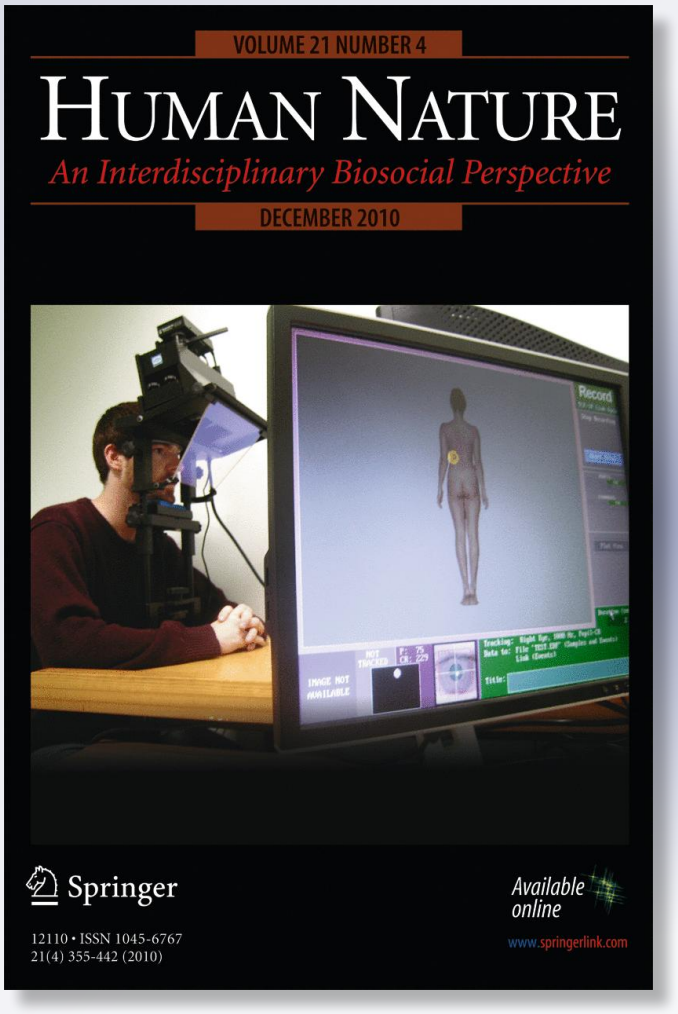
Living a Fast Life

Human Nature
An Interdisciplinary Biosocial Perspective

ISSN 1045-6767
Volume 21
Number 4

Hum Nat (2010) 21:428-442
DOI 10.1007/
s12110-010-9102-4



Springer

Your article is protected by copyright and all rights are held exclusively by Springer Science + Business Media, LLC. This e-offprint is for personal use only and shall not be self-archived in electronic repositories. If you wish to self-archive your work, please use the accepted author's version for posting to your own website or your institution's repository. You may further deposit the accepted author's version on a funder's repository at a funder's request, provided it is not made publicly available until 12 months after publication.

Author's personal copy

Hum Nat (2010) 21:428–442
DOI 10.1007/s12110-010-9102-4

Living a Fast Life

The Dark Triad and Life History Theory

Peter K. Jonason · Bryan L. Koenig · Jeremy Tost

Published online: 19 November 2010
© Springer Science+Business Media, LLC 2010

Abstract The current research applied a mid-level evolutionary theory that has been successfully employed across numerous animal species—life history theory—in an attempt to understand the Dark Triad personality trait cluster (narcissism, psychopathy, and Machiavellianism). In Study 1 (N=246), a measure of life history strategy was correlated with psychopathy, but unexpectedly with neither Machiavellianism nor narcissism. Study 2 (N=321) replicated this overall pattern of results using longer, traditional measures of the Dark Triad traits and alternative, future-discounting indicators of life history strategy (a smaller-sooner, larger-later monetary dilemma and self-reported risk-taking behaviors). Additional findings suggested two sources of shared variance across the Dark Triad traits: confidence in predicting future outcomes and openness to short-term mating.

Keywords Dark triad · Life history theory · Future discounting · Sex differences

The Dark Triad describes a constellation of three personality traits—narcissism, psychopathy, and Machiavellianism (Paulhus and Williams 2002). Research on the Dark Triad has increased exponentially over the past decade. An analysis of Google Scholar hit counts for "Dark Triad" in scientific works reveals an explosive increase from one article in 2002 to nearly 40 in the first two-thirds of 2009 alone. Despite the recent flurry of scientific interest in the Dark Triad, it has a substantial limitation. The work on the Dark Triad tends to be atheoretical and mostly descriptive in nature

P. K. Jonason (✉)
Psychology Department, University of South Alabama, Life Sciences Building, Room 320, Mobile, AL 36688-0002, USA
e-mail: pjonason@usouthal.edu

B. L. Koenig
Singapore Agency for Science, Technology, and Research, Singapore 178903, Singapore

J. Tost
Department of Psychology, New Mexico State University, Las Cruces, NM 88003, USA

Author's personal copy

(Jakobwitz and Egan 2006; Jonason et al. 2010a, b, 2009; Lee and Ashton 2005; Paulhus and Williams 2002; Vernon et al. 2008). In the present studies we attempt to link the Dark Triad to the well-established theoretical framework of life history theory (for a review see Figueredo et al. 2006). Attempting to do so is important because providing a theoretical framework will both guide the interpretation of results but also be generative for future work on the Dark Triad.

Life history theory (MacArthur and Wilson 1967; Wilson 1975) is a mid-level theory derived from general evolutionary theory. It describes differences in the amount of bioenergetic and material resources allocated for *somatic effort* (i.e., resources devoted to continued survival) and *reproductive effort* (i.e., devoted to mating and/or parenting). Although researchers originally used life history theory to account for species-level differences, this theory has proved useful in understanding within-species differences for many taxa, including humans (for a review, see Rushton 1985, 1987, 2004). In humans, we refer to systematic, within-species differences as personality traits or individual differences.

Although humans, as a species, tend to evidence slower life history strategies than many other species, individual differences in genetics and early-life socioecological factors may result in individual differences in life history strategy (e.g., Rushton 1985). In essence, life history theory predicts that personality traits should cluster in a nonrandom fashion as adaptations to solve adaptive tasks (e.g., Rushton 1985; Thornhill and Palmer 2004) in response to the stability or harshness of socioecological conditions encountered as a child (Brumbach et al. 2009). Consistent with this contention, family structure, intelligence, sexual behavior, and personality correlate with one another (Rushton 1995).

Over the past 10 years, life history theory has proven to be a robust albeit "underappreciated individual difference" (Figueredo et al. 2005:1349). For instance, a *slow* life strategy is associated with a secure attachment pattern, supportive communication patterns (Olderbak and Figueredo 2009), a general psychological disposition for long-term strategizing (Gladden et al. 2009), and long-term mating effort (Figueredo et al. 2005). In general, an individual's life history strategy manifests through a large array of psychosocial indicators (Figueredo et al. 2005, 2006). In this study, we examine the possibility that the Dark Triad consists of personality indicators of life history strategies.[1]

Research on both life history strategy in general (Ellis 1988; Figueredo et al. 2005, 2006, 2007; Gladden et al. 2009; Mealey 1995) and the Dark Triad suggests this may be so (Jonason and Kavanagh 2010; Jonason and Tost 2010; Jonason et al. 2009, 2010a, b). Across these studies, psychopathy, in particular, and Machiavellianism, to a lesser degree, are personality indicators of a *faster* life strategy as evidenced through diminished self-control, a short-term mating disposition, selfishness, and other manifestations of a generally antisocial perspective. Therefore, we predict individuals scoring higher on the Dark Triad traits will show a negative correlation with scores on a direct measure of life history strategy, suggesting a fast life history strategy.

[1] This is not to say that these or any personality traits are "real," merely that they tap into some latent psychological disposition.

Author's personal copy

Life history theory has also been used to explain why humans might discount long-term gains in favor of short-term gains (Hill 1993), which is consistent with the suggestion that the inability to delay gratification is a function of exposure to an unstable and unpredictable environment (Brumbach et al. 2009). Indeed, research indicates individuals with a fast life history strategy generally plan little for the future (Gladden et al. 2009; Figueredo et al. 2007), take risks (Figueredo et al. 2005), lack foresight (Figueredo et al. 2007), and use alcohol, drugs (Figueredo et al. 2006), and cigarettes (Jones and Figueredo 2007) and those scoring high on the Dark Triad evidence a diminished sense of self-control (Jonason and Tost 2010). We predict that individuals higher on the Dark Triad traits will discount the future more, as measured both by a preference to take $100 today over $1000 in 1 year (e.g., Frederick et al. 2002) and by a variety of self-report risky behaviors, such as alcohol and drug use.

As a mid-level theory, predictions from life history theory should be consistent with such higher-level theories as parental investment theory (Trivers 1972), which predicts that members of the sex that is required to invest more bioenergetic and material resources in offspring will have a relatively *slower* life history strategy (Figueredo et al. 2006; Geary 2005). Life history strategies may manifest not only in mating strategies (cf. Buss and Schmitt 1993) but also in personality traits (such as the Dark Triad; Jonason et al. 2009), future discounting, and future-discounting-related behaviors. We expect to replicate these findings. Because women are biologically obligated to invest more in their children than men are, we predict that men will evidence a faster life strategy than women vis-à-vis personality traits and measures of future discounting.

We present two studies that tested our three sets of predictions. Study 1 directly tested the prediction that the Dark Triad personality traits are positively correlated with an explicit measure of life history strategy. Study 2 used alternative measures of the Dark Triad traits to test the prediction that the Dark Triad traits would be positively correlated with indirect measures of life history strategy: future discounting as indicated by a less-now, more-later measure and by self-reported risky behaviors. In both studies, we expected to replicate prior findings that men adopt a faster life history strategy than women, and score higher than women on the Dark Triad traits. Overall, we hope to provide converging evidence to support the hypothesis that the Dark Triad reflects a relatively fast life history strategy on the spectrum of individual differences in human life history strategies.

Study 1

Study 1 used a recently developed, concise measure of the Dark Triad, the "Dirty Dozen" (Jonason and Webster 2010). Similarly we use a brief measure of life history strategy, the Mini-*K* (Figueredo et al. 2006). Such a study will allow for a fairly direct test of the hypothesis that the Dark Triad traits reflect a relatively fast life history strategy.

Method

Participants and Procedures Two hundred and forty-six introductory psychology students (59% women) aged 18 to 42 years (M=20.69, SD=3.76) from the

Author's personal copy

southwestern U.S. received course credit for participating. They filled out the surveys described below in a lab in mass-testing sessions of up to 11 people, with at least one empty chair between any two participants. Upon completing the study, an experimenter debriefed and thanked the participants.

Measures Participants first completed the Dirty Dozen measure of the Dark Triad (Jonason and Webster 2010) by indicating how much they agreed (1=not at all, 5=very much) with such statements as "I tend to want others to admire me," "I tend to lack remorse," and "I have used deceit or lied to get my way." The Dirty Dozen has three subscales, each composed of four items: narcissism (Cronbach's α=0.87), Machiavellianism (α=0.67), and psychopathy (α=0.62), as well as an overall Dark Triad composite of all 12 items (α=0.83). Replicating previous findings, the three subscales were positively correlated with one another. Narcissism was correlated with Machiavellianism (r_{244}=0.60, p<0.01) and psychopathy (r_{244}=0.34, p<0.01). Machiavellianism was correlated with psychopathy (r_{244}=0.51, p<0.01).

Participants then completed the Mini-*K*, a 20-item measure of life history strategy (Figueredo et al. 2006), by indicating how much they agreed (1=not at all; 5=very much) with a series of such statements as "I can often tell how things will turn out" and "I avoid taking risks." We averaged these items to create an overall index of each individual's life history strategy (α=0.74). The Mini-*K* is scored such that larger values indicate a *slower* life history strategy. Life history strategy is multidimensional (Figueredo et al. 2005, 2007), so we also conducted item-level analyses to explore how the Dark Triad may relate to different aspects of life history strategies.

Results and Discussion

As predicted, the Dark Triad composite was negatively correlated with life history strategy, indicating people higher on the Dark Triad composite tended to have a faster life history strategy (Table 1). This finding was tempered, however, by the additional, unexpected finding that only one subscale of the Dark Triad—psychopathy—was significantly correlated with life history strategy. The stronger correlation between life history strategy and psychopathy may have driven the weaker correlation between life history strategy and the Dark Triad composite, which in turn may have been suppressed by the nonsignificant correlations between life history strategy and both narcissism and Machiavellianism.

Considering correlations between Dark Triad scales and items of the Mini-*K* was informative. The only Mini-*K* item that was significantly and negatively correlated with each Dark Triad subscale was "I have to be closely attached to someone before I am comfortable having sex with them." Surprisingly, one Mini-*K* item was positively correlated with all three subscales of the Dark Triad: "I can often tell how things will turn out." These findings suggest that the shared variance that unites Machiavellianism, psychopathy, and narcissism into the Dark Triad trait might be related to (*a*) the lack of integration of the attachment system with the lust system (for a discussion of these systems, see Panksepp 1998) and/or (*b*) actual or misperceived foreknowledge accuracy, or perhaps confidence. An additional

Author's personal copy

Table 1 Correlations among the Dark Triad traits and life history indicators

	M	P	N	DT
Mini-*K*	−.10	−.34**	.05	−.15*
I can often tell how things will turn out	.29**	.22**	.36**	.37**
I try to understand how I got into a situation to figure out how to handle it.	.08	.00	.14*	.10
I often find the bright side to a bad situation	−.02	−.13*	.02	−.05
I don't give up until I solve my problems	−.06	−.03	.13*	.02
I often make plans in advance	−.17**	−.06	.03	−.08
I avoid taking risks	−.14*	−.13*	−.08	−.14*
While growing up, I had a close and warm relationship with my biological mother	.09	−.18**	.10	.03
While growing up, I had a close and warm relationship with my biological father	.01	−.11	−.01	−.05
I have a close and warm relationship with my own children	−.09	−.09	−.01	−.08
I have a close and warm relationship with my sexual partner	−.12	−.17**	−.07	−.15*
I would rather have one than several sexual relationships at a time	−.05	−.08	−.08	−.09
I have to be closely attached to someone before I am comfortable having sex with them	−.31**	−.33**	−.19**	−.34**
I am often in social contact with my blood relatives	−.03	−.19**	−.06	−.12
I often get emotional support and practical help from my blood relatives	−.02	−.19**	.03	−.07
I often give emotional support and practical help from to blood relatives	.01	−.20**	−.01	−.07
I am often in social contact with my friends	.04	−.10	.08	.02
I often get emotional support and practical help from my friends	−.08	−.21**	.07	−.08
I often give emotional support and practical help to my friends	−.06	−.14*	.01	−.07
I am closely connected to and involved in my community	.01	−.17**	.14*	.00
I am closely connected to and involved in my religion	−.16**	−.26**	−.01	−.17**

M Machiavellianism, P psychopathy, N narcissism, DT Dark Triad

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

noteworthy finding is that whereas Machiavellianism, narcissism, and the Dark Triad composite were each significantly correlated (uncorrected for multiple comparisons) with only 5 of the 20 life history items, psychopathy was significantly correlated with 13—suggesting that, of the Dark Triad traits, only psychopathy maps well onto the multiple dimensions of a fast life history strategy. However, we urge caution in the interpretation of results from single-item measures because of their dubious psychometric properties (Cronbach and Meehl 1955).

Next, we evaluated whether our data replicated previous findings that, compared with women, men have a faster life history strategy and score higher on the Dark Triad traits. As can be seen in Table 2, both of these findings were replicated: men scored higher than women did on the Dark Triad composite and on all Dark Triad subscales, and they had a faster life history strategy. The item-level patterns in the Mini-*K* suggested, first, that men appeared to be more confident in their ability to

Author's personal copy

Table 2 Descriptive statistics and sex difference tests

	Mean (SD)			*t*	*g*[a]
	Overall	Men	Women		
Machiavellianism	2.17 (0.91)	2.44 (1.61)	1.07 (0.82)	2.98**	0.42
Narcissism	1.98 (0.76)	2.25 (0.79)	1.87 (0.71)	3.72**	0.52
Psychopathy	2.36 (0.91)	2.61 (0.96)	2.26 (0.87)	2.81**	0.39
Dark Triad	2.17 (0.69)	2.43 (0.74)	2.06 (0.65)	3.90**	0.54
Mini-*K*	3.44 (0.52)	3.29 (0.52)	3.50 (0.51)	−2.93*	−0.41
I can often tell how things will turn out	3.41 (0.94)	3.75 (0.84)	3.29 (0.95)	3.56**	0.50
I try to understand how I got into a situation to figure out how to handle it.	3.78 (0.90)	3.97 (0.91)	3.70 (0.88)	2.15*	0.30
I often find the bright side to a bad situation	3.32 (1.06)	3.46 (1.05)	3.27 (1.06)	1.29	0.18
I don't give up until I solve my problems	3.72 (0.92)	3.84 (0.95)	3.67 (0.91)	1.35	0.19
I often make plans in advance	3.59 (1.13)	3.42 (1.26)	3.65 (1.07)	−1.45	−0.20
I avoid taking risks	2.59 (1.07)	2.61 (1.18)	2.59 (1.03)	0.10	0.01
While growing up, I had a close and warm relationship with my biological mother	3.80 (1.38)	3.72 (1.38)	3.82 (1.38)	−0.54	−0.08
While growing up, I had a close and warm relationship with my biological father	3.25 (1.51)	3.18 (1.48)	3.26 (1.52)	−0.38	−0.05
I have a close and warm relationship with my own children	1.38 (1.61)	1.35 (1.49)	1.40 (1.65)	−0.23	−0.03
I have a close and warm relationship with my sexual partner	2.95 (1.77)	2.75 (1.79)	3.02 (1.77)	−1.11	−0.16
I would rather have one than several sexual relationships at a time	4.06 (1.46)	3.75 (1.40)	4.17 (1.47)	−2.10*	−0.29
I have to be closely attached to someone before I am comfortable having sex with them	3.84 (1.36)	3.04 (1.38)	4.13 (1.23)	−6.17**	−0.86
I am often in social contact with my blood relatives	3.58 (1.33)	3.14 (1.38)	3.74 (1.27)	−3.28**	−0.46
I often get emotional support and practical help from my blood relatives	3.50 (1.38)	3.11 (1.45)	3.65 (1.33)	−2.80**	−0.39
I often give emotional support and practical help to my blood relatives	3.60 (1.29)	3.28 (1.36)	3.73 (1.24)	−2.53*	−0.35
I am often in social contact with my friends	3.94 (1.02)	3.85 (0.99)	3.99 (1.02)	−1.02	−0.14
I often get emotional support and practical help from my friends	3.67 (1.20)	3.32 (1.35)	3.80 (1.12)	−2.88**	−0.40
I often give emotional support and practical help to my friends	3.99 (1.08)	3.55(1.27)	4.16 (0.95)	−4.18**	−0.58
I am closely connected to and involved in my community	2.46 (1.16)	2.38 (1.20)	2.49 (1.14)	−0.67	−0.09
I am closely connected to and involved in my religion	2.33 (1.32)	2.34 (1.45)	2.32 (1.27)	0.74	0.10

[a] Hedge's *g* effect size

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

Author's personal copy

understand and handle situations (and thus appeared on two items to have a *slower* life history strategy than women) and, second, that women's slower life history strategy may have manifested in, or been a reflection of, their having more supportive, interactive, and selective social and sexual relationships than men have.

Study 2

In Study 2 we attempted to replicate our unexpected finding that psychopathy was the only Dark Triad trait to be related to life history theory. We did so by assessing the Dark Triad traits using traditional scales and conceptualizing life history strategy as future-discounting, measured first as choosing between a smaller reward today and a larger reward in 1 year and, second, through self-reported risk-taking behaviors. Replicating our findings using different measures of the Dark Triad traits and life history strategy would provide counterevidence to the alternative explanation that the findings of Study 1 were merely the result of idiosyncrasies in the specific measures employed. Thus, in addition, in Study 2 we tested the predictions that the Dark Triad personality traits would be positively correlated with an indirect measure of life history strategy—future-discounting—operationalized both as a less-now, more-later measure and as self-reported risk-taking behaviors. We also expected to replicate sex differences for the Dark Triad and life history strategy, extended to indirect measures.

Method

Participants Three hundred and twenty-one psychology students (69% women) aged 18 to 47 years (M=20.81, SD=3.76) from the southwestern U.S. received course credit for participating. Other than the scales used, the procedures were the same as those used in Study 1.

Measures Narcissism was assessed with the 40-item Narcissistic Personality Inventory (Raskin and Terry 1988). For each item, participants chose one of two statements that they felt applied to them more. One of the two statements reflected a narcissistic attitude (e.g., "I have a natural talent for influencing people") whereas the other statement did not (e.g., "I am not good at influencing people"). We summed the total number of narcissistic statements the participants endorsed as an index of narcissism (Cronbach's α=0.81).

The 31-item Self-Report Psychopathy Scale-III (Paulhus et al., in press) was used to assess nonclinical psychopathy. Participants rated how much they agreed (1=strongly disagree, 5=strongly agree) with such statements as "I enjoy driving at high speeds" and "I think I could beat a lie detector." Items were averaged to create an index of psychopathy (α=0.72).

Machiavellianism was measured with the 20-item Mach-IV (Christie and Geis 1970). Participants indicated how much they agreed (1=strongly disagree, 5=strongly agree) with such statements as "It is hard to get ahead without cutting corners here and there" and "People suffering from incurable diseases should have

Author's personal copy

the choice of being put painlessly to death." The items were averaged to create a Machiavellianism index (α=0.64).

We combined the above three scales to create a composite Dark Triad index. As has been found previously (Jonason et al. 2009), a principal components analysis indicated the three measures can be combined into a single measure; specifically, all three indices loaded well (factor loadings>0.63) on a single factor that accounted for 53.70% of the variance (eigen>1.61). All three measures of the Dark Triad traits were correlated positively with each other: narcissism and Machiavellianism (r_{321}=0.13, p<0.05), narcissism and psychopathy (r_{321}=0.34, p<0.01), and Machiavellianism and psychopathy (r_{321}=0.42, p<0.01). We standardized (z-scored) participants' scores on each scale relative to the group means on each of the three scales and then averaged participants' z-scores on the three scales to create a composite Dark Triad score.

We measured life history strategy indirectly using two types of measures of future discounting. The first was a simple smaller-sooner, larger-later monetary dilemma. It read: "You can have $100 now or $1000 in a year. Which would you prefer?" (Read and Read 2004). Fifteen percent of the sample choose the immediate payoff, 84% took the delayed payoff, and 1% were nonresponsive.

The second was self-reported risk-taking behaviors. We assessed the use of illegal drugs with three questions that asked: How much (1=not at all; 5=very much) do you (1) use marijuana, (2) use illegal drugs, and (3) take drugs. These items were averaged to create an index of drug use (α=0.76). Two items assessed the consumption of alcoholic beverages. Participants were asked (1) how many alcoholic drinks they have consumed this week and (2) what is the maximum they have consumed in 1 week. These items were averaged to create an index of alcohol consumption (α=0.58). We also asked participants the number of cigarettes they smoked per day and how many sex partners they have had in the past year. All of these risk-taking behaviors are positively correlated with a *faster* life history strategy (for review, see Figueredo et al. 2006) and are standard risk-taking measures (Byrnes et al. 1999).

Results and Discussion

As predicted, participants who scored higher on the Dark Triad composite discounted the future more. We ran a binary logistic regression (Logit) with future discounting ($100 today vs. $1000 next year) as the dependent variable and two independent variables (the sex of the participant and the Dark Triad composite), and the age of the participant as a control variable. Only the Dark Triad composite significantly predicted future discounting (B=−0.50, SE=0.25, Wald=4.16, p<0.05, 95% CI=0.37 to 0.98); the sex of the participant (B=0.32, n.s.) and the age of the participant (B=−0.06, n.s.) did not.[2] However, this effect was not attributable to any one of the dimensions of the Dark Triad but instead was a function only of the composite. Prior work has suggested that the composite may minimize some of the error in the three traits giving more reliable and sometimes stronger results (Jonason et al. 2010b).

[2] When age was not included in the model, the effect for the Dark Triad was nonsignificant (p<0.10).

Author's personal copy

Next we replicated this model but analyzed men and women separately. In this case, the Dark Triad effect was localized to men (B=−0.98, SE=0.25) and was virtually nonexistent in women (B=−0.34, SE=0.28). Again, the age of the participant was not a significant predictor of the future discounting. However, the results of a test to see if moderation by the sex of the participant was present, as has previously been done (Jonason et al. 2009), was not significant (z=−1.08, n.s.). This is likely because of the diminished power that results from disaggregating samples and the troubling nature of dichotomous data in correlational analyses. As predicted, participants who chose the immediate payout were higher on the Dark Triad composite (M=0.14, SD=0.58) than were participants who chose the delayed payout (M=−0.03, SD=0.65). Figure 1 presents the mean Dark Triad scores separately for men and women by future-discounting choice.

As predicted, the Dark Triad composite was positively correlated with self-reported risk-taking behaviors (Table 3), supporting—using other indirect measures—the hypothesis that the Dark Triad composite reflects a *fast* life history strategy. To control for shared variance among Dark Triad traits, we entered all three Dark Triad traits as predictors in multiple regressions predicting each self-reported risk-taking behavior index (see Table 3). As in Study 1, among the Dark Triad traits, psychopathy tended to be most strongly related to multiple indicators of life history strategy. To the extent that self-reported risk-taking behaviors indeed reflect life history strategy, these results provide converging evidence to the findings of Study 1 (considering item-by-item analysis of the Mini-K) that psychopathy—but neither Machiavellianism nor narcissism—maps well onto multiple dimensions of a fast life history strategy.

The analyses of sex differences provided mixed support for the hypotheses that men have a faster life history strategy than women and that men are higher than women on the Dark Triad traits. Supporting evidence included the findings that men scored significantly higher than women on narcissism, psychopathy, the Dark Triad composite, number of sex partners, and alcohol consumption (Table 4). However, contrary to prediction, men did not score significantly higher than women on Machiavellianism, use of illegal drugs, and number of cigarettes smoked per day—although all means were in the predicted direction. In addition, results of our smaller-sooner, larger-later monetary dilemma failed to support the hypothesis that men had a faster life history strategy than women (χ_1^2=0.22, n.s., Φ=0.03): in fact, a larger percentage of women (16%) than men (14%) opted for the smaller-sooner option, which is the opposite of the predicted pattern.

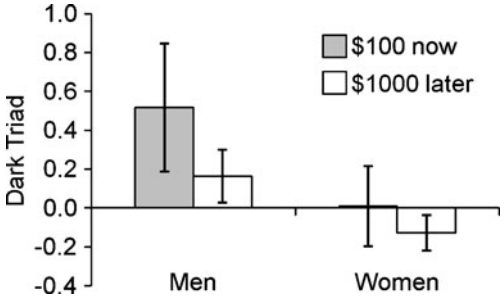


Fig. 1 Estimated marginal means of Dark Triad scores for men and women high on future-discounting ($100 now) or low on future-discounting ($1000 later). Note: Error *bars* are 95% confidence intervals

Author's personal copy

Table 3 Zero-order correlations (and multiple regression betas) between the Dark Triad measures and self-reported risk-taking behaviors

	Psychopathy	Machiavellianism	Narcissism	Dark Triad
Number of sexual partners	.32** (.20**)	.12* (.01)	.21** (.16**)	.28**
Illegal drug use	.39** (.47**)	.08 (−.10)	.03 (−.12)	.29**
Cigarettes smoked per day	.12* (.17**)	−.01 (−.07)	.00 (.08)	.02
Alcohol consumption	.48** (.48**)	.14* (−.08)	.24** (.08)	.35**

Numbers in parentheses are multiple regression betas of Dark Triad traits predicting self-reported risk-taking behaviors; * $p<.05$, ** $p<.01$

General Discussion

Across two studies, we provided evidence that the Dark Triad traits are linked to life history strategy, in particular by psychopathy. Psychopathy appears to be the component of the Dark Triad that best reflects a fast life history strategy. This may be because those who score high on psychopathy, and not the other two, report low levels of self-control (Jonason and Tost 2010). Alternatively and methodologically, psychopathy may better tap a fast life strategy than the other two, despite prior evidence (e.g., Figueredo et al. 2005) that has linked Machiavellianism to life history strategy, because it is a "darker" personality trait. Perhaps the other two are not as "dark" as psychopathy and therefore the methodology of detecting the relationships through semantically related self-report survey data is insensitive to the relationships we were studying. However, concerns about correlations being driven solely by semantically related items should be lessened in that we used two different measures of the Dark Triad.

Alternatively, Machiavellianism and narcissism may indeed be "lighter" than psychopathy but may function to lessen the socially undesirable and costly aspects

Table 4 Descriptive statistics and sex differences tests

	Mean (SD)			*t*	*g*[a]
	Overall	Men	Women		
Narcissism	16.72 (6.84)	17.93 (6.64)	16.17 (6.89)	2.14*	0.26
Machiavellianism	2.78 (0.51)	2.83 (0.49)	2.74 (0.51)	1.46	0.18
Psychopathy	2.47 (0.36)	2.62 (0.36)	2.40 (0.32)	5.33**	0.64
Dark Triad	0.00 (0.65)	0.21 (0.60)	−0.10 (0.64)	4.11**	0.50
Number of sexual partners	1.95 (0.96)	2.19 (1.18)	1.84 (0.82)	3.07**	0.38
Alcohol consumption	5.66 (4.52)	7.70 (5.34)	5.01 (3.95)	3.84**	0.44
Cigarettes smoked per day	1.26 (0.73)	1.31 (0.76)	1.24 (0.72)	0.82	0.09
Illegal drug use	1.41 (0.71)	1.50 (0.82)	1.36 (0.65)	1.69	0.19

[a] Hedge's *g*

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

Author's personal copy

of having a fast life strategy, and thereby reducing the strength of the correlations between our measures. Narcissism and Machiavellianism may be correlated with life history variables such as short-term mating disposition because pursuing casual sex is not a particularly "dark" manifestation of life history strategies, although correlations with short-term mating are stronger with psychopathy than with the other two parts of the triad (Jonason et al. 2009). In contrast, aggression in the context of romantic relationships, including forced copulation, may be sufficiently "dark" that it is correlated only with psychopathy. Additional research is needed to ascertain the parameters under which the three traits function as a latent composite and when they do not.

We also replicated some but not all sex differences consistent with life history theory and parental investment theory. Men tend to have a faster life strategy than women, possibly, because men have a lower obligation to offspring (e.g., Figueredo et al. 2006). We showed across two studies that men scored higher than women on the Dark Triad measures and also tended to have a faster life history strategy than women, as indicated by the Mini-*K*, by some risk-taking behavior, but not by the future-discounting monetary dilemma. Although it is unclear why these results did not reach statistical significance, men do indeed have a faster life history strategy, on average, because it may be more beneficial to them than to women. If personality traits serve to minimize competition between conspecifics by niche-specialization, men's adoption of a faster life strategy may be an example of this specialization. For example, by exploiting riskier, higher-payoff ecological niches such as hunting large animals or subjugating members of out-groups, men may have avoided competition with women for the exploitation of lower-risk, lower-payoff niches such as gathering.

The results of the current studies shed some light on the perennial challenge of explaining what accounts for the shared correlation among the three Dark Triad traits (e.g., Lee and Ashton 2005; Paulhus and Williams 2002). Both studies replicated prior findings in relation to short-term mating (Jonason et al. 2009), but Study 1 suggested a new feature that might connect the three Dark Triad traits: participants' perceptions of how well they could tell how things will turn out correlated with scores on all three Dark Triad traits. Multiple explanations could account for how such perceptions, either accurate or inaccurate, would be functionally adaptive for those with high scores on the Dark Triad.

If people scoring higher on the Dark Triad are conceptualized as relatively more agentic (Jonason et al. 2010b) or antagonistic (Figueredo and Jacobs 2010)—that is, attempting more proactive control over their environment, to which the Machiavellian component of the Dark Triad might contribute—then the degree to which they are successful in controlling outcomes can explain their higher (accurate) perception they can foresee outcomes. Manipulation can be characterized as consisting of two main aspects. Individuals can either control others or control situations. An ability to control others and predict circumstances would be adaptive when pursuing an exploitive approach to the world.

Alternatively, conceptualizing the Dark Triad as a frequency-dependent, "cheater" strategy (Mealey 1995) suggests that artificially inflated confidence—perhaps contributed via the narcissistic component of the Dark Triad—may facilitate social exploitation. Such an assertion is consistent with the finding that communicating

Author's personal copy

confidently increases persuasiveness (London 1973). High degrees of self-confidence may facilitate continued attempts at social exploitation in an environment in which individuals punish cheaters.

Lastly, the possibility that those scoring high on the Dark Triad exploit high-risk, high-payoff niches—consistent with the Dark Triad being a relatively fast life history strategy, as embodied in psychopathy—suggests those same persons may need overconfidence in their likelihood of success in order to attempt such low-probability-of-success exploitation. Indeed, part of the measure of psychopathy we used in Study 2 incorporates "gambling for high stakes" in its conceptualization. Additional research will be required to evaluate these possibilities.

We also need to address some limitations of the current research. First, in all cases that failed to support our hypotheses, the effects were not significant but were generally in the proper direction. In order to avoid overinterpreting these nonsignificant findings, we suggest caution in reliance on null hypothesis testing because of the arbitrariness of the cutoffs and other problematic assumptions (Trafimow 2003).

Second, even though our measures of life history strategy (i.e., the Mini-*K*; the smaller-sooner, larger-later choice; and self-report risk-taking behaviors) approached life history strategy from different perspectives, they were nonetheless relatively superficial. Similarly, we used a brief Dark Triad measure in Study 1. Researchers often use more expansive measures with each of these topics. For instance, some work on life history theory uses preexisting data from large-scale surveys (Brumbach et al. 2009; Figueredo et al. 2007). However, the use of brief personality measures when assessing life history strategies is not without precedent. For instance, Olderbak and Figueredo (2009) used the Mini-*K* and Gladden et al. (2009) used a short measure of mating effort. Consistent with a growing trend to create and adopt short measures in personality research (e.g., Gosling et al. 2003), we used short measures in Study 1. Study 2 essentially replicated the findings of Study 1 but with the longer, traditional measures of the Dark Triad traits and alternative measures of life history strategy. We believe each study offsets limitations of the other to create a coherent and sound package.

In addition, we capitalized on self-report methodologies in both studies. In contrast, to a great extent previous life history work has used life outcome data. This research suggests women may also evidence a fast life strategy from experiencing harsh or unpredictable childhoods through earlier pubertal timing (e.g., Ellis and Garber 2000). Men may evidence their faster life strategies through more exploitive personality traits, whereas women evidence it through physiological adjustments. Alternatively, both sexes may experience an increase in exploitative personality traits and sex-specific physiological traits, perhaps higher rates of testosterone in men and an earlier age at first menarche at women; both may facilitate more mateships. Future research using elaborate and diverse indicators of life history strategy—such as age at which stature growth stopped, age at first childbearing, age at first sexual intercourse, and age at first menarche—could provide a more robust evaluation of the current findings. Also, future work should examine the socioecological factors that activate the Dark Triad in individuals. That said, our goals were modest. We were simply attempting to link the Dark Triad to the well-established theoretical framework of life history theory in order to provide greater insights to these traits and to foster new research along these lines.

Author's personal copy

Third, to enhance our rather limited results from Study 1, we used item analyses. Psychometricans generally frown upon the use of single-item assessments because of their limited reliability and instability (Cronbach and Meehl 1955), although this is by no means an issue on which all researchers agree. Some evidence suggests single-item measures can actually have reasonable psychometric properties (Robins et al. 2001; Wanous and Reichers 1996). Nevertheless, as long as one keeps this debate in mind when interpreting the results from our single-item assessments, we feel they can provide interesting suggestions about the nature of the relationship between life history strategies and the Dark Triad.

Alternatively, the use of the single-item assessment of time discounting, although a standard measurement technique (Read and Read 2004), may have made our test insensitive to the sex difference that we should have found (e.g., Kirby and Marakrovic 1996; Wilson and Daly 2004). Indeed, the ideal situation would have been to assess discounting on a series of points to provide a hyperbolic discounting curve because single-point estimates of discounting can be problematic (Green et al. 1996; Myerson et al. 2001) or at a minimum to use a more elaborate/lengthy measure of individuals' tendency to discount the future, such as the Consideration of Future Consequences Scale (Strathman et al. 1994). Nevertheless, the simple, dichotomous measure of future discounting we used was not insensitive to an association with the Dark Triad composite.

Prior research suggests higher discounting rates may be related to impulsivity (Green et al. 1996). While this may be so, impulsivity may be a poor choice for investigating decision-making and personality because it assumes a *hydraulic* model whereas life history theory is informed by a *strategic* model (Figueredo and Jacobs 2010). Future research should attempt to demonstrate whether impulsivity is less effective at accounting for decision-making than life history strategies.

The Dark Triad is a cluster of traits traditionally considered undesirable and, therefore, was relegated to clinical research for years. Only recently has the idea that these traits are worth studying in nonclinical populations been given serious attention. Until now, however, most research has focused on accounting for the shared variance among the traits and was, therefore, limited in that it was descriptive. In this study, we provided some theoretical underpinnings to the Dark Triad, in the form of the life history theory. The Dark Triad appears to be linked to life history theory through psychopathy. One might say, then, that individuals who score high on these traits—especially psychopathy—live a *fast* life.

Acknowledgments The authors thank Laura Madson for help preparing this manuscript. The authors also thank Chelsea Adams and Lauren Lopez for data entry.

References

Brumbach, B. H., Figueredo, A. J., & Ellis, B. J. (2009). Effects of harsh and unpredictable environments in adolescence on development of life history strategies: a longitudinal test of an evolutionary model. *Human Nature, 20*, 25–51.

Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: an evolutionary perspective on human mating. *Psychological Review, 100*, 204–232.

Byrnes, J. P., Miller, D. C., & Schaffer, W. D. (1999). Gender differences in risk taking: a meta-analysis. *Psychological Bulletin, 125*, 367–383.

Author's personal copy

Christie, R., & Geis, F. L. (1970). *Studies in Machiavellianism*. New York: Academic.

Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin, 52*, 281–302.

Ellis, B. (1988). Criminal behavior and *r/K* selection: an extension of gene-based evolutionary theory. *Personality and Individual Differences, 9*, 697–708.

Ellis, B., & Garber, J. (2000). Psychosocial antecedents in variation in girls' pubertal timing: maternal depression, stepfather presence, and marital and family stress. *Child Development, 71*, 485–501.

Figueredo, A. J., & Jacobs, W. J. (2010). Aggression, risk-taking, and alternative life history strategies: The behavioral ecology of social deviance. In M. Frias-Armenta and V. Corral-Verdugo (Eds.), *Bio-psycho-social perspectives on interpersonal violence* (pp. 3–28). Hauppauge, NY: Nova Science Publishers.

Figueredo, A. J., Vásquez, G., Brumbach, B. H., Sefcek, J. A., Kirsner, B. R., & Jacobs, W. J. (2005). The *K*-factor: individual differences in life history strategy. *Personality and Individual Differences, 39*, 1349–1360.

Figueredo, A. J., Vásquez, G., Brumbach, B. H., Schneider, S. M. R., Sefcek, J. A., Tal, I. R., et al. (2006). Consilience and life history theory: from genes to brain to reproductive strategy. *Developmental Review, 26*, 243–275.

Figueredo, A. J., Vásquez, G., Brumbach, B. H., & Schneider, S. M. R. (2007). The *K*-factor, covitality, and personality: a psychometric test of life history theory. *Human Nature, 18*, 47–73.

Frederick, S., Loewenstein, G., & O'Donoghue, T. (2002). Time-discounting and time preference: a critical review. *Journal of Economic Literature, 40*, 351–401.

Geary, D. C. (2005). *The origin of the mind: Evolution of brain, cognition, and general intelligence*. Washington: American Psychological Association Press.

Gladden, P. R., Figueredo, A. J., & Jacobs, W. J. (2009). Life history strategy, psychopathic attitudes, personality, and general intelligence. *Personality and Individual Differences, 46*, 270–275.

Gosling, S. D., Rentfrow, P. J., & Swann, W. B., Jr. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality, 37*, 504–528.

Green, L., Myerson, J., Lichtman, D., Rosen, S., & Fry, A. (1996). Temporal discounting in choice between delayed rewards: the role of age and income. *Psychology and Aging, 11*, 79–84.

Hill, K. (1993). Life history theory and evolutionary anthropology. *Evolutionary Anthropology, 2*, 78–88.

Jakobwitz, S., & Egan, V. (2006). The dark triad and normal personality traits. *Personality and Individual Differences, 2*, 331–339.

Jonason, P. K., & Kavanagh, P. (2010). The dark side of love: the Dark Triad and love styles. *Personality and Individual Differences, 49*, 606–610.

Jonason, P. K., & Tost, J. (2010). I just cannot control myself: the Dark Triad and self-control. *Personality and Individual Differences, 49*, 611–615.

Jonason, P. K., & Webster, G. D. (2010). The dirty dozen: a concise measure of the Dark Triad. *Psychological Assessment, 22*, 420–432.

Jonason, P. K., Li, N. P., Webster, G. W., & Schmitt, D. P. (2009). The Dark Triad: facilitating short-term mating in men. *European Journal of Personality, 23*, 5–18.

Jonason, P. K., Li, N. P., & Buss, D. M. (2010a). The Dark Triad as a short-term mating strategy: implications for mate poaching and mate retention tactics. *Personality and Individual Differences, 48*, 373–378.

Jonason, P. K., Li, N. P., & Teicher, E. A. (2010b). Who is James Bond? The Dark Triad as an agentic social style. *Individual Differences Research, 8*, 111–120.

Jones, D. N., & Figueredo, A. J. (2007). Mating effort as a predictor of smoking in a college sample. *Current Research in Social Psychology, 12*, 186–195.

Kirby, K. N., & Marakrovic, N. N. (1996). Delay-discounting probabilistic rewards: rates decrease as amounts increase. *Psychological Review, 3*, 100–104.

Lee, K., & Ashton, M. C. (2005). Psychopathy, Machiavellianism, and narcissism in the Five-Factor Model and the HEXACO model of personality structure. *Personality and Individual Differences, 38*, 1571–1582.

London, H. (1973). *Psychology of the persuader*. Morristown: General Learning Press.

MacArthur, R. H., & Wilson, E. O. (1967). *The theory of island geography*. Princeton: Princeton University Press.

Mealey, L. (1995). The sociobiology of sociopathy: an integrated evolutionary model. *Behavioral and Brain Sciences, 18*, 523–599.

Myerson, J., Green, L., & Warusawitharana, M. (2001). Area under the curve as a measure of discounting. *Journal of Experimental Analysis of Behavior, 76*, 235–243.

Author's personal copy

Olderbak, S. G., & Figueredo, A. J. (2009). Predicting romantic relationship satisfaction from life history strategy. *Personality and Individual Differences, 46*, 604–610.

Panksepp, J. (1998). *Affective neuroscience: The foundations of human and animal emotions*. New York: Oxford University Press.

Paulhus, D. L., & Williams, K. M. (2002). The dark triad of personality: narcissism, Machiavellianism, and psychopathy. *Journal of Research in Personality, 36*, 556–563.

Paulhus, D. L., Neumann, C. S., & Hare, R. (in press). *Manual for the self-report psychopathy scale (SRP)*. Toronto: Multi-Heath Systems.

Raskin, R. N., & Terry, H. (1988). A principal components analysis of the Narcissistic Personality Inventory and further evidence of its construct validity. *Journal of Personality and Social Psychology, 54*, 890–902.

Read, D., & Read, N. L. (2004). Time-discounting over the lifetime. *Organizational Behavior and Human Decision Processes, 94*, 22–32.

Robins, R. W., Hendin, H. M., & Trzesniewski, K. H. (2001). Measuring global self-esteem: construct validation of a single-item measure and the Rosenberg self-esteem scale. *Personality and Social Psychological Bulletin, 27*, 151–161.

Rushton, J. P. (1985). Differential *K* theory: the sociobiology of individual and group differences. *Personality and Individual Differences, 6*, 441–452.

Rushton, J. P. (1987). Toward a theory of human multiple birthing: sociobiology and r/K reproductive strategies. *Acta Geneticae Medicae et Gemellologiae, 36*, 289–296.

Rushton, J. P. (1995). *Race, evolution, and behavior: A life history perspective*. New Brunswick: Transaction.

Rushton, J. P. (2004). Placing intelligence into an evolutionary framework of how *g* fits into the *r-K* matrix of life history traits including longevity. *Intelligence, 32*, 321–328.

Strathman, A., Gleicher, F., Boninger, D. S., & Edwards, C. S. (1994). The consideration of future consequences: weighing immediate and distant outcomes of behavior. *Journal of Personality and Social Psychology, 66*, 742–752.

Thornhill, R., & Palmer, C. T. (2004). Evolutionary life history perspective on rape. In C. Crawford & C. Salmon (Eds.), *Evolutionary psychology, public policy, and personal decisions* (pp. 249–274). Mahwah: Lawrence Erlbaum.

Trafimow, D. (2003). Hypothesis testing and theory evaluation at the boundaries: surprising insights from Bayes's theorem. *Psychological Review, 110*, 526–535.

Trivers, R. (1972). Parental investment and sexual selection. In B. Campbell (Ed.), *Sexual selection and the descent of man, 1871–1971* (pp. 136–179). Chicago: Aldine.

Vernon, P. A., Villani, V. C., Vickers, L. C., & Harris, J. A. (2008). A behavioral genetics investigation of the Dark Triad and the Big 5. *Personality and Individual Differences, 44*, 445–452.

Wanous, J. P., & Reichers, A. E. (1996). Estimating the reliability of a single-item measure. *Psychological Reports, 78*, 631–634.

Wilson, E. O. (1975). *Sociobiology: The new synthesis*. Cambridge: Harvard University Press.

Wilson, M., & Daly, M. (2004). Do pretty women inspire men to discount the future? *Proceedings from the Royal Society B: Biological Sciences, 271*(Suppl. 4), S177–179.

Peter K. Jonason has a BA in political science and communication science and an MA in communication science under Ross Buck from the University of Connecticut. His PhD (Social Psychology, New Mexico State University) was awarded in 2009 under Laura Madson. He researches the Dark Triad of personality, mating strategies, and psychometrics in close collaboration with Norman Li, Gregory Webster, David Schmitt, and David Buss.

Bryan L. Koenig is a research engineer in the Computational Cognition for Social Systems group at the Institute of High Performance Computing, A*STAR, Singapore. He received his PhD in social psychology at New Mexico State University in 2009. His research interests include emotion, morality, and evolutionary psychology.

Jeremy Tost earned his undergraduate degree in criminology and psychology from Indiana University of Pennsylvania in 1999. Upon graduation he joined the Peace Corps were he was an English teacher in the Republic of Moldova. Tost earned his master's degree in experimental psychology from New Mexico State University in 2005 and is expected to earn his PhD in 2010. He currently works as a Financial Representative for Thrivent Financial for Lutherans.