_p = 0.33$) for the sex difference tests.

– 0.09]), shrunk when positive childhood recollections was added to the model ($b = -0.16$, 95% CI $[-0.24, -0.08]$). Second, we tested whether sex differences in future concerns could be mediated by the Dark Triad traits. Sex differences in future concerns ($b = 0.15$, 95% CI $[0.08, 0.22]$) were mediated by individual differences in the Dark Triad traits ($b = 0.08$, 95% CI $[0.02, 0.15]$). When we treated each of the Dark Triad traits alone, we revealed no effect for Machiavellianism, suppression for narcissism ($b = 0.16$, 95% CI $[0.09, 0.23]$), and mediation for psychopathy ($b = 0.07$, 95% CI $[0.004, 0.14]$).

4. Discussion

Time has traditionally been the purview of physicists like Einstein who pointed out the subjective nature of time (i.e., Theory of Relativity). In this study, we have taken a different tack and tried to understand how personality traits might be correlated with subjective perceptions related to times in people's lives. In contrast to prior work on individual differences on perspectives (Carstensen et al., 1999; Keough et al., 1999; Zimbardo & Boyd, 1999), we examined how five aspects of time perceptions related to the Dark Triad traits. In contrast to prior work linking these two (Birkás & Csathó, 2016; Stolarski et al., 2017), we did so in three countries and examined potential mediation effects for sex differences in time perspectives and moderation effects by country and the sex of the participants. We have tested hypotheses derived from life history theory (Wilson, 1975) in its application to personality traits (Figueredo et al., 2006).

Our study provides a few interesting conclusions. First, consistent with a life history theory view of the Dark Triad traits, they were linked to self-reports of negative (i.e., Machiavellianism and psychopathy) and positive (i.e., narcissism) past experiences (Jonason et al., 2014) that apply differently to each of the Dark Triad traits (McDonald et al., 2012). This suggests that childhood harshness may activate the darker aspects of the Dark Triad, whereas (overly) pleasant childhoods might activate narcissism. When childhood conditions are harsh, being antisocial and manipulative might provide fitness benefits, whereas when growing up in particularly positive environments, feeling entitled might increase access to even more resources. Second, the Dark Triad traits had orientations to time reflective of fast life history biases towards now in the form of hedonism and limited future concerns and psychopathy and Machiavellianism and were associated with a sense of lack of control over one's life in the form of fatalistic thinking (Birkás & Csathó, 2016). Third, we detected potential evidence of moderation of the associations not by sex but by country of the sample. Consistent with the agentic/communal distinction for narcissism (Gebauer et al., 2012) we found that narcissism was associated with less future concerns in Russia and Australia but, in contrast, we also found that narcissism was associated with more future concerns in Japan. In each, we might be detecting a “self-centrality breeds self-enhancement” (Gebauer et al., 2013) effect whereby in countries where individualism is prized, narcissists are more likely to think about their immediate needs whereas in countries where collectivism is prized, narcissists are more likely to think about the future as the future is likely to serve the groups needs more than the individuals', and appearing to do so may bring the rewards of status and prestige the narcissist seeks. An additional, unexpected moderation effect emerged, suggesting that narcissism was only associated with more fatalistic thinking in Australia. This may mean that narcissism takes on a slightly “darker” form in Australia relative to Russia and Japan, but as the correlation between narcissism and fatalism was under 0.20, this might be an artifact. And, fourth, we detected mediation of sex differences of future concerns by psychopathy and weak suppression by narcissism, suggesting psychopathy facilitates limited future concerns in men and that when one removes individual differences in narcissism, sex differences in future concerns grow. We also found that sex differences in recollections of a positive childhood were similar mediated by psychopathy and Machiavellianism and suppressed by narcissism. Although unexpected, this could reveal

that the former two traits encourage a “dark” view of one's life in men, but that men and women appear more similar than they truly are driven by some narcissistic reporting of their childhood experiences.

4.1. Limitations and conclusions

Despite the use of data drawn from three countries, our study was characterized by a few limitations. First, our data could still be described as educated, industrialized, rich, and democratic (Henrich, Heine, & Norenzayan, 2010) and was biased towards more women than men because we relied on college-student samples. Second, internal consistency estimates were generally acceptable-to-good but could be better (Nunnally, 1978; Schmitt, 1996). 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 (e.g., Stolarski et al., 2017). Fifth, we have limited ourselves to the Dark Triad traits, but including traits like sadism or spitefulness may provide further insight as to individual differences in time perspectives (but see, Jonason et al., 2017c). Sixth, our tests of evaluations of past experiences relied on retrospective self-reports which may not be accurate assessment of childhood conditions and, instead, are subject to response biases endemic to the Dark Triad traits themselves. Future work should endeavor to address these limitations in more cross-culturally diverse samples using more methodological diversity and rigor.

In this study, we have replicated and extended what is known about the relationships between the Dark Triad traits and individual differences in time perspectives (Birkás & Csathó, 2016; Stolarski et al., 2017). We have tested predictions from life history theory that differentiates the Dark Triad traits through childhood circumstances (Jonason et al., 2014) and links them through hedonistic (Kajonius, Persson, & Jonason, 2015) and “now” biases (Jonason et al., 2010) in three countries. We encourage more work that tries to understand time-based biases (e.g., a tendency to rush; Jonason, Abboud, Tomé, Dummett, & Hazer, 2017) in the Dark Triad traits as a way of conceptualizing these individual differences as not pathologies, but, merely biasing people towards operating on a truncated timeline.

References

- Birkás, B., & Csathó, Á. (2016). Size the day: The time perspectives of the Dark Triad. *Personality and Individual Differences*, *86*, 318–320.
- Birkás, B., Csathó, Á., Gács, B., & Bereczkei, T. (2015). Nothing ventured nothing gained: Strong associations between reward sensitivity and two measures of Machiavellianism. *Personality and Individual Differences*, *74*, 112–115.
- Bjorklund, D. F., & Pellegrini, A. D. (2000). Child development and evolutionary psychology. *Child Development*, *71*, 1687–1798.
- Carstensen, L. L., Isaacowitz, D. M., & Charles, S. T. (1999). Taking time seriously. *American Psychologist*, *54*, 165–181.
- Chisholm, J. S. (1999). Attachment and time preference. *Human Nature*, *10*, 51–83.
- Figueredo, A. J., Vásquez, G., Brumbach, B. H., Schneider, S. M. R., Sefcek, J. A., Tal, I. R., ... Jacobs, W. J. (2006). Consilience and Life History Theory: From genes to brain to reproductive strategy. *Developmental Review*, *26*, 243–275.
- Foster, J. D., & Trimm, R. F. (2008). On being eager and uninhibited: Narcissism and approach–avoidance motivation. *Personality and Social Psychological Bulletin*, *34*, 1004–1017.
- Furnham, A., Richards, S. C., & Paulhus, D. L. (2013). The Dark Triad of personality: A 10 year review. *Social and Personality Compass*, *7*, 199–216.
- Gebauer, J. E., Sedikides, C., Verplanken, B., & Maio, G. R. (2012). Communal narcissism. *Journal of Personality and Social Psychology*, *103*, 854–878.
- Gebauer, J. E., Wegner, J., Sedikides, C., & Neberich, W. (2013). Agency-communion and self-esteem relations are moderated by culture, religiosity, age, and sex: Evidence for the “Self-Centrality Breeds Self-Enhancement” principle. *European Journal of Personality*, *81*, 261–275.
- Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences*, *33*, 61–83.
- Jonason, P. K., Li, N. P., Webster, G. D., & Schmitt, D. P. (2009). The Dark Triad: Facilitating a short-term mating strategy in men. *European Journal of Personality*, *23*, 5–18.
- Jonason, P. K., Koenig, B., & Tost, J. (2010). Living a fast life: The Dark Triad and life history theory. *Human Nature*, *21*, 428–442.

- Jonason, P. K., Lyons, M., Bethell, E., & Ross, R. (2013). Different routes to limited empathy in the sexes: Examining the links between the Dark Triad and empathy. *Personality and Individual Differences, 57*, 572–576.
- Jonason, P. K., Lyons, M., & Bethell, E. (2014). The making of Darth Vader: Parent-child care and the Dark Triad. *Personality and Individual Differences, 67*, 30–34.
- Jonason, P. K., Icho, A., & Ireland, K. (2016). Resources, harshness, and unpredictability: The socioeconomic conditions associated with the Dark Triad traits. *Evolutionary Psychology, 14*, 1–11.
- Jonason, P. K., Abboud, R., Tomé, J., Dummett, M., & Hazer, A. (2017a). The Dark Triad traits and self-reported and other-rated creativity. *Personality and Individual Differences, 117*, 150–154.
- Jonason, P. K., Foster, J. D., Oshio, A., Sitnikova, M., Birkas, B., & Gouveia, V. V. (2017b). Self-construals and the Dark Triad traits in six countries. *Personality and Individual Differences, 113*, 120–124.
- Jonason, P. K., Zeigler-Hill, Z., & Okan, C. (2017c). Good vs. Evil: Predicting sinning with dark personality traits and moral foundations. *Personality and Individual Differences, 104*, 180–185.
- Jones, D. N., & Paulhus, D. L. (2009). Machiavellianism. In M. R. Leary, & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 93–108). New York, NY: Guilford.
- Jones, D. N., & Paulhus, D. L. (2011). The role of impulsivity in the Dark Triad of personality. *Personality and Individual Differences, 51*, 679–682.
- Jones, D. N., & Paulhus, D. L. (2014). Introducing the Short Dark Triad (SD3): A brief measure of dark personality traits. *Assessment, 21*, 28–41.
- Kajonius, P., Persson, B., & Jonason, P. K. (2015). Hedonism, achievement, and power: Universal values that characterize the Dark Triad. *Personality and Individual Differences, 77*, 173–178.
- Keough, K. A., Zimbardo, P. G., & Boyd, J. N. (1999). Who's smoking, drinking, and using drugs? Time perspective as a predictor of substances use. *Basic and Applied Social Psychology, 21*, 149–164.
- McDonald, M. M., Donnellan, M. B., & Navarrete, C. D. (2012). A life history approach to understanding the Dark Triad. *Personality and Individual Differences, 52*, 601–605.
- Miller, J. D., Few, L. R., Seibert, L. A., Watts, A., Zeichner, A., & Lynam, D. R. (2012). An examination of the Dirty Dozen measure of psychopathy: A cautionary tale about the costs of brief measures. *Psychological Assessment, 24*, 1048–1053.
- Moraga, F. R. G., Nima, A. A., & Garcia, D. (2017). Sex and dark times' strategy: The Dark Triad and time perspective. *PsyCh Journal, 6*, 98–99. <http://onlinelibrary.wiley.com/doi/10.1002/pchj.153/full>.
- Muris, P., Merckelbach, H., Otgaar, H., & Meijer, E. (2017). The malevolent side of human nature: A meta-analysis and critical review of the literature on the Dark Triad (narcissism, Machiavellianism, and psychopathy). *Psychological Science, 12*, 183–204.
- Nunnally, J. C. (1978). *Psychometric theory* (2nd ed). New York, NY: McGraw Hill.
- Richard, F. D., Bond, C. F., Jr., & Stokes-Zoota, J. J. (2003). One hundred years of social psychology quantitatively described. *Review of General Psychology, 7*, 331–363.
- Schmitt, N. (1996). Uses and abuses of coefficient alphas. *Psychological Assessment, 8*, 350–353.
- Schönbrodt, F. D., & Perugini, M. (2013). At what sample size do correlations stabilize? *Journal of Research in Personality, 47*, 609–612.
- Shimajima, Y., Sato, K., & Ochi, K. (2012). Factor structure of a Japanese version of the Zimbardo Time Perspective Inventory (ZTPI). *Japanese Journal of Personality, 21*, 74–83.
- Shimotsukasa, T., & Oshio, A. (2017). Development and validation of the Japanese version of the Short Dark Triad (SD3-J). *Japanese Journal of Personality, 26*, 12–22.
- Stolarski, M., Bitner, J., & Zimbardo, P. G. (2011). Time perspective, emotional intelligence, and discounting of delayed awards. *Time and Society, 20*, 346–363.
- Stolarski, M., Czarna, A. Z., Malesza, M., & Szymańska, A. (2017). Here and now: Sociosexuality mediates the associations between Dark Triad and Time Perspectives (in females). *Personality and Individual Differences, 111*, 119–123.
- Wilson, E. O. (1975). *Sociobiology: The new synthesis*. Cambridge, MA: Harvard University Press.
- Zimbardo, P. G., & Boyd, J. N. (1999). Putting time in perspective: A valid, reliable individual differences metric. *Journal of Personality and Social Psychology, 77*, 1271–1288.
- Zimbardo, P. G., Keough, K. A., & Boyd, J. N. (1997). Present time perspective as a predictor of risky driving. *Personality and Individual Differences, 23*, 1007–1023.