APPENDIX A: The BN structure for DSVM-P & DSVM-MSS studies

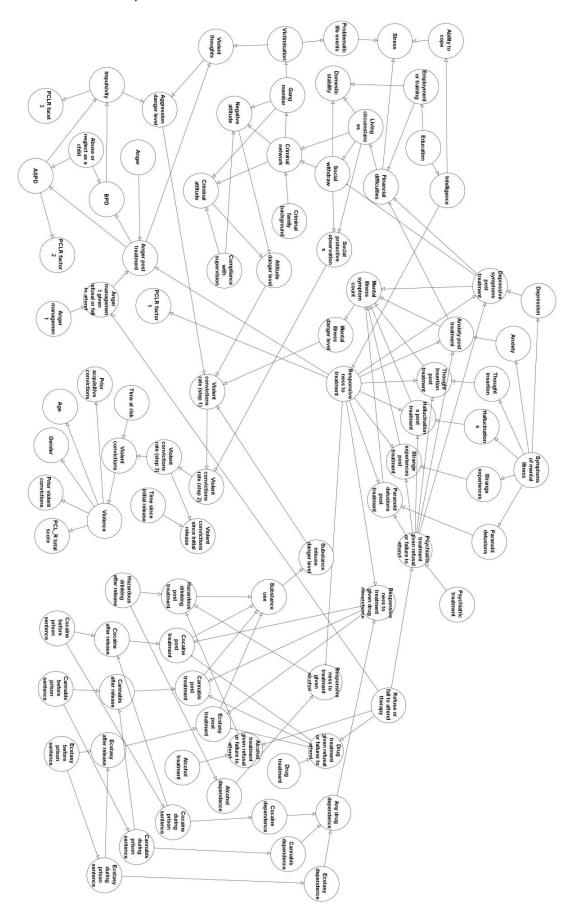


Figure A.1. The structure of the BN model from the DSVM-P study [10].

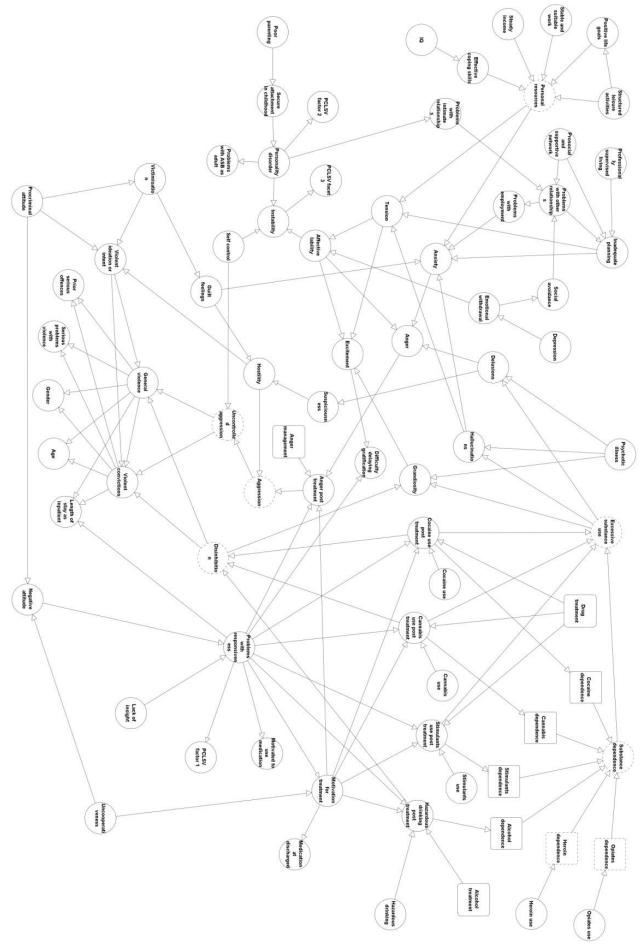


Figure A.2. The structure of the DSVM-MSS study [11].

APPENDIX B: The BN model variables that have been downgraded in terms of complexity

Table B.1. The BN model variables, from both the DSVM-P and DSVM-MSS studies, that have been downgraded, in terms of complexity, in order to reduce the risk of model *overfitting* as a result of limited data.

Model	Model variable	Values from data	States in the BN
DSVM-MSS	Age	18 to 64 years	18-21/22-25/26-29/30-34/35-39/40-49/50-59/60+
DSVM-MSS	Prior serious offences	0 to max	None/One/2+
DSVM-MSS	Length of stay as inpatient	7 to 7299 days	Up to 1 year/Up to 2 years/Up to 5 years/5+ years
DSVM-MSS	PCLSVF1	Score 1 to 12	Low=0-1, Medium=2-5, High=6+
DSVM-MSS	PCLSVF2	Score 1 to 12	Low=0-1, Medium=2-5, High=6+
DSVM-MSS	PCLSVF3	Score 1 to 6	Low=0-1, Medium=2-3, High=4+
DSVM-MSS	IQ	Score 0 to max	Low average/Average/High average
DSVM-MSS	Uncooperativeness	Score from 1 to 7	No=1, Partly=2-4, Yes=5+
DSVM-MSS	Social avoidance	Score from 1 to 7	No=1, Partly=2-4, Yes=5+
DSVM-MSS	Tension	Score from 1 to 7	No=1, Partly=2-4, Yes=5+
DSVM-MSS	Guilt feelings	Score from 1 to 7	No=1, Partly=2-4, Yes=5+
DSVM-MSS	Affective lability	Score from 1 to 7	No=1, Partly=2-4, Yes=5+
DSVM-MSS	Anger	Score from 1 to 7	No=1, Partly=2-4, Yes=5+
DSVM-MSS	Excitement	Score from 1 to 7	No=1, Partly=2-4, Yes=5+
DSVM-MSS	Suspiciousness	Score from 1 to 7	No=1, Partly=2-4, Yes=5+
DSVM-MSS	Hostility	Score from 1 to 7	No=1, Partly=2-4, Yes=5+
DSVM-MSS	Difficulty delaying	Score from 1 to 7	No=1, Partly=2-4, Yes=5+
	gratification		
DSVM-MSS	Emotional withdrawal	Score from 1 to 7	No=1, Partly=2-4, Yes=5+
DSVM-MSS	Delusions	Score from 1 to 7	No=1, Partly=2-4, Yes=5+
DSVM-MSS	Hallucination	Score from 1 to 7	No=1, Partly=2-4, Yes=5+
DSVM-MSS	Grandiosity	Score from 1 to 7	No=1, Partly=2-4, Yes=5+
DSVM-MSS	Anxiety	Score from 1 to 7	No=1, Partly=2-4, Yes=5+
DSVM-MSS	Depression	Score from 1 to 7	No=1, Partly=2-4, Yes=5+
DSVM-P DSVM-P	Age Domestic stability	a) Frequent address change:	18-19/20-21/22-25/ 26-29/30-34/35-39/ 40-49/50-59/60+ a) Frequent address change: No=0-3, Yes=4+,
		Integer, b) Eviction: Boolean, c) Family/friends unsupportive: Score 1 to 10.	b) Eviction: No=false, Yes=true, c) Family/friends unsupportive: No=0-3, Yes=4+. Rule introduced: if at least two of the three variables above returns Yes, then Domestic stability=Low, otherwise Domestic stability=High.
DSVM-P	Financial difficulties	 a) Behind paying bills: Boolean, b) Services cut off: Boolean, c) Low income: Score from 0 to max. 	a) Behind paying bills: No=false, Yes=true, b) Services cut off: No=false, Yes=true, c) Low income: No=50+, Yes=0-49. Rule introduced: if at least one of the three variables above returns Yes, then Financial difficulties=Yes, otherwise Financial difficulties=No.
DSVM-P	Hazardous drinking	Alcohol use disorder identification test (AUDIT): Score 0 to 32.	No=0-1, Yes=8+
DSVM-P	Problematic life events	 a) Separation/divorce: Boolean, b) Problems with friends/family/neighbour: Boolean, c) Redundant/sucked: Boolean. 	a) Separation/divorce: No=false, Yes=true, b) Problems with friends/family/neighbour: No=false, Yes=true, c) Redundant/sucked: No=false, Yes=true, Rule introduced: if at least one of the three variables above returns Yes, then Problematic life events=Yes, otherwise Problematic life events=No.
DSVM-P	Stress	High stress score 0 to max	No=0-17, Yes=18+
DSVM-P	Intelligence	IQ Score 0 to 130	Extremely Low/ Borderline/ Low Average/Average/ High Average/Superior
DSVM-P	Criminal network	a) Family/friends have criminal convictions: <i>Boolean</i> , b) Family/friends offered	 a) Family/friends have criminal convictions: No=false, Yes=true, b) Family/friends offered drugs: No=false, Yes=true,
		b) Family/menus onereu	b) rammy/menus onered drugs. No-juise, res-irue,

		drugs: Boolean, c) Family/friends asked for money/goods through crime: Boolean, d) Family/friends suggested to commit a crime: Boolean, e) Family/friends got into a fight: Boolean.	 c) Family/friends asked for money/goods through crime: No=false, Yes=true, d) Family/friends suggested to commit a crime: No=false, Yes=true, e) Family/friends got into a fight: No=false, Yes=true, Rule introduced: if at least one of the five variables above returns Yes, then Criminal network=Yes, otherwise Criminal network=No.
DSVM-P	Criminal attitude	 a) OK to steal if very poor: Score 1 to 5, b) OK to steal from the rick: Score 1 to 5, c) OK to steal from shops that make lots of money: Score 1 to 5, d) Sometimes it is OK to break the law: Score 1 to 5, 	 a) OK to steal if very poor: No=0-1, Yes=2+, b) OK to steal from the rick: No=0-1, Yes=2+, c) OK to steal from shops that make lots of money: No=0-1, Yes=2+, d) Sometimes it is OK to break the law: No=0-1, Yes=2+. Rule introduced: if at least one of the four variables above returns <i>Yes</i>, then <i>Criminal attitude=Yes</i>, otherwise <i>Criminal attitude=No</i>.
DSVM-P	Victimisation	 a) Victim of theft/burglary: Boolean, b) Victim of threats: Boolean, c) Assaulted: Boolean. 	a) Victim of theft/burglary: No=false, Yes=true, b) Victim of threats: No=false, Yes=true, c) Assaulted: No=false, Yes=true. Rule introduced: if at least one of the three variables above returns Yes, then Criminal network=Yes, otherwise Criminal network=No.
DSVM-P	Compliance with supervision	Number of appointments missed with probation officer: Score 0 to max	No=1+, Yes=0.
DSVM-P	Anger	STAXI trait score: Score 0 to 27	No=0-2, Yes=3+.
DSVM-P	Cocaine (applies to all three cocaine variables; before, during and post-release)	a) Cocaine powder: <i>Boolean</i> , b) Crack cocaine: <i>Boolean</i> ,	a) Cocaine powder: No=false, Yes=true, b) Crack cocaine: No=false, Yes=true, Rule introduced: if at least one of the two variables above returns Yes, then Cocaine=Yes, otherwise Cocaine=No.
DSVM-P	Responsiveness to treatment	a) Not taken medication: Boolean,b) Missed injections: Boolean,	a) Not taken medication: No=false, Yes=true, b) Missed injections: No=false, Yes=true, Rule introduced: if one of the two variables above returns Yes, then Responsiveness to treatment=Partly, if two of the variables above return Yes, then Responsiveness to treatment=No, otherwise Responsiveness to treatment=Yes.
DSVM-P	PCLR Total score	PCL-R: Score 0 to 35	0-9/10-16/17-26/27+
DSVM-P	Prior convictions	Score 0 to max	0/1/2-5/6+
DSVM-P	Prior acquisitive crime convictions	Score 0 to max	0-2/3-12/13+