



Sex in the dark: Sex differences on three measures of dark side personality

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ABSTRACT

This study examined sex differences in the scores on three different measures of the personality disorders (PDs) all derived from on-line surveys. Two groups (total $N = 871$) completed the *Coolidge Axis-II Inventory* which assessed 14 PDs; two groups (total $N = 732$) completed the *Short Dark Tetrad* which assessed 4 PDs; four groups (total $N = 1558$) completed the *Personality Inventory for DSM-5—Brief Form* which assessed 5 PD dimensions. Cohen's d after ANOVAs, and binary regression analysis revealed consistent findings. In this study we calculated 63 d statistics of which 5 were $d > 0.50$ and 28 were $d > 0.20$. In two samples, each using two different instruments, men scored higher than women on Anti-Social, Narcissistic and Sadistic PD which is a consistent finding in the literature. Speculations are made about the origin of these differences. Limitations are acknowledged.

Many researchers are interested in gender and sex differences in personality traits, as well as personality disorders (PDs; [Del Giudice, 2009, 2012](#); [Eagly & Revelle, 2022](#); [Feingold, 1994](#); [Furnham & Treglown, 2021](#); [Schmitt, 2015](#); [Schmitt et al., 2008](#); [Schmitt & Fuller, 2015](#)). Biological, and evolutionary psychologists as well as social-personality psychologists often disagree as to how to interpret the literature. Some seem to rejoice in finding differences, while others seek to minimise any established differences.

There are a number of theoretical reasons for examining sex differences in PDs, indeed all personality traits ([Furnham, 2017](#)). There are two main intellectual camps. The first described as the *gender-similarities hypothesis*, argues that although there are many small differences, they are relatively unimportant. The second camp emphasizes the *sex differences hypothesis* and takes the position that there are in fact a few, large differences. The interest is driven by the possible explanation for similarities and differences namely the nature-nurture debate. This issue is all the more important when it comes to mental illness, and the possibility of misinterpreting sex difference findings ([Furnham & Grover, 2022a](#)).

Debates in the area are often about the validity of tests, subtle wording differences and more commonly, the interpretation of Cohen's d , which is an indicator of difference usually labelled the as: none, trivial, small, medium, large and very large ([Greenwald et al., 2015](#)). Many studies are about the origins and causes of established sex differences, though often rather "light" on theory as to why there are

differences on any traits.

In this paper we are concerned with sex differences in the dark-side traits ([Furnham & Grover, 2022a, 2022b](#)). The term dark-side traits has been used for two decades to describe sub-clinical personality disorders, usually assessed by standard questionnaires. This research area has attracted attention over the years ([de Cos, 2015](#); [Jane et al., 2007](#); [Widiger & Spitzer, 1991](#)). There have been various early reviews of sex differences in personality disorders ([Corbitt & Widiger, 1995](#); [Paris, 2004](#)), while some have looked at gender roles and PDs.

In early studies, both [Golomb et al. \(1995\)](#) and [Ekselius et al. \(1996\)](#) found men were likely to be higher than women on Antisocial and Narcissistic PD, yet [Grilo \(2002\)](#) found no evidence of such sex differences. In a review, [Oltmanns and Powers \(2012\)](#) showed that only Antisocial disorder consistently showed large sex differences, with men scoring consistently higher than women. [Furnham and Grover \(2022a, 2022b\)](#) have argued that the early results were equivocal mainly due to the instruments reliability and validity.

There is great interest in Anti-Social and Narcissistic PD, both considered part of Cluster B which are considered highly emotional and dramatic, while at the same time being extremely unpredictable. One reason for this interest is the many problems caused by people in positions of power (business people; politicians) who have these disorders ([Harms et al., 2011](#); [Hogan et al., 2021](#)).

[Schulte Holthausen and Habel \(2018\)](#) indeed noted that studies on sex differences in personality disorders remain sparse and mainly

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limited to Antisocial and Borderline PD. They also suggested that research on the sparsely investigated PDs should be intensified to understand sex differences in prevalence, manifestation, and therapeutic outcome of PDs.

Two studies have looked at sex differences using the *Hogan Development Survey* which measures dark-side traits. [Furnham and Trickey \(2011\)](#) examined 18,366 adults and found sex differences on most sub-clinical PDs especially Avoidant, Schizoid and Antisocial with males scoring higher on the latter two. Females scored higher on Borderline, Avoidant, Passive-Aggressive, Obsessive Compulsive and Dependent. The smallest sex differences were for Paranoid, Obsessive-Compulsive, Schizotypal, Passive Aggressive and Histrionic disorders.

[Furnham and Grover \(2022a, 2022b\)](#) examined sex differences in domain and facet scores on a new dark-side personality test (Hogan Development Survey: Form 5) measuring sub-clinical personality disorders. In a sample of 50,000 adults, they compared men and women on the 11 domains and 33 facets. Using *t*-tests and binary regressions they found that there were many significant differences on these scores, which replicated other studies. However, the Cohen's *d* statistic showed very few (5 out of 44) differences >0.20 . The biggest difference was on Reserved (Schizoid) followed by Imaginative (Schizotypal), Cautious (Avoidant) and Mischievous (Anti-Social) all with men scoring higher than women and few differences on Excitable (Borderline).

1. Rationale and aims

There are a number of measures of the PDs. In fact, there are over 100 measures although many are PD specific. Further, there has now been a move to dimensional, rather than categorical measurement ([Krueger et al., 2014](#)). In this paper we examine sex differences on three very different measures of the PDs.

Over a four year period 2019–2022 our research group conducted a number of studies (>8) in which they assessed certain PDs using a number of different measure of PDs. Each study group only completed one of the three PD instruments. The *N* in each study was >200 which was required for the power analysis for the data collected and analysed.

The three measures reported in this paper are very different. The Coolidge Axis-II Inventory attempts to assess *all* the PDs specified in all [APA \(2000\)](#) manuals. However, the Short Dark Tetrad only measures three PDs and includes Machiavellianism. On the other hand, the Personality Inventory for DSM-5 assesses five dimensions of PDs, with different trait names, reflecting a new conceptualisation of the PDs.

In this study we are concerned with sex difference on three Dark-Side measures. Our aim was to attempt to establish *the reliability of results both within and across measures* by having more than one adult population completing each test. Further, we examined results on three tests which conceived of, and assessed, the PDs very differently. Given past research in the area, we expected to find that men scored higher than women on Narcissism and Psychopathy (Anti-Social) while women scored higher than men on Borderline and Dependent PD.

2. Method

2.1. Participants and procedure

Details of the participant group are shown in the Tables (1 to 3) specifying the number of males and females and their average age. All the data was collected on Prolific, using a Qualtrics platform and participants paid the appropriate amount for their input. In all samples participants were able to answer both “non-binary” as well as “other” when asked to report their gender. This number never exceeded 5 in all the studies ($<3\%$) and these participants were removed from the data set before further analysis. We specified that we wanted people over 21 and under 70 years old and working adults rather than students. In all samples there was a range of ethnicities but in all over 80% were white/Caucasian people from the United Kingdom. There was no significant

difference in age between the sexes in any of the samples.

Items appeared in the same order in all studies as specified in the original papers. The time taken to complete the surveys varied from around 2 to 6 min. Each study was approved by the appropriate ethical committee (CEHP 514/2017).

2.2. Measures

1. *Coolidge Axis-II Inventory – Short Form (SCATI)* ([Coolidge, 2001](#)). This measure has been used to assess PDs in subclinical ([Coolidge et al., 2010](#)) and clinical ([Watson & Sinha, 1996](#)) populations. It is a 70-item questionnaire which measures 14 PDs using a 4-item response scale. Scale reliability is satisfactory and the factor structure interpretable in terms of the Cluster A, B, C scheme ([APA, 2000, 2015](#)). It has been used in a number of studies ([Segal et al., 2001, 2006](#)). For instance, [Davison and Furnham \(2017\)](#) looked at the SCATI PD trait profiles of 214 professional actors compared to a general population sample. Other studies looking at sub-clinical PDs have shown them to be related to a wide variety of social attitudes and behaviours including money beliefs and behaviours. The fact that each PD has only 4 items means that the alphas do not always exceed 0.70 but almost never fall below 0.60. This was true of both studies, as is the case with nearly all papers using this measure ([Furnham & Grover, 2022b](#)).
2. *The Short Dark Tetrad* ([Paulhus et al., 2020](#)). This is a 28-item measures that assesses Narcissism (Special), Machiavellianism (Crafty), Psychopathy (Wild) and Sadism (Mean). Paulhus et al., did a confirmatory factor analysis (CFA) of items which showed acceptable fit for a four-factor solution. Also, the subscales each showed coherent links with the Big Five and adjustment. Further, the four-factor structure replicated across student and community samples and the four subscales show distinctive correlates. There have been a number of studies that have used this measure and demonstrated it internal reliability, factor structure and concurrent and construct validity ([Furnham & Horne, 2021](#); [Mededović & Petrović, 2018](#); [Pajević et al., 2018](#)). All studies, including this one, showed alpha's exceeded 0.70.
3. *Personality Inventory for DSM-5—Brief Form (PID-5-BF)—Adult* ([Krueger et al., 2014](#)) This is a 25-item personality test that assesses 5 personality trait domains: negative affect, detachment, antagonism, disinhibition, and psychoticism, with each trait domain consisting of 5 items. Since the move from the categorical to the dimensional measurement of the PDs this, and the longer instrument have been used in many studies most of which has attested to its reliability and validity ([Gomez et al., 2020](#)). All of the many studies using this measure, including this one, showed alpha's exceeded 0.70.

3. Results

3.1. SCATI

[Table 1](#) shows the means, SDs, Analysis of variance, Cohen's *d* and binary regression analysis for the two populations who completed the questionnaire. There remains a debate as to how to interpret the size of a *d*-statistic. Indeed, [Cohen \(1988\)](#) suggested that $d = 0.2$ be considered a ‘small’ effect size, 0.5 represents a ‘medium’ effect size and 0.8 a ‘large’ effect size while [Funder and Ozer \(2019\)](#) claimed an effect size of 0.2 could be considered a medium effect. Using $d > 0.20$ as an “interesting” cut-off point it is can be noted that five attained this in both studies. In all four differences showed a $d > 0.20$ in both studies indicating that men scored higher than women on Anti-social, Narcissistic and Sadistic but women higher than men on Dependent PD.

The binary regression showed confirmed the findings but did suggest two other PDs, namely Histrionic and Passive Aggressive which showed consistent significant differences between the groups, on which women scored higher than men.

Table 1
Analysis of SCATI (Anova, Cohen's d, binary regressions).

	Group 1 mean age = 39.89 yrs (SD = 11.65)						Group 2 mean age = 20.01 yrs (SD = 12.31)							
	Men (N = 195)		Women (N = 202)		F	p	d	Men (N = 240)		Women (N = 234)		F	p	d
	Mean	SD	Mean	SD				Mean	SD	Mean	SD			
Antisocial	8.09	2.50	7.41	1.97	9.120	0.003	0.302	8.37	2.70	7.66	2.33	9.221	0.003	0.282
Avoidant	10.91	3.07	11.21	3.21	0.936	0.334	-0.096	11.28	3.48	11.25	3.52	0.007	0.933	0.009
Borderline	8.64	2.80	9.05	2.75	2.043	0.154	-0.147	9.31	3.12	9.85	3.42	3.184	0.075	-0.165
Dependent	8.18	2.42	8.73	2.24	5.588	0.019	-0.236	8.53	2.59	8.91	2.71	2.507	0.114	-0.143
Depressive	10.88	3.63	11.32	3.35	1.572	0.211	-0.126	11.75	3.85	11.84	3.53	0.067	0.796	-0.024
Histrionic	8.94	2.18	9.14	2.52	0.677	0.411	-0.085	9.30	2.63	9.35	2.59	0.060	0.806	-0.019
Narcissistic	9.45	2.54	8.79	2.52	6.639	0.010	0.261	10.05	2.87	9.27	2.61	9.587	0.002	0.284
Obsessive-compulsive	10.62	2.81	10.84	2.88	0.601	0.439	-0.077	10.68	2.85	10.73	2.67	0.029	0.865	-0.018
Paranoid	10.24	3.06	10.26	3.23	0.007	0.933	-0.006	10.45	3.23	10.64	3.42	0.373	0.542	-0.057
Passive-aggressive	10.67	2.88	9.87	2.56	8.639	0.003	0.293	10.60	2.78	10.04	2.88	4.600	0.032	0.198
Sadistic	6.83	2.10	6.08	1.54	16.340	0.000	0.407	6.78	2.14	6.28	1.79	7.527	0.006	0.253
Self-defeating	9.24	2.67	9.48	2.68	0.762	0.383	-0.090	9.49	2.90	9.58	2.96	0.100	0.752	-0.031
Schizotypal	7.89	2.52	8.38	2.68	3.504	0.062	-0.188	8.22	2.55	8.82	3.06	5.367	0.021	-0.213
Schizoid	9.42	3.10	8.97	2.77	2.330	0.128	0.153	9.50	2.82	9.28	2.99	0.693	0.406	0.076

	Group 1					Group 2				
	B	S.E	Wald	p	Exp(B)	B	S.E	Wald	p	Exp(B)
Antisocial	-0.217	0.074	8.569	0.003	0.805	-0.227	0.065	12.343	0.000	0.797
Avoidant	-0.022	0.063	0.121	0.728	0.978	-0.048	0.048	1.029	0.310	0.953
Borderline	0.116	0.073	2.545	0.111	1.123	0.167	0.055	9.321	0.002	1.182
Dependent	0.124	0.072	2.961	0.085	1.132	0.067	0.055	1.498	0.221	1.070
Depressive	0.011	0.058	0.037	0.847	1.011	-0.054	0.049	1.243	0.265	0.947
Histrionic	0.255	0.072	12.627	0.000	1.290	0.146	0.056	6.667	0.010	1.157
Narcissistic	-0.208	0.064	10.588	0.001	0.812	-0.195	0.052	13.913	0.000	0.823
Obsessive-compulsive	0.040	0.050	0.631	0.427	1.041	0.045	0.044	1.051	0.305	1.046
Paranoid	0.036	0.056	0.401	0.527	1.036	0.024	0.048	0.243	0.622	1.024
Passive-aggressive	-0.169	0.063	7.073	0.008	0.845	-0.083	0.059	2.012	0.156	0.920
Sadistic	-0.267	0.084	10.062	0.002	0.766	-0.078	0.069	1.265	0.261	0.925
Self-defeating	0.077	0.071	1.162	0.281	1.080	0.021	0.062	0.120	0.729	1.022
Schizotypal	0.168	0.059	8.027	0.005	1.183	0.143	0.048	8.703	0.003	1.153
Schizoid	-0.064	0.054	1.399	0.237	0.938	-0.021	0.048	0.194	0.659	0.979

3.2. Dark Tetrad

Table 2 shows the means, SDs, analysis of variance, Cohen's d and binary regression analysis for the two populations who completed the Dark Tetrad. Results were similar in the two studies and showed significant difference on all four factors five being $d > 0.50$. Men scored higher than women on all four factors particularly Anti-Social/Psychopathy/Wild.

The binary regression confirmed the above confirming the fact that perhaps the biggest consistent difference was on the Anti-Social PD scale.

Table 2
Analysis of Dark Tetrad (Anova, Cohen's d, binary regressions).

	Group 1 mean age = 45.69 yrs (SD = 10.34)						Group 2 mean age = 30.01 yrs (SD = 7.93)							
	Men (N = 199)		Women (N = 250)		F	p	d	Men (N = 137)		Women (N = 136)		F	P	d
	Mean	SD	Mean	SD				Mean	SD	Mean	SD			
Crafty	23.79	3.52	22.75	3.85	8.651	0.003	0.282	36.13	8.77	32.92	8.82	9.099	0.003	0.365
Special	23.02	4.64	21.51	4.69	11.570	0.001	0.324	34.58	9.94	26.79	8.80	47.076	0.000	0.830
Wild	16.16	5.07	13.24	4.17	45.055	0.000	0.629	35.81	8.95	29.96	7.97	32.510	0.000	0.690
Mean	17.90	6.04	13.64	4.54	72.817	0.000	0.797	33.48	11.40	28.11	10.21	16.821	0.000	0.496

	Group 1					Group 2				
	B	S.E	Wald	p	Exp(B)	B	S.E	Wald	p	Exp(B)
Crafty	0.013	0.031	0.169	0.681	1.013	0.029	0.021	1.882	0.170	1.029
Special	-0.009	0.025	0.123	0.726	0.991	-0.078	0.020	15.486	0.000	0.925
Wild	-0.068	0.027	6.069	0.014	0.935	-0.052	0.024	4.761	0.029	0.949
Mean	-0.126	0.024	26.960	0.000	0.882	0.005	0.018	0.092	0.761	1.005

Table 3
Analysis of DSM (Anova, Cohen's d, binary regressions).

	Group 1 mean age = 37.05 yrs (SD = 11.44)					Group 2 mean age = 43.12 yrs (SD = 10.06)					Group 3 mean age = 36.68 yrs (SD = 10.06)					Group 4 mean age = 26.09 yrs (SD = 7.49)												
	Men (N = 129)		Women (N = 130)		Mean SD	Men (N = 199)		Women (N = 130)		Mean SD	Men (N = 201)		Women (N = 196)		Mean SD	Men (N = 253)		Women (N = 252)		Mean SD								
	Mean	SD	Mean	SD		Mean	SD	Mean	SD		Mean	SD	Mean	SD		Mean	SD	Mean	SD		Mean	SD						
Negative affect	3.20	1.16	3.05	1.22	1.063	0.303	0.126	4.53	3.03	5.91	3.45	17.938	0.000	-0.425	6.17	3.71	7.56	3.51	14.624	0.000	-0.385	6.28	3.26	8.40	3.23	53.68	0.000	-0.653
Detachment	3.14	1.18	2.75	1.23	6.990	0.009	0.324	4.40	3.32	3.80	2.96	3.596	0.059	0.191	5.44	3.85	4.65	3.07	5.027	0.026	0.227	5.08	2.79	5.57	2.91	3.743	0.054	-0.171
Antagonism	3.22	1.16	2.71	1.19	12.316	0.001	0.434	2.57	2.34	1.53	1.96	22.761	0.000	0.482	3.02	2.75	2.41	2.42	5.533	0.019	0.235	4.00	2.85	3.20	2.52	11.22	0.001	0.297
Disinhibition	2.74	1.12	2.43	1.14	4.877	0.028	0.274	2.91	2.79	2.03	2.53	10.823	0.001	0.330	3.64	3.27	3.55	3.01	0.344	0.558	0.029	5.03	2.97	4.07	2.95	13.44	0.000	0.324
Psychoticism	2.94	1.25	2.41	1.28	11.456	0.001	0.419	3.45	2.95	3.11	3.10	1.299	0.255	0.112	4.42	3.59	4.46	3.41	0.014	0.906	0.011	5.65	3.11	5.56	3.45	0.097	0.756	0.027

	Group 1				Group 2				Group 3				Group 4											
	B		Exp(B)		B		Exp(B)		B		Exp(B)		B		Exp(B)									
	S.E	Wald	p	Exp(B)	S.E	Wald	p	Exp(B)	S.E	Wald	p	Exp(B)	S.E	Wald	p	Exp(B)								
Negative affect	0.520	0.200	6.791	0.009	1.682	0.254	0.044	33.153	0.000	1.289	0.201	0.039	26.268	0.000	1.223	0.273	0.036	56.504	0.000	0.000	0.000	0.000	0.000	1.313
Detachment	-0.325	0.172	3.572	0.059	0.723	-0.122	0.043	7.840	0.005	0.886	-0.121	0.037	10.547	0.001	0.886	0.037	0.038	0.917	0.338	0.000	0.000	0.000	0.000	1.037
Antagonism	-0.452	0.196	5.334	0.021	0.636	-0.221	0.061	12.962	0.000	0.801	-0.107	0.048	4.948	0.026	0.899	-0.121	0.040	8.969	0.003	0.000	0.000	0.000	0.000	0.886
Disinhibition	0.588	0.288	4.180	0.041	1.800	-0.103	0.052	3.908	0.048	0.902	-0.031	0.044	0.501	0.479	0.969	-0.156	0.038	16.935	0.000	0.000	0.000	0.000	0.000	0.856
Psychoticism	-0.628	0.273	5.286	0.021	0.534	0.000	0.052	0.000	0.995	1.000	-0.014	0.046	0.090	0.765	0.986	-0.047	0.038	1.569	0.210	0.000	0.000	0.000	0.000	0.954

4. Discussion

The results of this study are largely consistent with previous research in this area, and confirms they hypotheses. This paper raises a number of points. First, the consistency of the PD sex differences across samples who took the same test, and second across PDs measured between different tests. With regard to the consistency between samples there seemed “reasonable” agreement particularly with those that were most and least significantly different. In all, we had eight participant groups with an 232 < N < 506 who were recruited on-line. In no instance did analyses show opposite results with the exception of one group tested on the DSM-5 where men scored higher than women on the Negative Affectively scale in contrast to the other three groups. Thus, we have demonstrated the generalisability of results across very different measures, in eight different samples.

A major question concerns sex differences in “bright-” as opposed to “dark-side” traits. [Furnham and Treglown \(2021\)](#) who looked at six tests found the Cohen's d statistic showed very few (3 out of 130) differences >0.50. In a study of dark-side traits, [Furnham and Grover \(2022a, 2022b\)](#) found a Cohen's d statistic showed very few (5 out of 44) differences >0.20. In this study however we calculated 63 d statistics of which 5 were d > 0.50 and 28 were d > 0.20. Thus, it appears there are more differences on dark-, as opposed to bright-side measures. This finding requires an explanation and further investigations. However, we have to acknowledge that overall, there are both relatively few and small sex differences, an observation made by many in this area.

We were also able to compare sex differences on different measures of the same trait as the *SCATI* and the *Dark Tetrad* both measured Anti-Social, Narcissistic and Sadistic PD. This was consistent between the samples and the instruments showing the following d scores: Anti-Social: 0.30, 0.28, 0.69; Narcissistic: 0.26, 0.84, 0.32, 0.83 and Sadistic PD 0.41; 0.25, 0.80, 0.49. These results confirm the previous literature on Anti-Social and Narcissistic PD but highlight the role of Sadistic PD which, admittedly does not appear as a PD in any of the DSM manuals ([APA 2000, 2015](#)). It explains also why so many studies on powerful derailed individuals nearly always highlight men rather than women ([Babiak & Hare, 2006](#)).

An examination of the Binary Logistic Regressions showed that the Exp(B) varied mainly between 0.80 and 1.20 the lowest being 0.63 for Antagonistic for Group 1 and the highest being 1.68 for Negative Effect for Group 1. Again, depending on cut-interpretations these could be considered high or low.

However, it does appear from this data that having a PD is predominantly a “male problem” in that on all four Tetrad traits, and four of the five *DSM-5* dimensions males scored significantly higher than females across all samples. The *SCATI* did show that where there were consistent findings across the two samples and a d > 0.10 women did score higher on Borderline, Dependent, and Schizotypal, which has been established in previous studies.

There appears to be relatively little theoretical development in the PD literature about the “causes” of the different PDs that may lead to very clear hypothesis testing. Whilst it would not be difficult to develop an evolutionary-based theory explaining why men might be higher on Anti-Social and Narcissistic PD it seems much more difficult to explain why women might score more highly on other PDs like Borderline or Schizotypal. In this sense few of the sex difference studies in PD are theoretically, rather than psychometrically, driven.

5. Conclusion

The strengths of this paper was to report sex difference in the PDs using multiple measures (three) and multiple samples (eight). The results suggest that compared to studies of sex differences in bright-side (normal) personality where sex differences are common but small, sex differences in (some) dark-side traits are consistently larger.

This study has implications for the theory, measurement and indeed

treatment of the PDs. From an evolutionary psychology perspective it seems possible to explain some of these differences: for instance, why boldness, fearlessness and self-confidence maybe beneficial to males, though in excess a disadvantage. Equally it may be possible to explain some sex differences in the traditional socialisation of children into established sex roles.

As the movement of PD researchers from a categorical to a dimensional perspective progresses we should be able to inspect sex differences seeking to establish consistency of findings and following that explanations.

6. Limitations

There are frequent critiques that online survey data is often problematic with participants being perfunctory in their responses. In each study we included IQ items as well as other checks to be able to inspect the quality of the responses. In most studies we removed a small number of participants before the analysis with concerns about the quality of their data.

This study explored the data bank of a research group. Nearly all the participants were functioning working adults and not a student or clinical sample, though it is possible that a small number were present in each study. Although we had a lot of data on each participant it was not consistent between samples. Furthermore, it would have been desirable to have a lot more data on each person such as their education and general mental health.

Of the two categorical measures the *SCATI* has been used in a number of studies and appears to have adequate psychometric properties but is not a particularly well-known measure. The *Dark Tetrad* measure on the other hand is relatively new though attracting a good deal of attention (Alavi et al., 2022; Fernández-del-Río et al., 2022; Jain et al., 2022). However, the *DSM-5* is now 10 years old and has been used in many studies. Studies such as this serve to describe sex differences but give no indication in their cause or consequence. Thus, they can show that differences exist but not why.

Ethics approval

UCL Psychology Dept number CEHP/514.2013 granted permission for this study to be done,

Registration

This paper was not pre-registered with the journal.

Ethics

This was sought and obtained (CEHP/514/2017) Informed Consent: participants gave consent for their anonymised data to be analysed and published.

CRedit authorship contribution statement

A.Furnham: Visualisation, Analysis, Writing -review & editing.
George Horne: Tabulation, Proofing, Data Collection.

Declaration of competing interest

There is no conflict of interest in this research or paper.

Data availability

This is obtainable from the first author upon request.

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