The factor structure and validity of the Psychopathy Checklist-Short Version when used with autistic psychiatric inpatients

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Introduction

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This article is part of the Research Topic

World Autism Awareness Day 2024

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The relationship between psychopathy and autism: a systematic review and narrative synthesis

Kate Maguire[1] Hayley Warman[1] Frances Blumenfeld[1] Peter E. Langdon[2,3,4*]

- Autistic people or those with autistic traits appear to have an increased rate of callousness and unemotional traits or psychopathy relative to the general population.
- Both constructs are associated with difficulties with empathy, but via differing mechanisms. Autism = cognitive empathy; psychopathy = affective empathy.
- There was some inconsistency in the literature about children which may be related to measurement and/or development.
- Some autistic individuals may present with a “double-hit”.
- Measurement of psychopathy amongst autistic adults is problematic.

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Introduction

Heterogeneity within autism spectrum disorder in forensic mental health: the introduction of typologies

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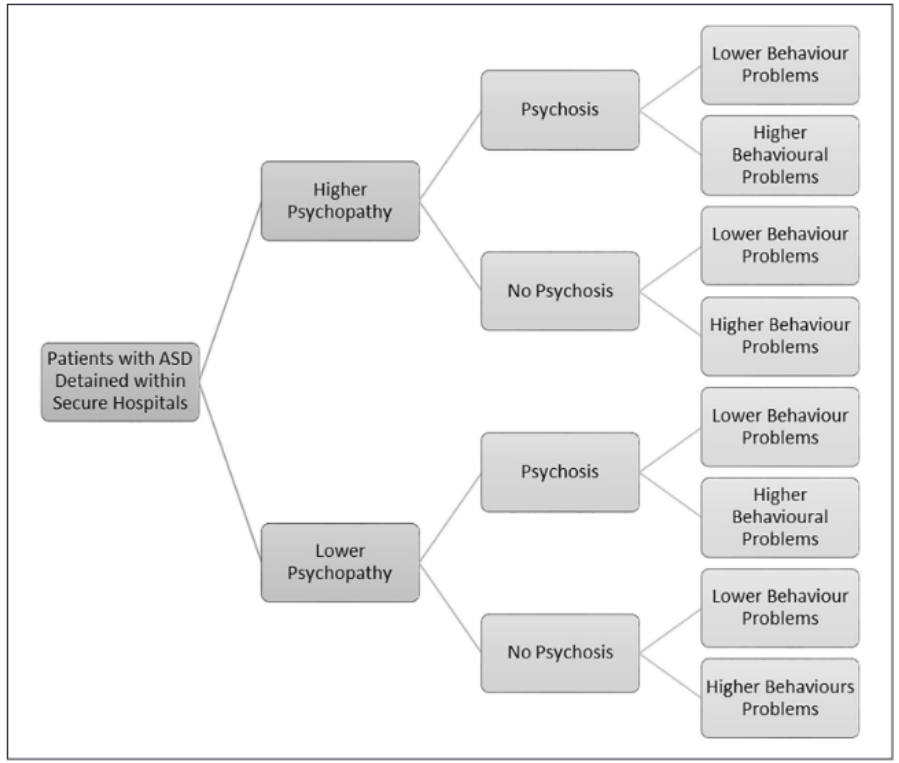

Figure 1. Descriptive subtypes of patients with ASD detained in secure hospitals (Alexander et al., 2016, p. 206).
All service users would have a history of behavioural problems; however, differences between the subtypes are characterised by the severity and frequency of behavioural problems. For example, a service user with an ASD may have committed a violent offence (e.g. murder) in the community, but within the hospital environment may exhibit few behavioural problems and consequently would be categorised as having lower behavioural problems compared to others who exhibit frequent challenging behaviours. Furthermore, psychopathy is conceptualised on a spectrum ranging from lower to higher with a focus on IA features of the disorder, including unemotional and callous traits.

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Introduction

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The face validity of an initial sub-typology of people with autism spectrum disorders detained in psychiatric hospitals

Magali Barnoux[1], Regi Alexander[2], Sabyasachi Bhaumik[3], John Devapriam[4], Connor Duggan[5], Lee Shepstone[2], Ekkehart Staufenberg[6], David Turner[2], Nichola Tyler[7], Essi Viding[8] and Peter E Langdon[9]

Table 3. Inter-rater agreement for Round 3 of the typology vignette ratings.

Typology	*N*	κ	Average pairwise agreement (%)	Level of agreement[a]
Overall subtype classification	5	0.95	96	Almost perfect
Psychopathy	5	1.00	100	Perfect
Psychosis	5	0.92	96	Almost perfect
Behavioural problems	5	1.00	100	Perfect

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Introduction

- The Psychopathy Checklist – Revised (PCL-R; Hare, 1991) is a widely used measure of psychopathy.
- There is a shorter version called the Psychopathy Checklist: Screening Version (Hart et al., 1995).
- PCL:SV predicts increased risk of violence within psychiatric settings (Doyle et al., 2002), and violence amongst people with intellectual disabilities (Gray et al., 2007) better than the PCL-R (Morrissey et al., 2007).
- Psychopathy is associated with increased personality disorder symptomatology (Coid and Yang, 2008; Coid and Ullrich, 2010), including symptoms or a diagnosis of antisocial, histrionic, and borderline personality disorder, as well as paranoid personality disorder (Bergstrøm et al., 2024). Autism and some personality disorders may share overlapping features (e.g., Dudas et al., 2017) which may make accurate diagnosis challenging (Rinaldi et al., 2021).

Aims

- To investigate the reliability and validity of the PCL:SV when used with autistic inpatients detained within psychiatric hospitals across two time points separated by 12-months.
- We examined whether the PCL:SV was associated with length of hospital stay, criminal history, violence offences, forensic history, and diagnosis of personality disorder.
- We investigated predictive validity by examining whether the PCL:SV predicted: (a) moves across secure wards, and (b) aggressive or problematic behaviour 12-months later.
- We investigated convergent validity by determining whether the PCL:SV was associated with other measures of clinical risk.

Participants and Design

- This study utilised a prospective cohort design with two measurement points, separated by 12 months. Fifty-nine inpatient hospitals across 26 NHS Trusts and 7 hospitals from independent healthcare providers in England and Wales took part in this study. A majority were secure units.
- Individuals were eligible for inclusion in the study if they were aged 18 years or older, had an ICD-10 diagnosis of an autism spectrum disorder made by a Clinical Psychologist, Psychiatrist, or other appropriately qualified professional and were detained within hospital using the Mental Health Act, 1983 or subject to the Mental Capacity Act, 2005. There were no specified exclusion criteria.
- Data were captured about 282 participants, who at the time of data collection were detained under the Mental Health Act, 1983, and/or subject to the Mental Capacity Act, 2005.
- All participants had a diagnosis of autism, including 251 males, 30 females and one transgender person.
- Age ranged from 18 to 67 years, M = 33.29; SD = 11.70.
- The majority identified as Caucasian (88.6%), followed by mixed race (5%), Black African or Black Caribbean (4%), Asian (2%), and Chinese (.4%).

Participants and Design

- At baseline enrolment, most were single (98%), four were in relationships (1%), one participant was divorced (.4%) and the majority did not have children (98%). Data about marital status was missing for one participant.
- Over half the sample had attended special educational needs schools (57%) and 43% were educated in mainstream schools. Forty-nine percent of the sample also had a diagnosis of intellectual disability.
- Regarding autism diagnosis, 47% had a diagnosis of childhood autism, 12% had a diagnosis of atypical autism, 39% had a diagnosis of Asperger syndrome and 2% were diagnosed with pervasive developmental disorder-not otherwise specified.
- Fifty-one percent were detained under forensic sections, 44% were detained under civil sections as defined within the Mental Health Act, 1983, and a further 5% of participants were detained under the Mental Capacity Act, 2005. Data on section type was missing for one participant.

Data

Table 1

Definitions of aggression or problematic behaviour categories.

Physical Aggression	Behaviours that lead to physical harm, such as hitting others.
Verbal Aggression	Behaviours where individuals were verbally aggressive towards others, such as shouting or racial abuse.
Sexual Behaviour	Behaviours deemed inappropriately sexual in nature, such as masturbating in public.
Violence to Self	Behaviours that led to self-injury, such as cutting or head banging.
Rule Breaking	Behaviours that violated rules of the forensic mental health setting, such as absconding.
Threats of Violence/ Aggression	Behaviours where individuals verbally threatened others, such as threatening to kill others.
Intimidating Behaviour	Behaviours where participants were physically threatening others through body language, such as raising fists.
Inappropriate Behaviour	Behaviours not considered socially acceptable behaviours, such as spitting/ public defecation.
Overall Presence	Overall presence of all recorded aggressive/ problematic behaviours (Y/N).
Violent Intent	Was there evidence of clear violent intent for behaviours? (Y/N)

Data

- PCL:SV - 12 item, two factor tool, designed for screening psychopathic traits and behaviours across forensic and non-forensic populations in individuals aged 16 years and older. Factor 1 assesses the interpersonal and affective features of psychopathy such as deceitfulness, grandiosity and lack of remorse and empathy and Factor 2 assesses the socially deviant or antisocial behaviour associated with psychopathy such as impulsiveness and poor behavioural control. Items are scored on a three-point scale according to lifetime presence and severity of symptoms (0 = absent, 1 = possibly or partially present, and 2 = present). Completed by clinicians at site who received training.

Data

- HCR-20 - a 20-item tool to assess the risk of violence in 18 to 65-year-olds, containing three subscales: historical (10 items), clinical (5 items) and risk management (5 items), accounting for past, present and future risk factors. Items are scored on a three-point scale (0 = absent, 1 = possibly or partially present, and 2 = definitely present) and a final summary rating of low, moderate, or high risk for violence is given (Douglas et al., 2013).

- START - a 20-item tool used to evaluate short-term risk in individuals aged 16 and above with psychiatric disorders. It assesses an individual's strengths and vulnerabilities, with items rated on a three-point scale (0 indicates no vulnerability/strength evident, 1 indicates moderate vulnerability/strength and 2 indicates high vulnerability/ strength). Raters then provide an overall risk rating (low, moderate, or high) about the likelihood of seven risk outcomes occurring: violence to others, self-harm, suicide, substance abuse, victimization, self-neglect, and unauthorised absence (Webster et al., 2004).

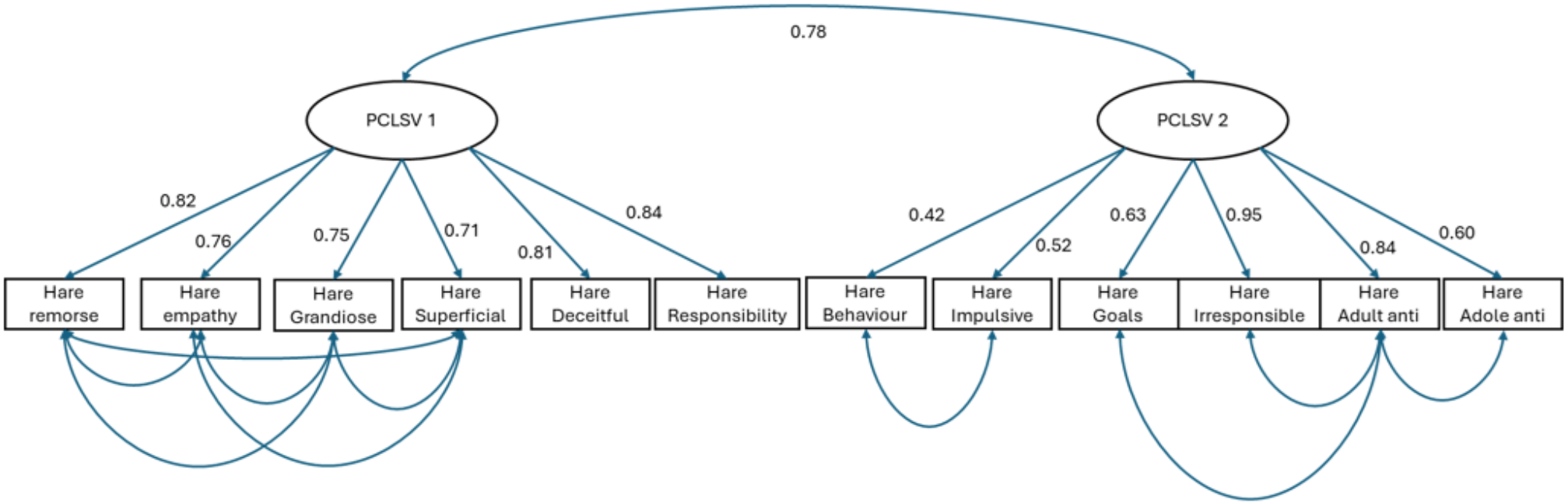
Results

- Within the sample 13.48% (n = 38) met criteria for psychopathy using the cut off score of ≥ 18; 18.79% (n = 53) met criteria for ‘maybe psychopathic’ using the cut off score of 13-17; the remaining 58.51% (n = 165) were categorised as ‘non psychopathic’.
- Structural reliability estimates indicated good to excellent reliability for the PCL:SV Total Score, ω = .97, 95% CI [.93; 1.00], and α = .87, 95% CI [.84; .89]. For Factor 1, the reliability estimates were also good to excellent, ω = .93, 95% CI [.88; .98], α = .83, 95% CI [.80; .86]. For Factor 2, the reliability estimates were satisfactory to good, ω = .88, 95% CI [.82;.93], and α = .77, 95% CI [.72; .81].

Results

Figure 1

Path diagram for two factor confirmatory factor analysis



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- We found satisfactory model fit for our two-factor model after introducing residual covariances, $\chi 2\ (66) = 2417.16$, $p < .001$, CFI = .98, TFI = .96, RMSEA = .071, and SMSR = .067

Results

TABLE 3 | (a) Negative binomial regression: The relationship between PCL:SV Total and Factor scores and length of stay and criminal offending history. (b) Logistic regression: PCL:SV and forensic background, personality disorder, and Mental Health Act section. (c) Multinomial logistic regression: PCL:SV and ward location at 12 months follow up. (d) Logistic regression: PCL:SV and changes in security ward at 12 months.

Panel (a)		β	SE	z	p	IRR (95% CI)	Pseudo R^2 (McFaddon)
CLoS	Model 1						0.0051
	Age	0.02	0.01	2.806	<0.01***	1.02 [1.00–1.03]	
	PCL:SV Total	0.04	0.01	3.6	<0.001**	1.04 [1.02–1.07]	
	Intellectual disabilities	0.12	0.13	0.87	0.38	1.12 [0.86–1.46]	
	Model 2						0.0041
	Age	0.02	0.01	2.99	<0.01**	1.02 [1.01–1.03]	
	Factor 1	0.06	0.02	2.95	<0.01**	1.06 [1.02–1.11]	
	Intellectual disabilities	0.17	0.14	1.22	0.22	1.18 [0.9–1.54]	
	Model 3						0.0053
	Age	0.02	0.01	2.782	<0.01**	1.02 [1.00–1.03]	
	Factor 2	0.07	0.02	3.519	<0.001***	1.07 [1.03–1.12]	
	Intellectual disabilities	0.09	0.13	0.65	0.52	1.09 [0.84–1.42]	
Total days spent in SPC	Model 1						0.022
	Age	0.05	0.01	10.169	<0.001***	1.06 [1.04–1.07]	
	PCL:SV Total	0.04	0.01	3.51	<0.001***	1.04 [1.02–1.06]	
	Intellectual disabilities	−0.09	0.13	−0.73	0.46	0.91 [0.71–1.17]	
	Model 2						0.022
	Age	0.06	0.01	10.378	<0.001***	1.06 [1.05–1.07]	
	Factor 1	0.07	0.02	3.59	<0.001***	1.07 [1.03–1.12]	
	Intellectual disabilities	−0.04	0.13	−0.3	0.77	0.96 [0.75–1.24]	
	Model 3						0.022
	Age	0.06	0.01	10.248	<0.001***	1.06 [1.05–1.07]	
	Factor 2	0.06	0.02	3.07	<0.01**	1.06 [1.02–1.10]	
	Intellectual disabilities	−0.1	0.13	−0.77	0.44	0.91 [0.71–1.16]	

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Results

TABLE 3 | (Continued)

Panel (a)		β	SE	z	p	IRR (95% CI)	Pseudo R^2 (McFaddon)
Total previous CCR	Model 1						0.036
	Age	0.03	0.01	2.841	<0.01**	1.03 [1.01–1.06]	
	PCL:SV Total	0.12	0.02	4.921	<0.001***	1.12 [1.07–1.18]	
	Intellectual disabilities	−0.03	0.27	−0.12	0.91	1.03 [0.6–1.77]	
	Model 2						0.035
	Age	0.03	0.01	2.4235	0.02*	1.03 [1.01–1.05]	
	Factor 1	0.21	0.04	4.8295	<0.001**	1.23 [1.13–1.34]	
	Intellectual disabilities	0.08	0.28	0.29	0.77	1.09 [0.63–1.87]	
	Model 3						0.029
	Age	0.04	0.01	3.385	<0.001***	1.04 [1.02–1.07]	
	Factor 2	0.17	0.04	4.048	<0.001**	1.19 [1.09–1.29]	
	Intellectual disabilities	0.07	0.28	0.25	0.81	1.07 [0.62–1.85]	
Total current CCR	Model 1						0.023
	Age	−0.021	0.01	−2.01	0.04*	0.98 [0.97–1.00]	
	PCL:SV Total	0.01	0.02	0.932	0.35	1.01[0.98–1.04]	
	Intellectual disabilities	−0.77	0.18	−4.36	<0.001***	0.46 [0.33–0.65]	
	Model 2						0.025
	Age	−0.021	0.01	−3.9	0.046*	0.98 [0.97–1.00]	
	Factor 1	0.045	0.03	1.4678	0.1407	1.04 [0.99–1.1]	
	Intellectual disabilities	−0.74	0.18	−4.15	<0.001***	0.48 [0.34–0.68]	
	Model 3						0.023
	Age	−0.021	0.01	−2.04	0.046*	0.98 [0.97–1.00]	
	Factor 2	0.004	0.03	0.15	0.8863	1 [0.95–1.06]	
	Intellectual disabilities	−0.78	0.18	−4.4	<0.001***	0.46 [0.33–0.65]	

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Results

TABLE 3 | (Continued)

Panel (a)		β	SE	z	p	IRR (95% CI)	Pseudo R^2 (McFaddon)
Total violent offenses	Model 1						0.012
	Age	0	0.01	0.134	0.69	1.00 [0.98–1.02]	
	PCL:SV Total	0.05	0.02	2.4557	0.01*	1.05 [1.01–1.09]	
	Intellectual disabilities	−0.55	0.22	−2.49	0.01*	0.58 [0.37–0.89]	
	Model 2						0.011
	Age	0	0.01	0.00422	0.9982	1.00 [0.98–1.02]	
	Factor 1	0.079	0.03	2.518	0.03*	1.08 [1.01–1.15]	
	Intellectual disabilities	−0.52	0.23	−2.31	0.02*	0.59 [0.38–0.92]	
	Model 3						0.011
	Age	0.001	0.01	0.2753	0.796	1.00 [0.98–1.02]	
	Factor 2	0.07	0.03	2.03	0.04*	1.07 [1.00–1.14]	
	Intellectual disabilities	−0.6	0.22	−2.7	<0.01**	0.55 [0.36–0.85]	
Panel (b)		**β**	**SE**	**z**	**p**	**OR (95% CI)**	**Pseudo R^2 (McFaddon)**
Forensic background	PCL:SV Total	0.06	0.02	2.658	0.01*	1.06 [1.02–1.11]	0.069
	Intellectual disabilities	−1.07	0.27	−3.98	<0.001***	0.34 [0.20–0.58]	0.1
	Factor 1	0.248	0.06	3.92	<0.001***	1.27 [1.13–1.44]	
	Factor 2	−0.11	0.06	−1.98	0.047*	0.90 [0.80–1.00]	
	Intellectual disabilities	−0.88	0.28	−3.14	<0.01*	0.42 [0.24–0.72]	
Diagnosis of PD	PCL:SV Total	0.11	0.03	3.9285	<0.001***	1.12 [1.06–1.18]	0.069
	Intellectual disabilities	0.43	0.33	1.33	0.18	1.54 [0.82–2.96]	
	Factor 1	0.262	0.076	3.8348	<0.001***	1.30 [1.14–1.49]	0.093
	Factor 2	−0.04	0.07	−0.62	0.53	0.96 [0.84–1.09]	
	Intellectual disabilities	0.7	0.35	1.98	0.05	2.00 [1.02–4.07]	

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Results

TABLE 3 | (Continued)

Panel (b)		β	SE	z	p	OR (95% CI)	Pseudo R^2 (McFaddon)
Mental Health Act section	PCL:SV Total	0.04	0.02	1.6	0.109	0.96 [0.92–1.01]	0.045
	Intellectual disabilities	−0.91	0.27	−3.43	<0.001***	0.40 [0.24–0.67]	
	Factor 1	0.19	0.06	3.3	0.00**	1.21 [1.08–1.36]	0.074
	Factor 2	−0.11	0.05	−2.04	0.04*	0.89 [0.80–0.99]	
	Intellectual disabilities	−0.74	0.28	−2.66	0.01*	0.48 [0.28–0.82]	

Panel (c)		Location	β	SE	z	p	OR (95% CI)	Pseudo R^2 (McFaddon)
Model 1	PCL:SV Total	Transferred	−0.01	0.03	−0.43	0.67	0.99 [0.93–1.04]	0.051
		Discharged	−0.13	0.03	−4.34	<0.001***	0.87 [0.82–0.93]	
	Intellectual disabilities	Transferred	−0.23	0.33	−0.68	0.5	0.80 [0.42–1.53]	
		Discharged	0.38	0.32	1.18	0.24	1.46 [0.78–2.73]	
Model 2	Factor 1	Transferred	−0.13	0.07	−1.85	0.06	0.98 [0.87–1.12]	0.052
		Discharged	−0.01	0.07	−0.27	0.79	0.88 [0.77–1.01]	
	Factor 2	Transferred	−0.14	0.07	−2.12	0.03*	0.99 [0.87–1.13]	
		Discharged	−0.008	0.07	−0.12	0.9	0.87 [0.77–0.99]	
	Intellectual disabilities	Transferred	0.36	0.33	1.06	0.29	0.78 [0.40–1.53]	
		Discharged	−0.25	0.35	−0.73	0.47	1.43 [0.74–2.74]	

Panel (d)		β	SE	z	p	OR (95% CI)	Pseudo R^2 (McFaddon)
Changes in security ward	PCL:SV Total	0.1	0.03	3.06	<0.01**	1.10 (1.04–1.18)	0.061
	Intellectual disabilities	−0.061	0.35	−1.75	0.08	0.55 [0.27–1.07]	
	Factor 1	0.145	0.06	2.465	0.01*	1.16 (1.03–1.30)	0.044
	Intellectual disabilities	−0.49	0.35	−1.42	0.16	0.61 [0.31–1.20]	
	Factor 2	0.187	0.06	3.1904	<0.01**	1.20 (1.08–1.35)	0.065
	Intellectual disabilities	−0.71	0.35	−2.01	0.04*	0.49 [0.24–0.97]	

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TABLE 4 | Logistic regression and AUC analysis: PCL:SV scores as predictors of aggressive/problematic behaviors at 12 months.

		B	SE	*z*	*p*	OR (95% CI)	AUC (95% CI)	AUC *p*
Physical aggression	PCL:SV Total	0.03	0.03	0.94	0.35	1.03 [0.97–1.08]	0.57 [0.47–0.66]	0.08
	Intellectual disabilities	0.36	0.33	1.08	0.28	1.43 [0.75–2.76]		
	Factor 1	0	0.05	0.06	0.95	1.00 [0.91–1.11]	0.54 [0.45–0.63]	0.19
	Intellectual disabilities	0.33	0.33	0.97	0.33	1.39 [0.72–2.71]		
	Factor 2	0.1	0.05	1.93	0.05	1.10 [1.00–1.22]	0.60 [0.51–0.70]	0.01*
	Intellectual disabilities	0.35	0.33	1.04	0.3	1.42 [0.74–2.74]		
Verbal aggression	PCL:SV Total	0.12	0.03	3.97	<0.001***	1.12 [1.06–1.19]	0.67 [0.59–0.76]	<0.001***
	Intellectual disabilities	0.07	0.33	0.2	0.84	1.07 [0.56–2.04]		
	Factor 1	0.17	0.05	3.31	<0.001***	1.18 [1.07–1.31]	0.64 [0.56–0.73]	<0.01**
	Intellectual disabilities	0.2	0.33	0.6	0.55	1.22 [0.64–2.35]		
	Factor 2	0.22	0.05	4.13	<0.001***	1.25 [1.13–1.39]	0.69 [0.61–0.77]	<0.001***
	Intellectual disabilities	−0.11	0.33	−0.34	0.73	0.89 [0.46–1.71]		
Sexual behavior	PCL:SV Total	0.1	0.34	2.84	<0.01**	1.10 [1.03–1.18]	0.69 [0.61–0.77]	<0.01**
	Intellectual disabilities	−0.09	0.42	−0.216	0.83	0.91 [0.40–2.06]		
	Factor 1	0.15	0.06	2.4	0.01*	1.16 [1.03–1.30]	0.64 [0.54–0.75]	0.01*
	Intellectual disabilities	0.03	0.42	0.06	0.95	1.03 [0.44–2.36]		
	Factor 2	0.2	0.07	2.97	<0.01**	1.21 [1.07–1.39]	0.68 [0.58–0.77]	<0.01**
	Intellectual disabilities	−0.21	0.42	−0.5	0.61	0.81 [0.35–1.83]		
Violence towards self	PCL:SV Total	0.04	0.04	1.18	0.24	1.04 [0.97–1.12]	0.65 [0.55–0.75]	0.01*
	Intellectual disabilities	0.99	0.45	2.18	0.03*	2.69 [1.13–6.79]		
	Factor 1	0.03	0.07	0.5	0.62	1.03 [0.91–1.18]	0.63 [0.53–0.72]	0.02*
	Intellectual disabilities	0.98	0.46	2.12	0.03*	2.65 [1.10–6.81]		
	Factor 2	0.11	0.07	1.66	0.1	1.12 [0.98–1.27]	0.65 [0.55–0.76]	<0.01**
	Intellectual disabilities	0.9	0.45	2	0.05	2.46 [1.04–6.17]		
Rule breaking	PCL:SV Total	0.07	0.03	2.44	0.02*	1.08 [1.02–1.14]	0.65 [0.57–0.74]	<0.001*
	Intellectual disabilities	0.79	0.35	2.23	0.03*	2.2 [1.11–4.48]		
	Factor 1	0.13	0.05	2.35	0.02*	1.13 [1.02–1.26]	0.65 [0.56–0.73]	0.01*
	Intellectual disabilities	0.9	0.37	2.46	0.01*	2.46 [1.21–5.14]		
	Factor 2	0.13	0.05	2.38	0.02*	1.14 [1.03–1.27]	0.66 [0.57–0.74]	0.001*
	Intellectual disabilities	0.71	0.35	2.03	0.04*	2.04 [1.03–4.11]		
Threats of aggression	PCL:SV Total	0.06	0.03	2.01	0.04*	1.06 [1.00–1.13]	0.61 [0.51–0.71]	0.02*
	Intellectual disabilities	0.144	0.37	0.39	0.7	1.16 [0.56–2.40]		
	Factor 1	0.1	0.06	1.79	0.07	1.10 [0.99–1.23]	0.61 [0.51–0.71]	0.02*
	Intellectual disabilities	0.22	0.38	0.59	0.56	1.25 [0.59–2.65]		
	Factor 2	0.12	0.06	2.18	0.03*	1.13 [1.01–1.27]	0.62 [0.52–0.72]	0.01*
	Intellectual disabilities	0.08	0.37	0.22	0.82	1.09 [0.52–2.26]		
Intimidating behavior	PCL:SV Total	0.09	0.03	3.02	<0.01**	1.09 [1.03–1.16]	0.65 [0.55–0.75]	<0.01**
	Intellectual disabilities	−0.38	0.37	−1.05	0.3	0.68 [0.32–1.39]		
	Factor 1	0.12	0.05	2.24	0.01*	1.13 [1.02–1.25]	0.62 [0.51–0.73]	<0.01**
	Intellectual disabilities	−0.3	0.37	−0.8	0.43	0.74 [0.35–1.53]		
	Factor 2	0.19	0.06	3.3	<0.001***	1.21 [1.08–1.36]	0.67 [0.57–0.77]	<0.001***
	Intellectual disabilities	−0.52	0.37	−1.39	0.16	0.60 [0.28–1.22]		
Inappropriate behavior	PCL:SV Total	0.06	0.04	1.6	0.11	1.06 [0.99–1.14]	0.62 [0.49–0.75]	0.02*
	Intellectual disabilities	0.61	0.43	1.42	0.16	1.83 [0.80–4.32]		
	Factor 1	0.06	0.06	0.89	0.37	1.06 [0.93–1.20]	0.58 [0.45–0.71]	0.09
	Intellectual disabilities	0.61	0.43	1.41	0.16	1.85 [0.79–4.42]		
	Factor 2	0.16	0.07	2.4	0.02*	1.17 [1.03–1.35]	0.67 [0.54–0.79]	0.01*
	Intellectual disabilities	0.6	0.44	1.38	0.17	1.82 [0.78–4.37]		
Overall presence	PCL:SV Total	0.09	0.03	2.76	<0.01*	1.09 [1.03–1.16]	0.65 [0.56–0.74]	<0.01**
	Intellectual disabilities	0.51	0.36	1.42	0.16	1.66 [0.83–3.40]		
	Factor 1	0.11	0.06	2.02	0.04*	1.12 [1.01–1.25]	0.62 [0.53–0.72]	<0.01*
	Intellectual disabilities	0.57	0.36	1.58	0.12	1.77 [0.88–3.66]		
	Factor 2	0.19	0.06	3.19	<0.01**	1.20 [1.08–1.36]	0.67 [0.58–0.76]	<0.001***
	Intellectual disabilities	0.39	0.36	1.07	0.28	1.47 [0.73–3.01]		
Violent intent	PCL:SV Total	0.09	0.03	3.02	<0.01**	1.09 [1.03–1.15]	0.66 [0.57–0.74]	<0.001***
	Intellectual disabilities	0.58	0.33	1.78	0.08	1.78 [0.95–3.42]		
	Factor 1	0.09	0.05	1.89	0.06	1.10 [1.00–1.21]	0.61 [0.53–0.70]	<0.01*
	Intellectual disabilities	0.6	0.33	1.84	0.07	1.83 [0.97–3.52]		
	Factor 2	0.2	0.05	3.79	<0.001***	1.22 [1.11–1.36]	0.61 [0.61–0.77]	<0.001***
	Intellectual disabilities	0.47	0.33	1.43	0.15	1.60 [0.84–3.08]		

Note: Reference category = behavior not present. Significance level, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.
Abbreviations: CI = confidence intervals, SE = standard error.

Results

TABLE 5 | Correlations between PCL:SV Total and Factor scores and HCR20 and START measures of clinical risk.

risk assessment tool	PCL:SV Total	PCL:SV Factor 1	PCL:SV Factor 2
HCR20			
Historical scale	$r=0.37, p<0.001^{***}$	$r=0.37, p<0.001^{***}$	$r=0.35, p<0.001^{***}$
Clinical scale	$r=0.41, p<0.001^{***}$	$r=0.35, p<0.001^{***}$	$r=0.41, p<0.001^{***}$
Risk management scale	$r=0.38, p<0.001^{***}$	$r=0.35, p<0.001^{***}$	$r=0.37, p<0.001^{***}$
Total score	$r=0.40, p<0.001^{***}$	$r=0.36, p<0.001^{***}$	$r=0.32, p<0.001^{***}$
Serious physical harm	$r=0.27, p<0.001^{***}$	$r=0.21, p<0.001^{***}$	$r=0.30, p<0.001^{***}$
Imminent violence	$r=0.19, p<0.01^{**}$	$r=0.14, p=0.02^{*}$	$r=0.22, p<0.001^{***}$
Future violence	$r=0.30, p<0.001^{***}$	$r=0.24, p<0.001^{***}$	$r=0.31, p<0.001^{***}$
START			
Strengths	$r=-0.01, p=0.83$	$r=0.06, p=0.35$	$r=-0.06, p=0.34$
Vulnerabilities	$r=0.45, p<0.001^{***}$	$r=0.32, p<0.001^{***}$	$r=0.50, p<0.001^{***}$

Note: Significance level, $^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$.

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Conclusions

- The average PCL:SV score amongst our sample was similar to that found amongst non-autistic psychiatric inpatients, and similar or slightly lower than that reported within studies of forensic inpatients without autism.
- A two-factor model was fitted successfully; there has been longstanding debate about whether a two- or three-factor model is most appropriate. Three factors: (1) arrogant and deceitful interpersonal style (glibness, superficial charm, grandiosity, pathologically lying, conning/manipulative), (2) deficient affective experience (shallow affect and callousness, lack of empathy, lack of remorse, and failure to accept responsibility), and (3) impulsive and irresponsible behavioural style (need for stimulation/boredom, impulsivity, parasitic lifestyle, lack of realistic goals, irresponsibility.
- The PCL:SV has good to excellent reliability and construct validity. However, Factor 2 did not always relate to variables as expected.
- Factor 2 may have captured behaviours that challenge associated with an intellectual disability and/or autism and/or ADHD rather than psychopathy. Factor 2 did not relate to having a diagnosis of a personality disorder; it was associated with an increased likelihood of detention under a civil section, and a reduced probability of having a forensic background. However, it was associated with a history of violent offending and a reduced probably of transfer.
- The PCL:SV correlated with the HCR-20 and START Vulnerabilities as expected.
- The PCL:SV has good reliability and validity when used with autistic adults within psychiatric inpatient settings.
- Strengths – largish sample size, and CFA was consistent with manual. We also carried out missing data imputation which showed a lack of bias. Limitations – behavioural data at 12-months could be problematic and did not index severity. Did not measure degree of autism symptoms. We did not complete reliability checks.

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