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# Self-construals and the Dark Triad traits in six countries☆

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ABSTRACT

In a sample ($N = 1969$) drawn from six countries, we examined the relationships between individual differences in independent and interdependent self-construals and the Dark Triad traits (i.e., psychopathy, narcissism, and Machiavellianism). Overall, the Dark Traits were largely unrelated to interdependence whereas Machiavellianism and narcissism, in particular, were associated with stronger independent self-construals. Men scored higher than women did on the Dark Triad traits in all countries with some cross-cultural variance. Women were used both more independent and interdependent self-construals than men were but these were weak and driven by country-specific effects. Sex differences in the Dark Triad traits were partially accounted for by individual differences in self-construals, but these mediation effects were quite small and speculative given limited evidence for sex differences in self-construals in the six countries we sampled. Results are discussed in terms of differentiating the Dark Triad traits.



The Dark Triad traits (Paulhus & Williams, 2002) capture individual differences in grandiosity, exhibitionism, superiority (i.e., narcissism), manipulativeness, cynicism (i.e., Machiavellianism), interpersonal antagonism, and callousness (i.e., psychopathy). The traits have theoretical and practical implications for various fields of research, including organizational, clinical, and social psychology. In the present study, we attempt to provide new details on how one can differentiate and understand these traits in relation to individual differences in independent (i.e., defining the self in terms of unique qualities) and interdependent (i.e., defining the self in terms of relationships with others) self-construals using a cross-cultural sample of participants representing six different countries given the potential cross-cultural differences in self-construals (Kashima et al., 1995).

Independence and interdependence are part of a larger body of evidence suggesting that personality traits can be organized in a super-ordinate fashion along two dimensions. These "Big Two" dimensions (Gebauer, Wagner, Sedikides, & Neberich, 2013; Triandis, 1989) have slightly different labels but all center on the distinction between "self-interested" or self-profitable traits (i.e., independence/agency; e.g., ambition, competitive, masculine) and "other-interested" or other profitable traits (i.e., interdependence/communion; e.g., caring, generous, feminine). These basic units of personality are genetically influenced (Neiss et al., 2005) and situationally stable (Baumeister & Leary, 1995). There is considerable evidence suggesting the Dark Triad traits should be correlated with independent and interdependent self-construals. For example, the Dark Triad traits (Jonason & Webster, 2010) and independence are correlated with anger (Akutsu, Yamaguchi, Kim, & Oshio, 2016). The Dark Triad traits, especially narcissism, have a self-interested and, at times, an anti-group dispositional core (Jonason, Strosser, Kroll, Duineveld, & Baruffi, 2015). And third, agency is characterized by a desire to be independent and autonomous as the Dark Triad traits are correlated with similar motivations like need for power, prestige, and dominance (Jonason & Ferrell, 2016); with limited associations for motivations that resemble communion like the need for affiliation. Taken together, we expect individual differences in self-construals to relate to the Dark Triad traits in predictable ways. Primarily, we expect it to strongly differentiate the Dark Triad traits such that narcissism is the primary hub of the correlation between independent self-construals and the Dark Triad traits which should be rather cross-culturally invariant. Second, we expect the traits to collectively be rather orthogonal with interdependent self-construals with even a slightly negative association for psychopathy given its "antisocial" nature.

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In addition, there is cause to expect sex differences in both the Dark Triad traits and self-construals. Men score higher than women do on the Dark Triad traits in most countries sampled (Jonason, Li, & Czarna, 2013), which may be a function of differences in the costs and benefits ancestral men and women have experienced for engaging in *fast* and *slow* life history strategies. In contrast, sex differences in self-construals (Cross & Madson, 1997; Kashima et al., 1995) may be a function of different cultural influences on what is male and female stereotyped behavior (Abele & Wojciszke, 2014). Regardless of which "origin" story is correct, there is, therefore, cause to predict that (1) men should score higher on the Dark Triad traits and independent self-construals than women do, (2) women should score higher on the interdependent self-constuals, and (3) the sex differences in the Dark Triad traits might be mediated by individual differences in self-construals such that high scores on independent and low scores on interdependent self-construals should facilitate the presence of the Dark Triad traits in men.

In this study, we investigate how individual differences in self-construals allow us to better understand and differentiate the Dark Triad traits. We also examine how those self-construals might act as mediators for sex differences in the Dark Triad traits. Importantly, we test these predictions in an ethnically diverse sample drawn from six countries to get some sense of the robustness/variance in these effects around the world.

## 1. Method

### 1.1. Participants and procedure

Participants ($N_{Grand}$ = 1969; $M_{Age}$ = 21.33, $SD_{Age}$ = 3.99, Range = 16 to 47) were 310 Australian (97 men; $M_{Age}$ = 19.17, $SD_{Age}$ = 3.70), 351 Japanese (135 men; $M_{Age}$ = 21.42, $SD_{Age}$ = 1.41), 371 Russian (94 men; $M_{Age}$ = 19.17, $SD_{Age}$ = 2.35), 300 Hungarians (129 men; $M_{Age}$ = 25.00, $SD_{Age}$ = 4.26), 306 Brazilian (91 men; $M_{Age}$ = 22.47, $SD_{Age}$ = 5.56), and 331 American (90 men; $M_{Age}$ = 20.73, $SD_{Age}$ = 2.86) undergraduate college students who participated in a larger online (translated and back-translated in the non-English speaking samples) study about "personality and views of the future" in exchange for course credit in their psychology classes. Participants were informed of the nature of the study, asked to consent and, if provided, completed a series of self-report measures where the items were randomized within each measure. Upon completion participants were thanked and debriefed.

### 1.2. Measures

The 27-item Short Dark Triad (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 were averaged together to create indexes of narcissism, Machiavellianism, and psychopathy.[1,2]

We assessed individual differences in self-construals using a 20-item measure taken from Singelis (1994) and Takata (1999) as used previously by Park and Kitayama (2012) and validated in Japanese (Uchida, 2008) and Brazilian samples (Gouveia, Singelis, & Coelho, 2002) where 10 items measured independence (e.g., "I enjoy being unique and different from others in many respects.") and 10 items measured interdependence (e.g., "I would offer my seat in a bus to my professor or my boss."). Participants indicated their level of agreement (1 = *strongly disagree*; 5 = *strongly agree*) with the items. The independence and interdependence scales had adequate internal consistency (see Table 2) and were orthogonal in the full sample ($r$ = .02), but positively correlated in the Japanese sample ($r$ = .29, $p$ < .01).[3]

## 2. Results

Table 1 contains descriptive statistics and sex differences tests for scores on the Dark Triad traits and self-construals. Men scored higher than women did on the Dark Triad traits around the world with negligible differences for narcissism in America and Japan. In contrast, women were more likely to use independent *and* interdependent self-construals than men were in the full sample, but these sex differences were markedly smaller than those for the Dark Triad traits and were driven by isolated effects in America for independence and Japan and Russia for interdependence. While there were no interactions of location and participant's sex (2 × 6 ANOVA) for narcissism, independence, and interdependence, there were interactions for Machiavellianism ($F$(5, 1962) = 3.41, $p$ < 0.05, $\eta_p^2$ = 0.01) and psychopathy ($F$(5, 1962) = 2.60, $p$ < 0.05, $\eta_p^2$ = 0.01), such that sex differences for psychopathy were moderate in size for all countries except Japan whereas sex differences in Machiavellianism were particularly pronounced in Hungary and Japan. There were country effects for narcissism ($F$(5, 1962) = 56.53, $p$ < 0.01, $\eta_p^2$ = 0.13), Machiavellianism ($F$(5, 1962) = 36.66, $p$ < 0.01, $\eta_p^2$ = 0.09), psychopathy ($F$(5, 1962) = 30.30, $p$ < 0.01, $\eta_p^2$ = 0.07), independent ($F$(5, 1946) = 34.32, $p$ < 0.01, $\eta_p^2$ = 0.08), and interdependent ($F$(5, 1946) = 11.39, $p$ < 0.01, $\eta_p^2$ = 0.03), self-construals. Briefly, it appears that Japan was particularly high on psychopathy whereas Russia was much lower; America was the most narcissistic and independent whereas Japan was the least; Japan was the most Machiavellian whereas Australia was the least; and Japan was the most interdependent and Hungary was the least. When we compared relative Dark Triad scores overall we found that participants were the most Machiavellian, then narcissistic, and then psychopathic ($F$(2, 3932) = 1495.65, $p$ < 0.01, $\eta_p^2$ = 0.43). This same pattern was observed in Hungary ($F$ = 182.31, $\eta_p^2$ = 0.37), Brazil ($F$ = 412.55, $\eta_p^2$ = .58), Australia ($F$ = 475.20, $\eta_p^2$ = 0.61), and Japan ($F$ = 400.93, $\eta_p^2$ = 0.53). In the American ($F$ = 414.80, $\eta_p^2$ = 0.56) and Russian ($F$ = 486.98, $\eta_p^2$ = 0.57) samples, the differences between Machiavellianism and narcissism were not significant.

Next, we examined the correlations between the Dark Triad traits and individual differences in independence and interdependence for all samples combined and in each country specifically (Table 2). For all samples combined, Machiavellianism and narcissism were moderately associated with higher independence. All three traits had particularly weak ($r$s < 0.13) associations with interdependence. Across samples, correlations with Dark Triad traits were the most consistent for narcissism and independence ($r$s = 0.23 to 0.36), whereas the correlations varied more substantially across samples for all other combinations of Dark Triad traits and self-construals. This was not entirely surprising given that stronger correlations tend to be more stable than weaker correlations, and we have mostly smallish correlations. Strangely, in Japan, where independence and individualism were correlated, Machiavellianism was similarly correlated with independence and interdependence. However, when we corrected for Type 1 error inflation, the cross-cultural variability mostly disappeared. The correlations between Machiavellianism and individual differences in interdependence were negatively correlated mean country-level independence ($r$ = −0.84). The correlations between psychopathy and individual differences in

[1] In the full sample Machiavellianism was correlated with narcissism ($r$ = .09, $p$ < .01) but it was correlated with psychopathy ($r$ = .46, $p$ < .01) and psychopathy was correlated with narcissism ($r$ = .15, $p$ < .01). The weak correlation between narcissism and Machiavellianism was created by a slightly negative one in the Japanese sample ($r$s = −.05). Country-specific correlations are available upon request.

[2] As this measure has already been validated in English and Japanese (Shimotsukasa & Oshio, in press), we were confident in its utility there, but because this is a relatively new measure, we checked it in our other samples and found fair fit elsewhere (e.g., $\chi^2$s/$df$ ≈ 2.35, RMSEAs ≈ 0.06).

[3] Country-specific correlations are available upon request.

**Table 1**
Descriptive statistics, Cronbach's alphas, and sex differences in the Dark Triad traits and individual differences in self-construals in the full sample and by country sampled.

| | *M* (SD) | | | | |
|---|---|---|---|---|---|
| | Dark Triad | | | Self-construals | |
| | Narcissism | Psychopathy | Machiavellianism | Independence | Interdependence |
| Full sample | α = .68 | α = .71 | α = .72 | α = .77 | α = .64 |
| Overall | 2.80 (0.64) | 2.12 (0.62) | 3.02 (0.63) | 3.65 (0.61) | 3.44 (0.51) |
| Men | 2.88 (0.65) | 2.34 (0.62) | 3.16 (0.63) | 3.60 (0.59) | 3.40 (0.51) |
| Women | 2.77 (0.63) | 2.01 (0.59) | 2.94 (0.62) | 3.67 (0.61) | 3.46 (0.51) |
| *t*-Value | 3.53** | 11.35** | 7.29** | −2.62** | −2.45* |
| Cohen's *d* | 0.16 | 0.51 | 0.33 | −0.12 | −0.11 |
| America | α = .64 | α = .75 | α = .75 | α = .82 | α = .58 |
| Overall | 3.03 (0.54) | 2.11 (0.60) | 2.99 (0.64) | 3.82 (0.64) | 3.48 (0.50) |
| Men | 3.09 (0.51) | 2.35 (0.57) | 3.16 (0.62) | 3.68 (0.64) | 3.50 (0.49) |
| Women | 3.01 (0.56) | 2.02 (0.59) | 2.92 (0.64) | 3.86 (0.63) | 3.50 (0.49) |
| *t*-Value | 1.17 | 4.49** | 3.08** | −2.30* | −1.33 |
| Cohen's *d* | 0.15 | 0.57 | 0.38 | −0.25 | −0.15 |
| Australia | α = .68 | α = .73 | α = .77 | α = .74 | α = .59 |
| Overall | 2.98 (0.61) | 1.99 (0.57) | 2.72 (0.54) | 3.67 (0.53) | 3.50 (0.42) |
| Men | 3.19 (0.59) | 2.26 (0.54) | 2.88 (0.56) | 3.61 (0.52) | 3.50 (0.46) |
| Women | 2.89 (0.59) | 1.86 (0.53) | 2.65 (0.58) | 3.70 (0.53) | 3.50 (0.46) |
| *t*-Value | 4.20** | 6.05** | 3.23** | −1.32 | −0.26 |
| Cohen's *d* | 0.47 | 0.68 | 0.36 | −0.15 | −0.03 |
| Brazil | α = .51 | α = .59 | α = .60 | α = .78 | α = .61 |
| Overall | 2.70 (0.50) | 1.96 (0.52) | 2.88 (0.51) | 3.67 (0.63) | 3.55 (0.55) |
| Men | 2.81 (0.54) | 2.10 (0.59) | 2.98 (0.57) | 3.68 (0.51) | 3.56 (0.53) |
| Women | 2.65 (0.47) | 1.90 (0.47) | 2.84 (0.47) | 3.66 (0.66) | 3.55 (0.51) |
| *t*-Value | 2.47* | 2.70** | 2.27* | 0.29 | 0.23 |
| Cohen's *d* | 0.31 | 0.37 | 0.27 | 0.03 | 0.03 |
| Hungary | α = .71 | α = .74 | α = .78 | α = .69 | α = .64 |
| Overall | 2.79 (0.64) | 2.21 (0.68) | 3.03 (0.73) | 3.69 (0.52) | 3.26 (0.55) |
| Men | 2.89 (0.65) | 2.44 (0.64) | 3.26 (0.75) | 3.68 (0.51) | 3.30 (0.54) |
| Women | 2.72 (0.63) | 2.03 (0.65) | 2.85 (0.66) | 3.70 (0.53) | 3.22 (0.55) |
| *t* − Value | 2.20* | 5.36** | 4.91** | −0.47 | 1.29 |
| Cohen's *d* | 0.26 | 0.63 | 0.58 | −0.05 | 0.15 |
| Japan | α = .79 | α = .73 | α = .74 | α = .80 | α = .78 |
| Overall | 2.37 (0.62) | 2.47 (0.58) | 3.39 (0.53) | 3.26 (0.61) | 3.44 (0.54) |
| Men | 2.42 (0.61) | 2.56 (0.59) | 3.40 (0.54) | 3.27 (0.60) | 3.37 (0.57) |
| Women | 2.34 (0.63) | 2.41 (0.56) | 3.38 (0.51) | 3.26 (0.62) | 3.49 (0.52) |
| *t*-Value | 1.23 | 2.25* | 0.49 | 0.07 | −2.08* |
| Cohen's *d* | 0.14 | 0.25 | 0.05 | 0.01 | −0.22 |
| Russia | α = .72 | α = .72 | α = .69 | α = .78 | α = .61 |
| Overall | 2.95 (0.64) | 1.94 (0.59) | 3.03 (0.60) | 3.80 (0.56) | 3.41 (0.46) |
| Men | 3.04 (0.60) | 2.19 (0.61) | 3.16 (0.51) | 3.78 (0.51) | 3.31 (0.39) |
| Women | 2.92 (0.65) | 1.86 (0.56) | 2.99 (0.62) | 3.80 (0.53) | 3.45 (0.48) |
| *t*-Value | 1.72* | 4.78** | 2.57* | −0.37 | −2.54* |
| Cohen's *d* | 0.20 | 0.56 | 0.29 | −0.04 | −0.26 |

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

interdependence were correlated mean country-level independence ($r = 0.92$). No other correlations were large enough to be considered significant with country-level independence or interdependence through this study which may be a function of the small sample size of countries under consideration.[4]

Descriptively, we examined the correlations in men and women (Table 2). The overall correlation between Machiavellianism and independence was stronger in men than in women but the opposite pattern emerged for overall narcissism. The effect for Machiavellianism was driven by country-specific effects in Hungary and Japan whereas the effect for narcissism was driven by country-specific effects in Australia and Hungary. When it came to interdependence, effects were not as sweeping but we mention them here. For Machiavellianism, the correlation in men was larger than in women but the reverse was the case in Russia. For psychopathy, psychopathy was more strongly correlated with interdependence in men than women in America and Russia, whereas the opposite was true in Hungary. We urge caution in the interpretation of country-specific effects given the various sources of error present in cross-cultural personality research (e.g., translation, conceptual) and Type 1 error inflation.

And last, we tested for mediation of sex differences. We confined our mediation test to the full sample but county-specific tests are available upon request. However, the effects themselves were particularly weak, not crossing zero in six bootstrapped regressions with 1000 samples. For psychopathy, there was partial mediation for interdependence ($\Delta R^2 = 0.01$, $F = 22.41$, $p < 0.01$, $\beta_{\text{Sex at Step 1}} = -0.25$, $\beta_{\text{Sex at Step 2}} = -0.24$) suggesting that part of being low on interdependence facilitates psychopathy in men. For Machiavellianism, there was partial suppression for interdependence ($\Delta R^2 = 0.01$, $F = 20.26$, $p < 0.01$, $\beta_{\text{Sex at Step 1}} = -0.16$, $\beta_{\text{Sex at Step 2}} = -0.17$) such that the association for participant's sex grew slightly after adding in Machiavellianism. And

[4] In hopes of understanding the effects we also used the Human Development Report (http://hdr.undp.org/sites/default/files/2015_human_development_report_1.pdf), but as we only had six countries, no associations were significant ($p < 0.05$) smaller than 0.82. Instead of reporting technically non-significant relationships, some as large as 0.72, we omit them here. The interested reader is encouraged to contact the first author. Nevertheless, as we were not directly trying to account for cross-cultural variance, we feel this is a tangential consideration presently.

**Table 2**
Zero-order and moderated correlations between self-construals and the Dark Triad traits.

| | Independence | | | | Interdependence | | | |
|---|---|---|---|---|---|---|---|---|
| | Overall | Men | Women | *z* | Overall | Men | Women | *z* |
| Machiavellianism | | | | | | | | |
| Full sample | 0.20** | 0.16** | −0.04 | 4.15** | 0.09** | 0.11** | 0.10** | 0.21 |
| America | 0.10 | 0.06 | 0.14* | −0.65 | 0.08 | −0.03 | 0.14* | −1.36 |
| Australia | 0.05 | 0.03 | 0.08 | −0.40 | 0.11 | 0.20* | 0.08 | 0.97 |
| Brazil | 0.13* | 0.12 | 0.13 | −0.08 | −0.01 | 0.01 | −0.01 | 0.16 |
| Hungary | 0.13* | 0.42** | −0.09 | 4.57** | 0.12* | 0.18* | 0.04 | 1.21 |
| Japan | 0.25** | 0.43** | 0.14* | 2.88** | 0.30** | 0.42** | 0.23** | 1.93* |
| Russia | −0.09 | 0.09 | −0.13* | 1.83* | 0.07 | −0.08 | 0.12* | −1.66* |
| Narcissism | | | | | | | | |
| Full sample | 0.37** | 0.32** | 0.40** | −1.89* | −0.06* | −0.01 | −0.08** | 1.45 |
| America | 0.31** | 0.14 | 0.38** | 1.43 | 0.03 | −0.06 | 0.06 | −0.96 |
| Australia | 0.24** | 0.29** | 0.25** | 0.34 | −0.10 | −0.00 | −0.13 | 1.04 |
| Brazil | 0.33** | 0.23* | 0.39** | −1.39 | 0.06 | 0.14 | 0.01 | 1.02 |
| Hungary | 0.36** | 0.45** | 0.30** | 1.49 | −0.03 | 0.07 | −0.12 | 1.62 |
| Japan | 0.23** | 0.13 | 0.29** | −1.52 | −0.16** | −0.15 | −0.16* | 0.09 |
| Russia | 0.33** | 0.23* | 0.36** | −1.18 | −0.13* | −0.08 | −0.13* | 0.42 |
| Psychopathy | | | | | | | | |
| Full sample | −0.05* | −0.02 | −0.05 | 0.62 | −0.12** | −0.13** | −0.09** | −0.83 |
| America | −0.09 | −0.25* | 0.01 | 1.32 | −0.08 | −0.33** | 0.04 | −3.06** |
| Australia | −0.05 | 0.05 | −0.05 | 0.79 | 0.01 | −0.08 | −0.08 | 0.90 |
| Brazil | 0.12* | 0.01 | 0.17* | 1.26 | −0.16** | −0.17 | −0.16* | −0.08 |
| Hungary | 0.10 | 0.27** | −0.00 | 2.35* | −0.06 | 0.07 | −0.20* | 2.32* |
| Japan | 0.18** | 0.11 | 0.22** | −1.02 | −0.09 | −0.04 | −0.12 | 0.73 |
| Russia | −0.05 | −0.02 | −0.05 | 0.25 | −0.19** | −0.37* | −0.10 | −2.38** |

*Note.* *z* is Fisher's *z* to compare independent correlations.
* $p < .05$.
** $p < .01$.

for narcissism, there was partial mediation for interdependence ($\Delta R^2 = 0.003$, $F = 5.41$, $p < 0.05$, $\beta_{\text{Sex at Step 1}} = -0.08$, $\beta_{\text{Sex at Step 2}} = -0.07$) but partial suppression for independence ($\Delta R^2 = 0.14$, $F = 309.35$, $p < 0.01$, $\beta_{\text{Sex at Step 1}} = -0.07$, $\beta_{\text{Sex st Step 2}} = -0.09$). Despite confirming our hypothesis for psychopathy and narcissism, the weakness of these effects, the emergence of and difficulty in interpreting suppression effects, and the fact that there were few country-specific sex differences in self-construals, we urge caution in their over-interpretation.

## 3. Discussion

There can be no question that the personality distinction of agency and communion is sweeping and can be seen in how people describe or construe themselves (e.g., Kashima et al., 1995; Wojciszke & Bialobrzeska, 2014). One set of traits that may be better understood with this distinction is the Dark Triad. To date, however, few researchers have attempted to understand and differentiate them using individual differences in self-construals. In a study drawn from six countries, we examined the utility of self-construals to account for overall and sex-differentiated variance in the Dark Triad traits.

The evidence for an association between narcissism and independent construals was overwhelming and cross-culturally stable. Results for Machiavellianism and independent self-construals were less compelling. Machiavellianism was correlated with independent self-construal overall but especially in Brazil, Hungary, and Japan. And last, results for psychopathy and independent self-construals were particularly weak. Psychopathy was not negatively correlated with independent self construals but this was rather weak, driven by slightly negative correlations in all countries expect Japan and Brazil. The failure to find strong evidence in psychopathy might be a method artifact or might indicate that those high in psychopathy do not define themselves in terms of uniqueness or relatedness. Future research might benefit from determining just how those high in psychopathy define themselves, with a similar need in Machiavellianism. In both cases, the more relevant self-defining concepts might be related to more success-driven factors. Indeed, when examining psychogenic motives, results were equivocal for a link between autonomy or power—arguably agency motives—and psychopathy and Machiavellianism (Jonason & Ferrell, 2016). However, there was clear orthogonality between the Dark Triad traits and interdependent self-construals and between both forms of self-construals (except a small correlation in Japan). Collectively, these results should be taken as modest support for the two dimensional nature of self-construals and that they allow us to at least discriminate narcissism from psychopathy and Machiavellianism.

There is substantial evidence for cross-cultural differences in self-contruals (Kashima et al., 1995; Triandis, 1989). Reliably, Asian countries tend to be more interdependent and less independent than Western countries, but few cross-cultural assessments have included places like Hungary, Russia, and Brazil. Japan was particularly low on independent self-construals whereas Russia was particularly high. Brazil was more centrally located in the independent self-construal space whereas American and Australia were on the high side. In contrast, Brazil and Japan were particularly interdependent in their self-construals, whereas it was particularly low in Hungary. Collectively, however, the samples were more oriented towards independence than interdependence. The factors that drive these cross-cultural differences are left to subsequent research with larger samples of countries, but if they follow prior research, it may have to do with factors like environmental stressors, gender equality, developmental progress, and the operational sex ratio.

In contrast, to work on self-construals (Cross & Madson, 1997), there is far less cross-cultural work on the Dark Triad traits. In one study, the Singaporean sample was lower on the Dark Triad traits than the Western sample (Jonason et al., 2013). In the present study, narcissism and independent self-construals were most pronounced in America, interdependent self-construals were most pronounced in Japan and Brazil but particularly weak in Hungary, and Japan and Hungary were high in psychopathy and Machiavellianism whereas Russia and Brazil were rather low. These results suggest a complicated pattern of country-level and trait-level differences that are beyond the present study to understand further. Future research will need to determine why such differences exist, but they may also be a function similar factors as for the agency-communion distinction (Gebauer et al., 2013).

For both self-construals and the Dark Triad traits, there were reliable, albeit weak-to-moderate in magnitude, sex differences. Consistent with previous research, women were higher on the interdependent self-construal and lower on the Dark Triad traits than men were. Sex differences in the Dark Triad traits were relatively robust to the country sampled which might classify them as obligate sex differences (i.e., sex-specific adaptive design), nevertheless, with such a small sample of countries it is hard to rule alternative hypotheses like facultatively calibrated sex differences, emergently-moderated sex differences, or sex-role mediated effects. Nevertheless, the largest sex difference was in psychopathy—a medium effect size—following by Machiavellianism and narcissism that were smaller in magnitude. Nevertheless, we found at least some support for the idea that low rates of interdependent self-construals are partially responsible for sex differences in narcissism and psychopathy.

In contrast, sex differences in interdependent self-construals were much more variable across countries sampled and weak. If that were not enough, sex differences in independent self-construals suggested it was women, not men, who were more independent. It is noteworthy, however, that this effect was localized to the American sample suggesting there may be cultural changes in America that uniquely drove this effect. Unfortunately, we cannot be too dogmatic in our appraisal of this effect given the imbalance of men and women in our sample, Type 1 error inflation, and the reliance on a psychology undergraduate sample. It is, however, possible that women are changing, becoming more independent while simultaneously maintaining their interdependent core. Future research will need to verify the robustness of sex differences in self-construals, test for potential changes in them over time, and what accounts for both those sex differences and the potential change over time.

## 4. Limitations and conclusions

Despite the use of cross-cultural data and examining individual-level and country-level data, the study is characterized by a number of limitations. First, although our data span various regions of the globe it is limited to only one Asian country, two Eurasian countries, one South American country, and two predominantly Anglo-Saxon countries, it could still be described as educated, industrialized, rich, and democratic (Henrich, Heine, & Norenzayan, 2010) and was biased towards more women than men which is a common limitation using undergraduate psychology student samples and these countries were sampled at some degree of convenience despite spanning much of the globe. Second, while we attempted to understand cross-cultural variance, we fell short with the data at hand. However, the goal of this study was not to understand cross-cultural variability. We leave that task to more experienced cross-cultural researchers with larger datasets. Instead, our goal here was to try to understand the Dark Triad traits using individual differences in self-construals. Third, most internal consistency estimates passed the standard threshold (i.e., 0.70; Nunnally, 1978), a few only passed the more liberal threshold (i.e., 0.50; Schmitt, 1996). Fourth, our data was explicit and cross-sectional in nature and there might be cause for implicit assessments of agency and communion to enhance our results (Park, Uchida, & Kitayama, 2015). Fifth, 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. Sixth, it is possible that the correlations we observed were somewhat influenced by semantic overlap in the scale content. Content in the independent self-construal might be quite similar to, in particular, the items that measure narcissism. While a potential limitation, this actually highlights the very claim that we are making that the independent and not the interdependent form or self-construals are reflected in the Dark Triad traits, narcissism in particular. Nevertheless, we have provided new data, gathered from six nations to better understand individual differences in the Dark Triad traits.

In conclusion, we found that narcissism, especially, and Machiavellianism, to a lesser extent and a less cross-culturally stable way, were associated with independent self-construals whereas all three traits were orthogonal to individual differences in interdependent self-construals which themselves were orthogonal. This suggests that while the Dark Triad traits might not all be likely to play-up their individuality (i.e., psychopathy in the present data), they are especially unlikely to emphasize their relatedness or communion with others. We encourage future work that examines the Dark Triad traits using non-self-report methods, in a wider range of countries, and attempts to account for cross-cultural variation.

## References


Abele, A. E., & Wojciszke, B. (2014). Communal and agentic content in social cognition: A dual perspectives model. *Advances in Experimental Social Psychology*, *50*, 195–255.

Akutsu, A., Yamaguchi, A., Kim, M. -S., & Oshio, A. (2016). Self-construals, anger regulation, and life satisfaction in the United States and Japan. *Frontiers in Psychology*, *7*, 768.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497–529.

Cross, S. E., & Madson, L. (1997). Models of the self: Self-construals and gender. *Psychological Bulletin*, *122*, 5–37.

Gebauer, J., Wagner, 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. *Journal of Personality*, *81*, 261–275.

Gouveia, V. V., Singelis, T. M., & Coelho, J. A. P. M. (2002). Escala de auto-imagen: Compravação de sua estratura factorial [Self-construal scale: Corroboration of its factorial structure]. *Avaliação Psicológica*, *1*, 49–59.

Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences*, *33*, 61–83.

Jonason, P. K., & Ferrell, J. D. (2016). Looking under the hood: The psychogenic motivational foundations of the Dark Triad. *Personality and Individual Differences*, *94*, 324–333.

Jonason, P. K., Li, N. P., & Czarna, A. Z. (2013). Quick and dirty: some psychosocial costs associated with the Dark Triad in three countries. *Evolutionary Psychology*, *11*, 172–185.

Jonason, P. K., Strosser, G. L., Kroll, C. H., Duineveld, J. J., & Baruffi, S. A. (2015). Valuing myself over others: The Dark Triad traits and moral and social values. *Personality and Individual Differences*, *81*, 102–106.

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

Jones, D. N., & Paulhus, D. L. (2014). Introducing the Short Dark Triad (SD3): A brief measure of dark personality traits. *Assessment*, *21*, 28–41.

Kashima, Y., Yamaguchi, S., Kim, U., Choi, S. -C., Gelfand, M., & Yuki, M. (1995). Culture, gender, and self: A perspective from individualism-collectivism research. *Journal of Personality and Social Psychology*, *69*, 925–937.

Neiss, M. B., Stevension, J., Sedikides, C., Kumashiro, M., Finkel, E., & Rusbult, C. E. (2005). Relations at the phenotypic and genotypic level. *Journal of Personality and Social Psychology*, *89*, 593–606.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York, NY: McGraw Hill.

Park, J., & Kitayama, S. (2012). Interdependent selves show face-induced facilitation of error processing. *Social, Cognitive, and Affective Neuroscience*, *9*, 201–208.

Park, J., Uchida, Y., & Kitayama, S. (2015). Cultural variation in implicit independence: An extension of Kitayama et al. (2009). *International Journal of Psychology*, *51*, 269–278.

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

Schmitt, N. (1996). Uses and abuses of coefficient alphas. *Psychological Assessment*, *8*, 350–353.

Shimotsukasa, T., & Oshio, A. (2016). Development and validation of the Japanese version of the Short Dark Triad (SD3-J). *Japanese Journal of Personality Psychology* (in press).

Singelis, T. M. (1994). The measurement of independent and interdependent self-construals. *Journal of Personality and Social Psychology*, *20*, 580–591.

Takata, T. (1999). Nihon bunka niokeru sogokuritsuei-sogokyochosei no hattatsu katei: hikaku bunkateki, odan shiryo niyoru jisshoteki kento [development process of independent and interdependent self-construal in Japanese culture: Cross-cultural and cross-sectional analyses]. *Japanese Journal of Educational Psychology*, *47*, 480–489.

Triandis, H. C. (1989). The self and social behavior in differing cultural contexts. *Psychological Review*, *96*, 506–520.

Uchida, Y. (2008). Contingencies of self-worth in Japanese culture: validation of Japanese contingencies of self-worth scale. *Japanese Journal of Psychology*, *79*, 250–256.

Wojciszke, B., & Bialobrzeska, O. (2014). Agency versus communion as predictors of self-esteem: searching for the role of culture and self-construal. *Polish Psychological Bulletin*, *45*, 469–479.