

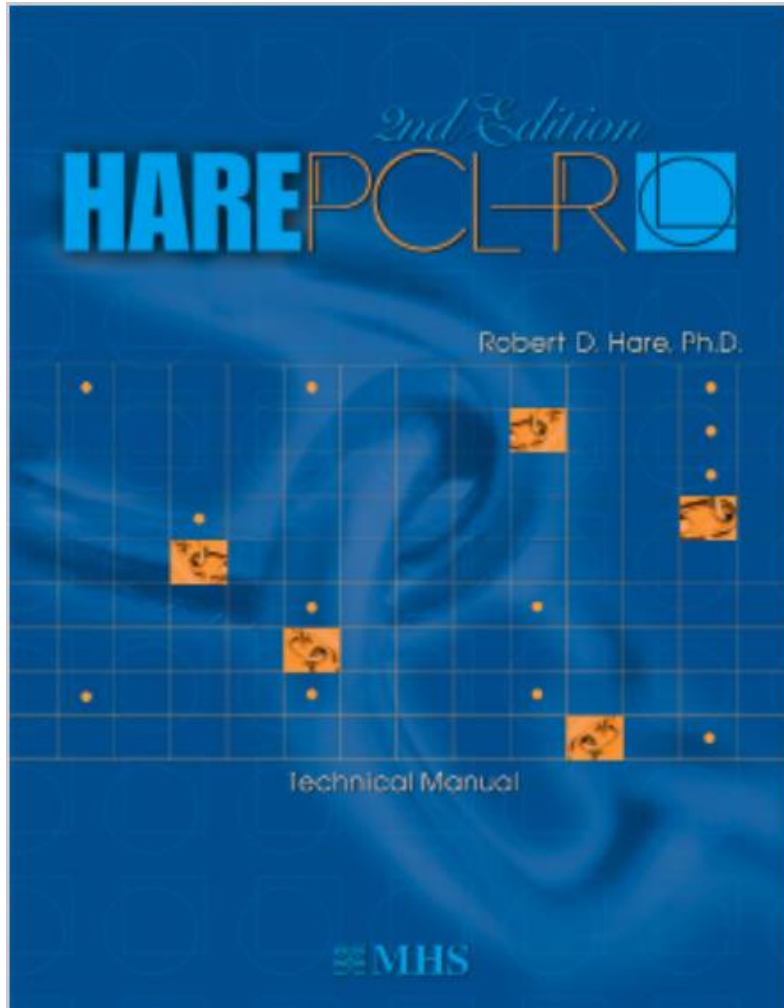


Predictive and Measurement Invariance of the Psychopathy Checklist: Screening Version (PCL: SV) in a New Zealand correctional sample

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PCL Psychopathy



PCL-SV: Comprising Factors and Items

Factor	Facet	Label	Items
Factor 1	Facet 1	Interpersonal	Superficial
			Grandiose
			Deceitful
	Facet 2	Affective	Lacks remorse
			Lacks empathy
			Doesn't accept responsibility
Factor 2	Facet 3	Lifestyle	Impulsive
			Lacks goals
			Irresponsible
	Facet 4	Antisocial	Poor behavioural controls
			Adolescent antisocial behaviour
			Adult antisocial behaviour

Assessment Validity

- **Predictive validity:** How well does an instrument predict an outcome variable e.g. recidivism
 - **Predictive invariance:** Does the instrument predict the outcome variable to an equal extent across different groups?
- **Construct validity:** Does the instrument accurately measure the construct it was designed to?
 - **Measurement invariance:** Does the construct being measured have the same meaning across different groups as demonstrated through equivalent psychometric properties?

NZ validation of the PCL:SV



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Predictive Validity of the Psychopathy Checklist: Screening Version (PCL:SV) in a Sample of New Zealand Māori and European Male Prisoners

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Predictive Invariance Method

Sample Characteristics

- N =371 individuals
- Follow up: The average follow up time was 5072 days (13.9yrs), with a minimum of 1830 days (5.01yrs) and maximum of 8516 days (23.3yrs)
- Average age at release was 38 years.
- Ethnicity: 50.1% of participants were Māori, 27.5% NZ European, 13.7% Pasifika, and 8.6% Other.

Descriptive statistics for PCL: SV

Independent samples t-test with PCL-SV facet, factor and total scores for Māori and NZ

European/ Pākehā participants

Measure	Māori			NZ European/ Pākehā			<i>d</i>	<i>t</i>
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>		
PCL-SV								
Interpersonal	186	4.19	1.63	102	3.85	1.91	.20	1.59
Affective	186	4.85	1.31	102	4.68	1.48	.13	1.04
Lifestyle	186	4.49	1.22	102	3.92	1.61	.42	3.38*
Antisocial	186	4.87	1.15	102	4.19	1.51	.53	4.34**
Factor 1	186	9.04	2.58	102	8.53	3.15	.18	1.50
Factor 2	186	9.67	1.98	102	8.33	2.77	.58	4.70**
Total Score	186	18.70	3.86	102	16.86	4.92	.38	3.51**

Note. * $P < .05$; ** $P < .001$

Predictive validity of the PCL-SV (any offence)

Predictive accuracy of PCL:SV facet, factor, and total scores for any recidivism after 5 years.

PCL:SV measure	Total Sample (n = 371)			Māori (n = 186)			NZ European/ Pākehā (n = 102)		
	AUC	95% CI		AUC	95% CI		AUC	95% CI	
Interpersonal	.51	.43	.58	.49	.37	.61	.56	.44	.68
Affective	.51	.43	.58	.52	.39	.64	.52	.40	.65
Lifestyle	.66**	.58	.73	.65*	.53	.77	.69*	.57	.81
Antisocial	.71**	.66	.79	.69*	.58	.79	.69**	.60	.83
Factor 1	.51	.44	.58	.50	.38	.62	.55	.42	.67
Factor 2	.72**	.65	.78	.70**	.59	.80	.72**	.60	.83
Total Score	.64**	.57	.71	.61	.50	.73	.65*	.53	.77

Note. * p < .05 ** p < .001

Violent recidivism

Predictive accuracy of PCL:SV facet, factor, and total scores for violent recidivism after 5 years.

PCL:SV measure	Total Sample (n = 371)			Māori (n = 186)			NZ European/ Pākehā (n = 102)		
	AUC	95% CI		AUC	95% CI		AUC	95% CI	
Interpersonal	.48	.42	.53	.47	.39	.56	.46	.33	.58
Affective	.53	.47	.59	.55	.47	.63	.43	.30	.55
Lifestyle	.61**	.55	.67	.59*	.50	.67	.55	.43	.68
Antisocial	.70**	.63	.74	.65*	.54	.70	.67*	.57	.79
Factor 1	.50	.44	.55	.51	.42	.59	.43	.31	.55
Factor 2	.68**	.62	.73	.63*	.55	.71	.63*	.51	.75
Total Score	.60*	.54	.66	.57	.49	.65	.54	.41	.66

Note. * $p < .05$ ** $p < .001$

Time to violent recidivism

*Regression analysis of PCL-SV facets and RoC*RoI on violent recidivism for Māori (n = 121)*

PCL-SV measure	B	95% CI	β	t	p
Interpersonal	72.45	[-42.27, 187.18]	.13	1.25	.21
Affective	-175.47	[-317.74, -33.19]	-.27	-2.44	.01*
RoC*RoI	-655.84	[-1616.09, 304.41]	-.12	-1.35	.18

R = .28 R² = .08 Adjusted R² = .06 F (3,118) p < .05 SE: 879.2 (n = 121)

Note. * p < .05 ** p < .001

Institutional violence (prisoner-on-prisoner)

Predictive accuracy of PCL:SV facet, factor, and total scores for prisoner-on-prisoner and prisoner-on-staff assaults (n = 102)

PCL:SV measure	Prisoner-Prisoner Assault			Prisoner-Staff Assault		
	AUC	95% CI for AUC		AUC	95% CI for AUC	
Interpersonal	.59	.46	.71	.63	.44	.82
Affective	.48	.35	.62	.50	.29	.71
Lifestyle	.62	.50	.74	.61	.46	.75
Antisocial	.69*	.57	.79	.74**	.51	.83
Factor 1	.55	.41	.68	.60	.39	.82
Factor 2	.69*	.57	.80	.71*	.58	.83
Total Score	.67*	.54	.80	.71*	.52	.89

Note. * p < .05; ** p < .001

Sexual recidivism

Predictive accuracy of PCL-SV facet, factor, and total scores for sexual recidivism

PCL-SV measure	Total Sample (n = 371)			Māori (n = 186)			NZ European/ Pākehā (n = 102)		
	AUC	95% CI		AUC	95% CI		AUC	95% CI	
Interpersonal	.60	.47	.73	.42	.18	.67	.67	.51	.84
Affective	.58	.46	.70	.49	.29	.70	.58	.38	.78
Lifestyle	.51	.37	.65	.52	.24	.80	.44	.25	.64
Antisocial	.41	.27	.54	.51	.28	.75	.41	.21	.62
Factor 1	.61	.48	.74	.46	.22	.70	.63	.45	.82
Factor 2	.47	.32	.62	.61	.34	.88	.43	.22	.64
Total Score	.53	.40	.65	.51	.26	.76	.52	.37	.68

Note. * P < .05; ** P < .001

Time to sexual recidivism

Regression analysis of PCL-SV facets and ASRS-R on sexual recidivism (n = 26)

PCL-SV measure	B	95% CI	β	t	p
Interpersonal	-574.07	[-876.48, -271.66]	-.80	-3.92	.001**
Affective	361.98	[-104.75, 828.70]	.32	1.60	.12
ASRS-R	2.27	[-273.133, 277.66]	.00	.02	.99

$R = .66$ $R^2 = .43$ Adjusted $R^2 = .36$ $F(5.863)$ $p < .05$ $SE: 1064.9$ ($n = 26$)

Note. * $p < .05$ ** $p < .001$

Predictive Invariance Conclusions

- Facets 3 and 4 (Factor 2) do much of the psychometric heavy lifting in the predictive performance of the PCL-SV.
- Facets 1 and 2 (Factor 1) show a unique association with time to sexual and violent recidivism, respectively.
- No statistically significant differences in AUC magnitudes for Māori and NZ European in terms of the committal of any new offence or violent offence within five years of release.

Measurement Invariance Method

- N = 514 (333 indigenous Māori and 181 NZ European)
- Multi-Group Confirmatory Factor Analysis (MG-CFA) in MPLUS with the four-factor and three-factor hierarchical model of PCL psychopathy.
- Configural, metric and scalar invariance

Construct validity (factorial validity)

Fig 1. **Four-factor** hierarchical model of PCL-SV psychopathy

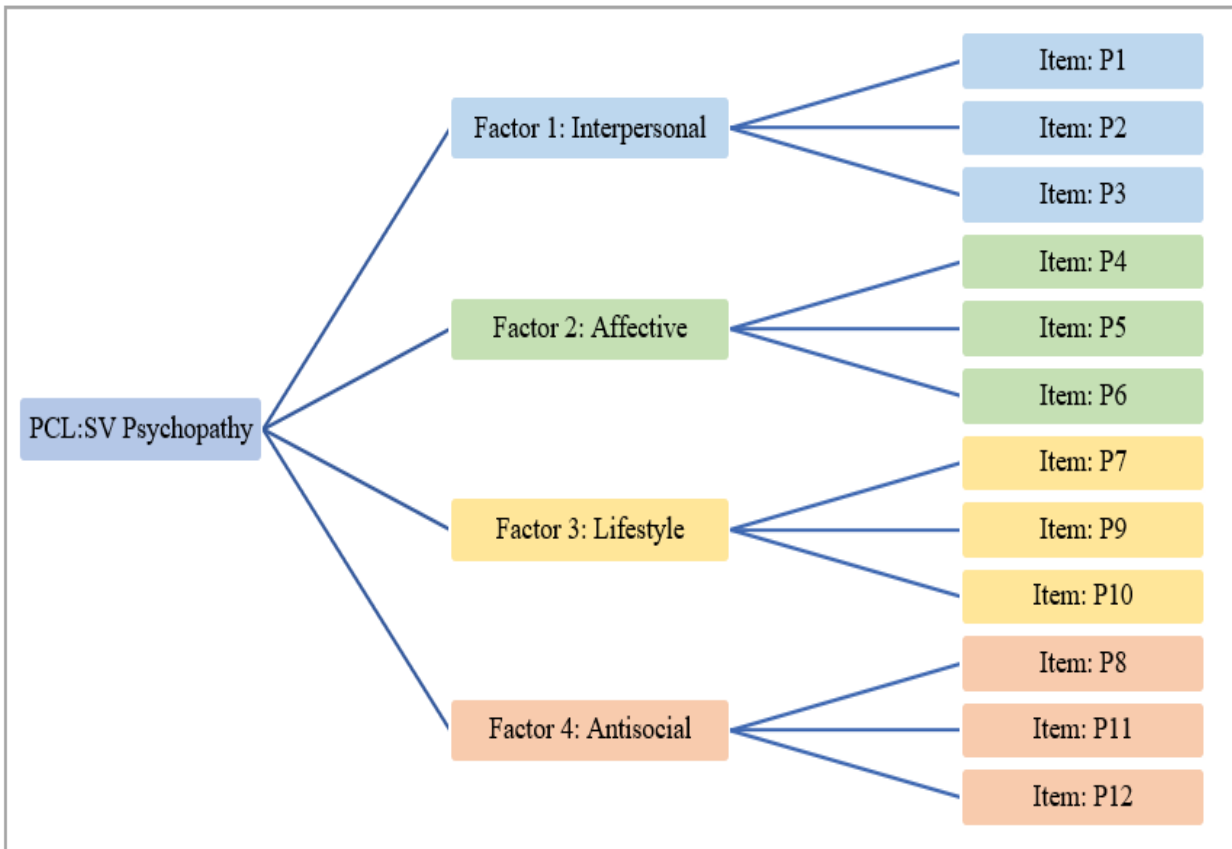
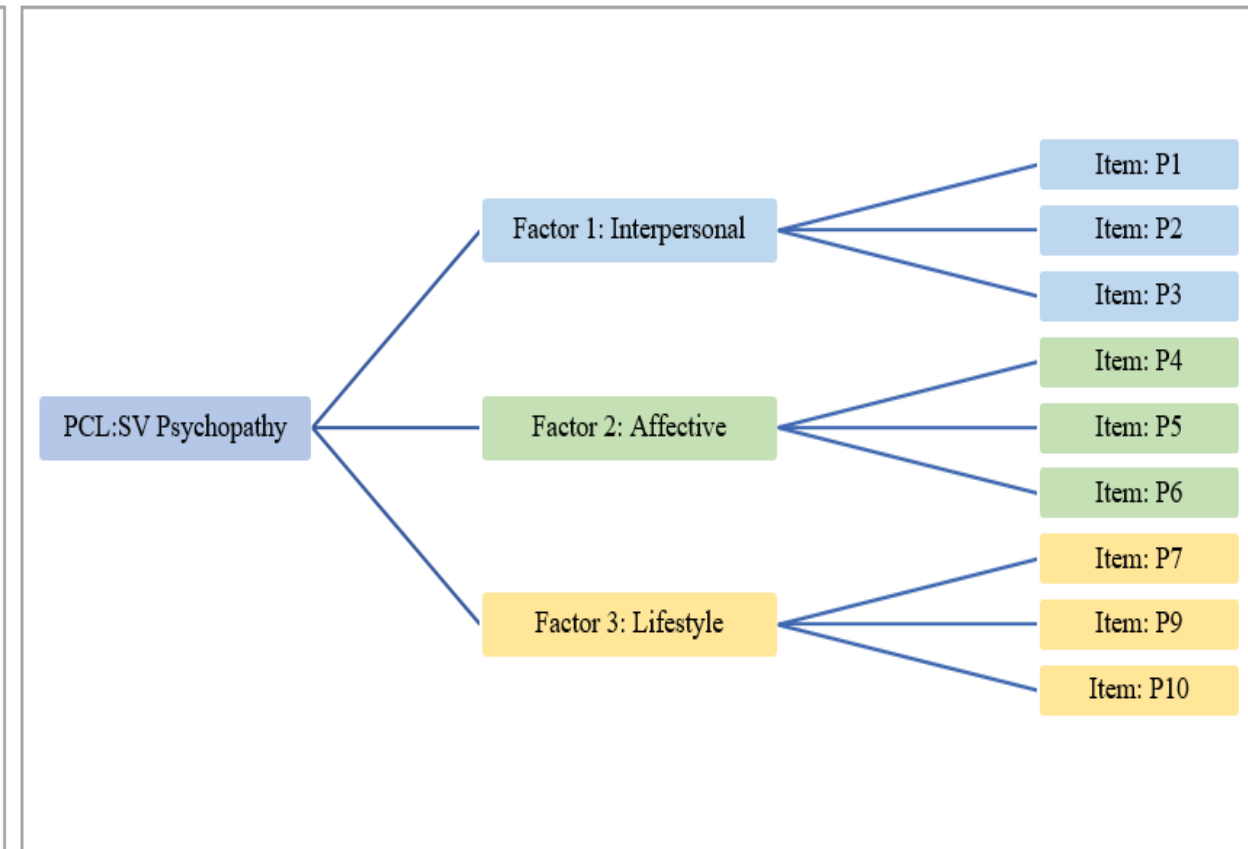
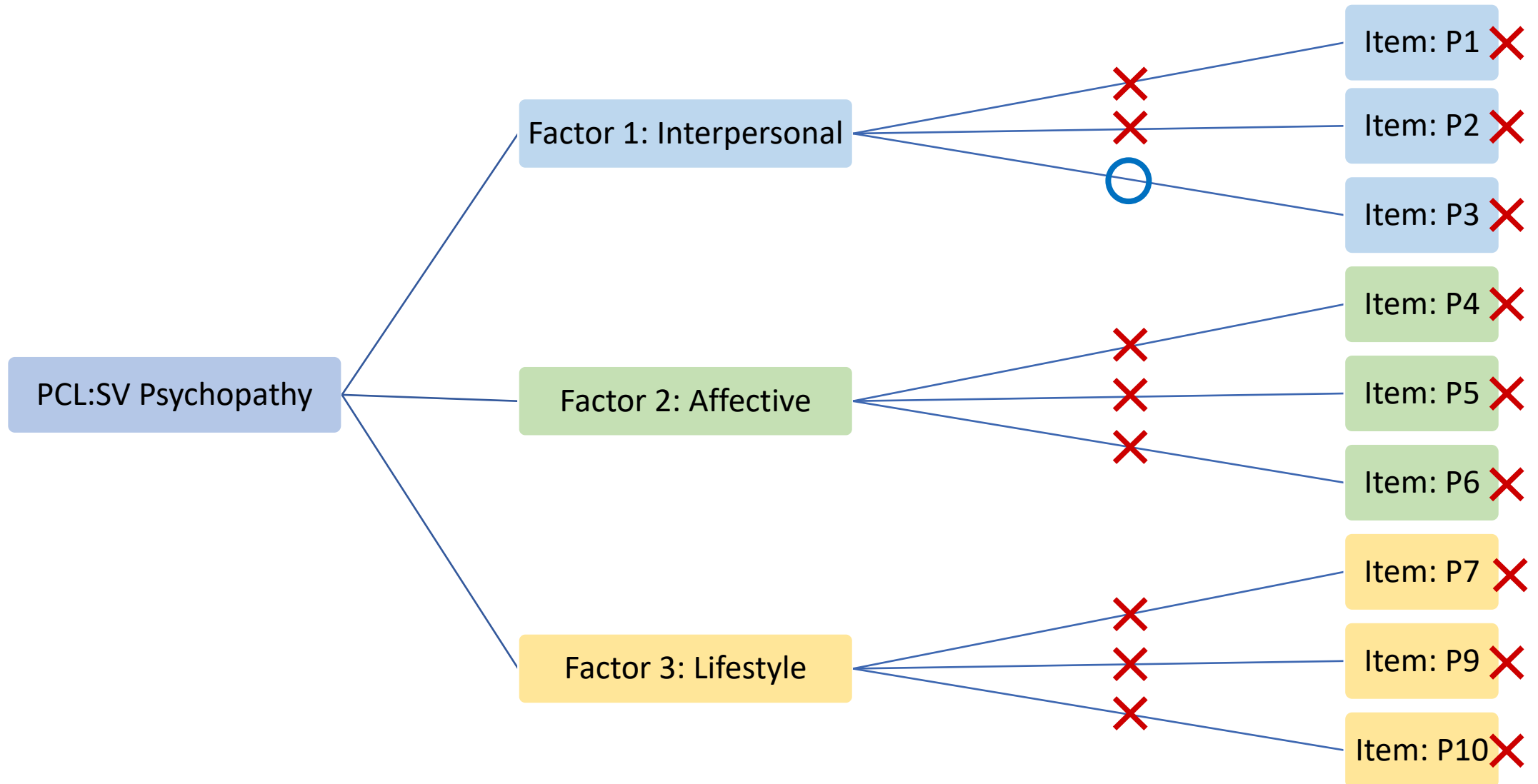


Fig 2. **Three-factor** hierarchical model of PCL-SV psychopathy



Testing for metric invariance and scalar invariance



Measurement Invariance Conclusions

- Three-factor model of PCL psychopathy comprised of Arrogant and Deceitful Interpersonal Style, Deficient Affective Experience, and Impulsive and Irresponsible Behavioural Style (Cooke & Michie, 2001) fitted the data best.
- Stability of Affective factor across cultures has led some commentators (Cooke et al., 1999) to describe it as the “pan-cultural core” of psychopathy.
- Forensic case conceptualization in line with the three-factor model is empirically and clinically defensible practice with both Māori and NZ European clients.



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