

Behavior change in forensic psychiatric inpatients during their stay in hospital

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Literature

- **PCL-R scores relate only modestly with disruptive behavior during hospitalization**
 - **Hildebrand, De Ruiter, & Nijman (2004): PCL-R and incidents**
- **Stay in a forensic psychiatric hospital can result in a small improvement of dynamic criminogenic needs**
 - **Belfrage & Douglas (2002): HCR-20**
 - **De Jonge, Nijman, & Lammers (2009): HKT-30**
 - **Nijman, De Kruyk, & Van Nieuwenhuizen (2004): REHAB**
 - **Chakhssi, De Ruiter, & Bernstein (2010): BSI**



Observation Scale for Aggressive Behavior (OSAB; Hornsveld et al., 2007)

Six subscales:

- Irritation/anger (5 items)
- Anxiety/Gloominess (4 items)
- Aggressive behavior (10 items)
- Prosocial behavior (12 items)
- Antecedents (6 items)
- Sanctions (3 items)

Scoring: Behavior on the ward during last week



Examples of items

- **Irritation/anger:** ‘agitated’, ‘hostile’
- **Anxiety/Gloominess:** ‘anxious’, ‘gloomy’
- **Aggressive behavior:** ‘threats toward staff’, ‘abusive language towards fellow patients’
- **Prosocial behavior:** ‘adequately making contact with staff’, ‘makes good proposals towards fellow patients’
- **Antecedents:** ‘conflict about appointment’, ‘conflict about restrictive measure’
- **Sanctions:** ‘patient has to apologize’, ‘patient is sent to his room’



Scores of subscales

Scoring of items: 'no' = 1, 'seldom' = 2, 'occasionally' = 3, and 'frequently' = 4

Range of subscale scores:

- **Irritation/anger: 5 - 20**
- **Anxiety/Gloominess: 4 - 16**
- **Aggressive behavior: 10 - 40**
- **Prosocial behavior: 12 - 48**
- **Antecedents: 6 - 24**
- **Sanctions: 3 -13**



Table 1. Number of patients and mean age

	Total group		Personality disordered		Chronic psychotic	
	<i>N</i>	<i>M (SD)</i>	<i>N</i>	<i>M(SD)</i>	<i>N</i>	<i>M(SD)</i>
1	253	37.49 (10.38)	159	38.62 (10.64)	94	35.56 (9.69)
2	248	37.40 (10.44)	157	38.58 (10.68)	91	35.37 (9.75)
3	236	37.17 (10.41)	148	38.38 (10.66)	88	35.15 (9.69)
4	213	37.20 (10.34)	134	38.69 (10.88)	79	34.67 (8.86)
5	178	36.97 (10.46)	108	38.69 (11.14)	70	34.30 (8.74)
6	146	37.03 (10.17)	86	38.99 (10.77)	60	34.22 (8.58)
7	115	36.97 (10.27)	70	38.79 (10.75)	45	34.13 (8.85)
8	84	36.68 (9.57)	54	39.09 (10.22)	30	32.33 (6.40)
9	70	37.03 (9.66)	47	39.11 (10.29)	23	32.78 (6.58)
10	48	35.75 (8.91)	30	37.50 (9.90)	18	32.83 (6.17)



Figure 1. Irritation/anger, Aggressive behavior, and Sanctions

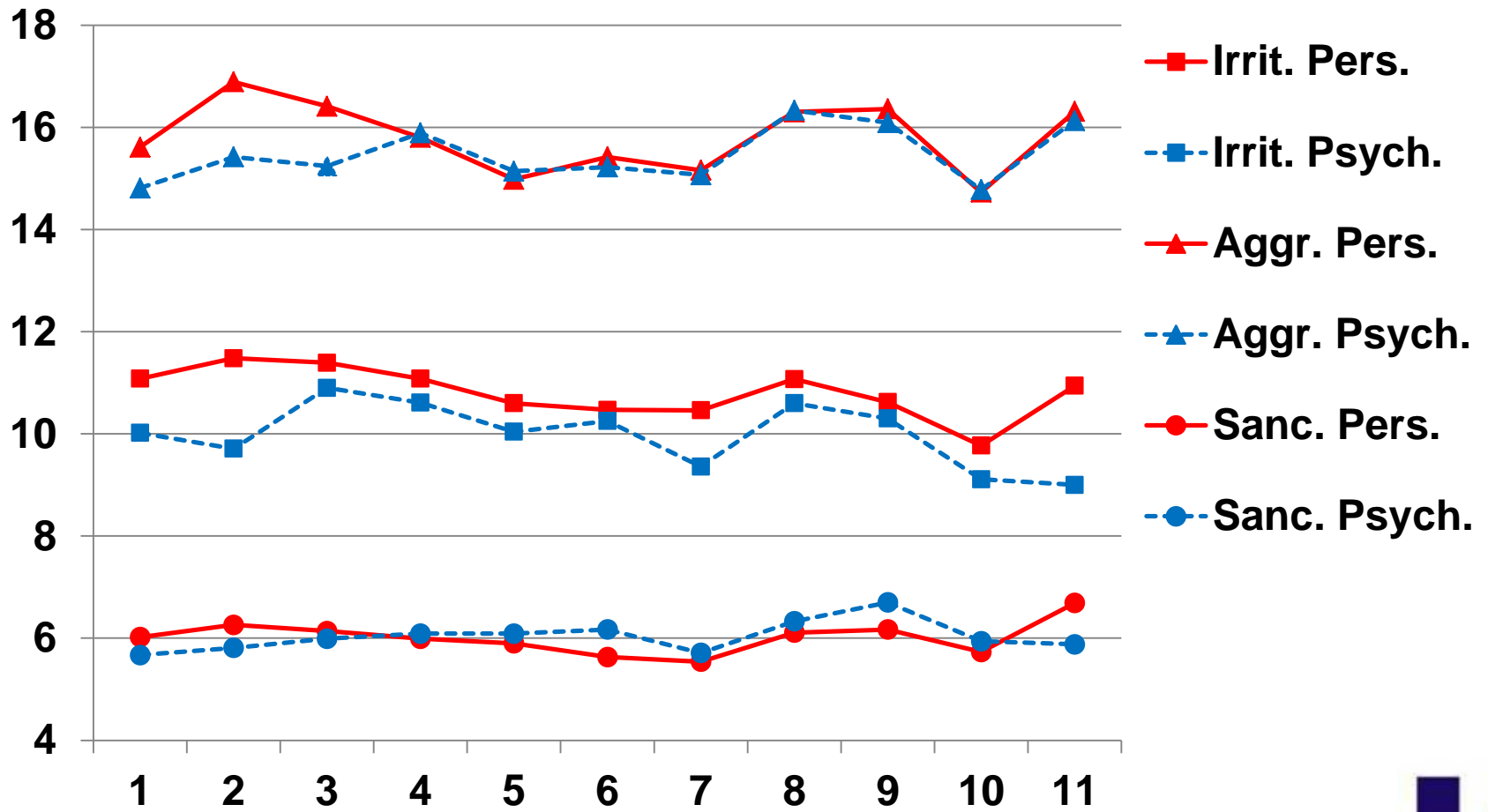


Figure 2. Anxiety/gloominess, Prosocial behavior, and Antecedents

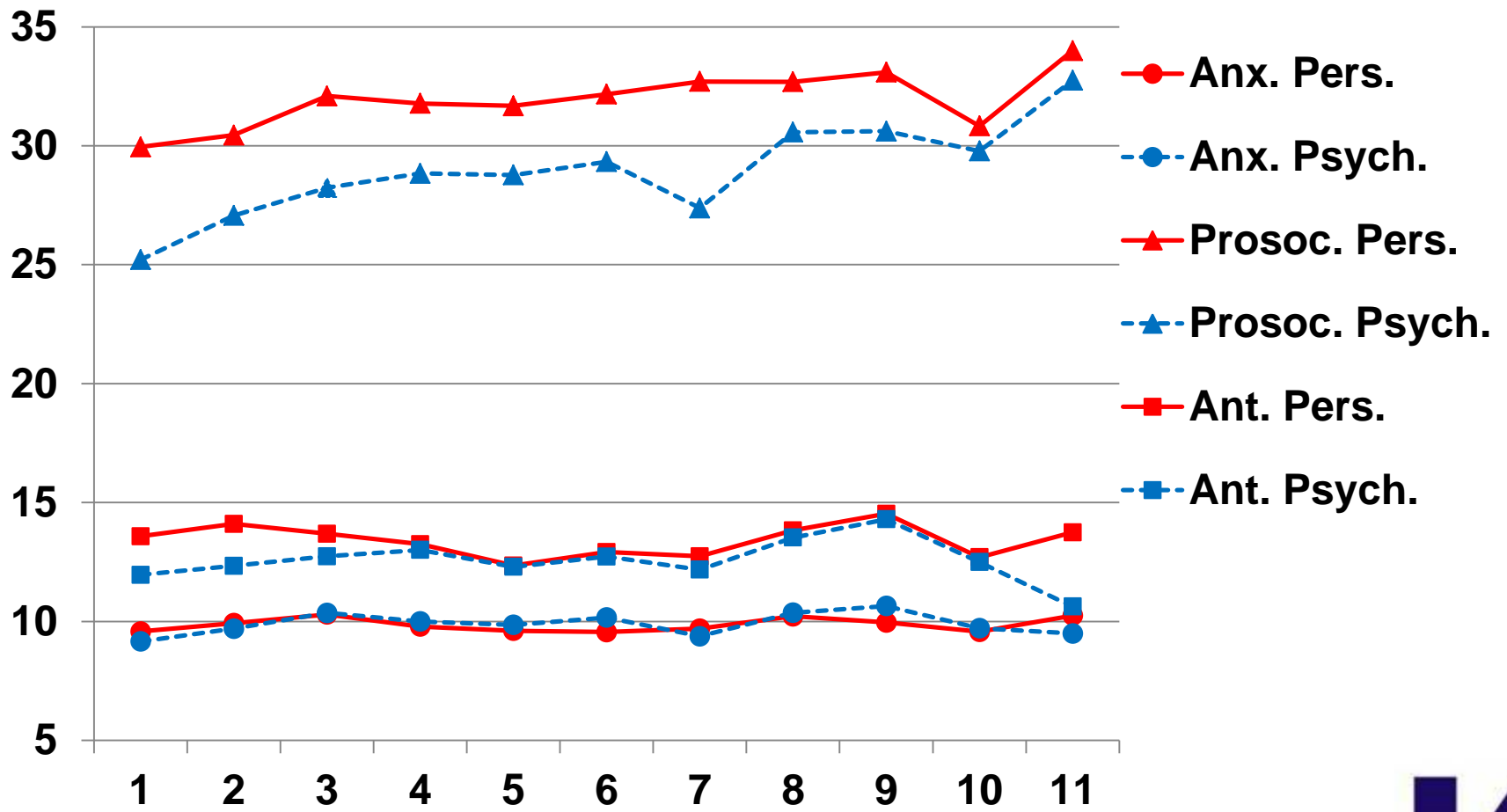


Figure 3. *Psychopathic and non-psychopathic patients*

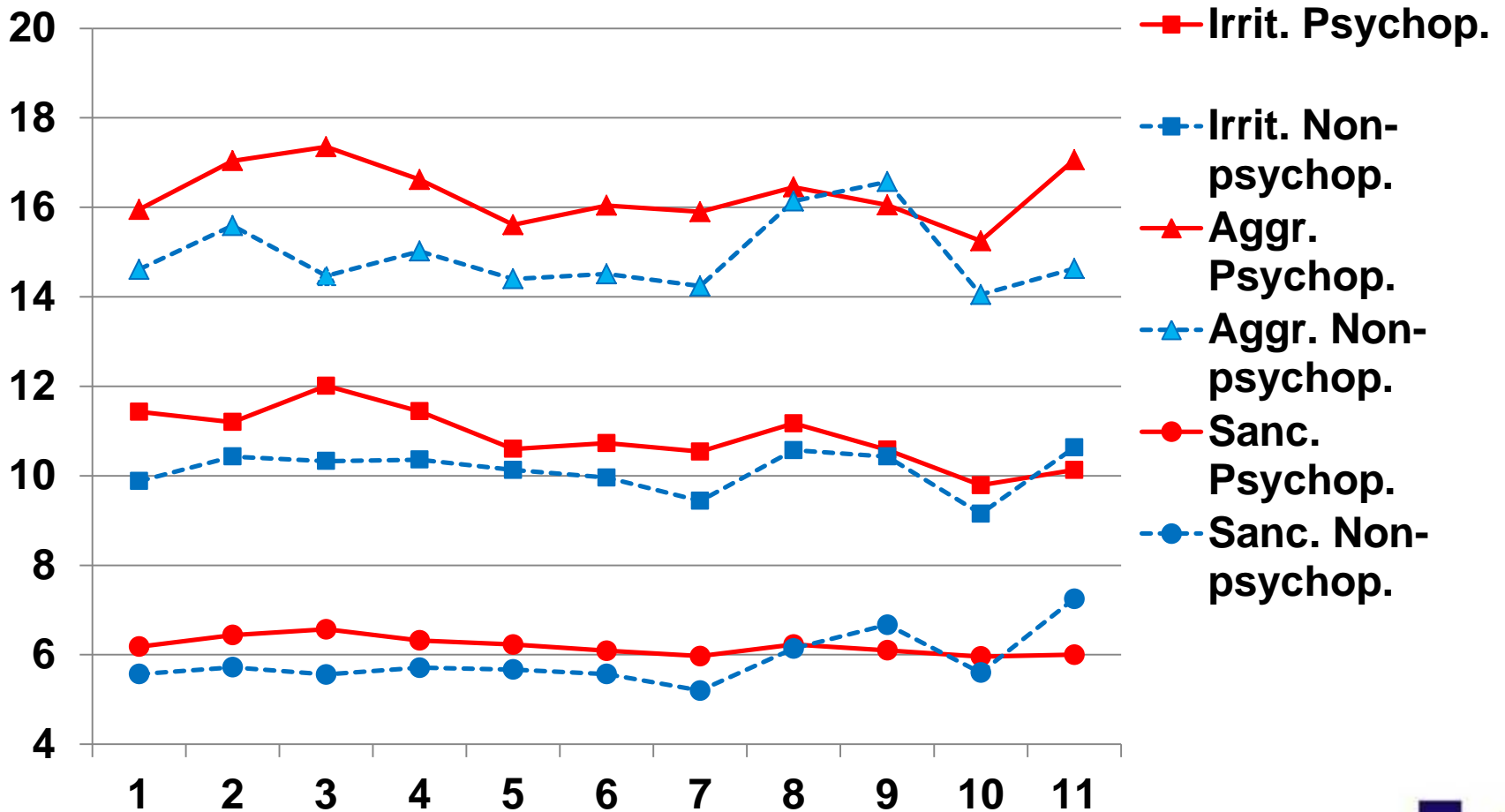


Figure 4. *Psychopathic and non-psychopathic patients*

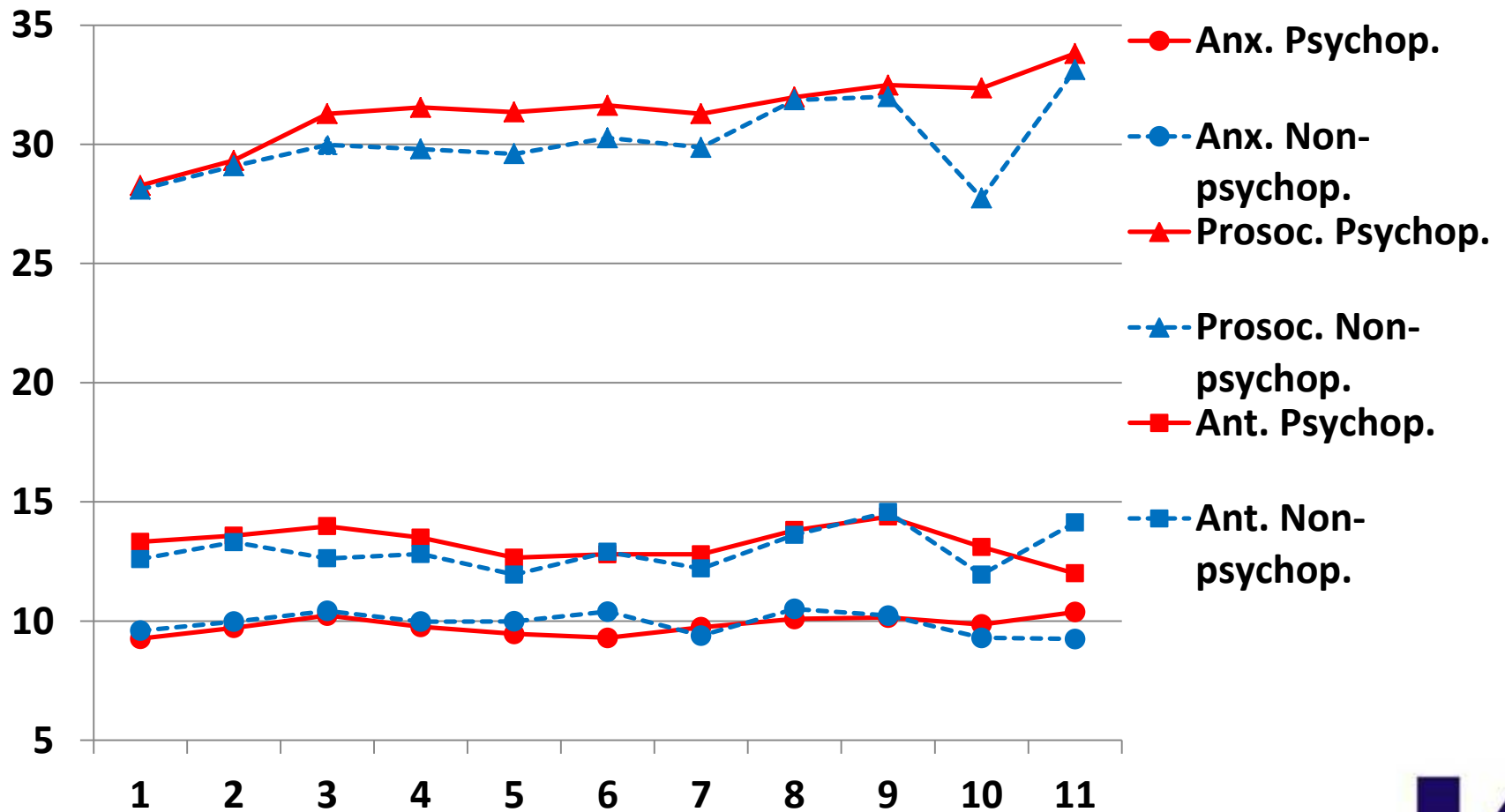


Table 2. Mean scores and standard deviations shortly after admittance

Measure	Factor or sub-scale	Personality disordered		Chronically psychotic		Differences between subsamples
		<i>N</i>	<i>M (SD)</i>	<i>N</i>	<i>M (SD)</i>	
PCL-R	Total	159	22.25 (8.06)	94	17.96 (7.84)	$F(2,250) = 13.13 (p < .001)^{**}$
	Facet 1	159	3.57 (2.47)	94	1.80 (1.88)	$F(2,250) = 18.02 (p < .001)^{**}$
	Facet 2	159	6.13 (1.72)	94	5.64 (1.84)	$F(2,250) = 3.10 (p = .047)^*$
	Facet 3	159	5.94 (2.76)	94	4.98 (2.90)	$F(2,250) = 14.01 (p < .001)^{**}$
	Facet 4	159	5.11 (2.81)	94	4.68 (2.81)	$F(2,250) = 6.58 (p = .002)^{**}$
NEO-FFI	Neuro	97	32.24 (8.49)	48	31.73 (7.92)	$F(2,142) = 0.95 (p = .909)$
	Agree	97	41.59 (5.23)	48	42.52 (4.93)	$F(2,142) = 0.53 (p = .591)$
STAS	Anger	92	17.91 (6.64)	47	15.85 (4.29)	$F(2,136) = 1.94 (p = .148)$



Table 3. Correlations OSAB and personality traits during measurement 1 (all patients)

Measure	Factors or sub-scales	OSAB scores					
		Irritation/ Anger	Anxiety/ Gloom- iness	Aggres- sive be- havior	Pro- social behavior	Antece- dents	Sanct- ions
PCL-R	Total	.236**	-.059	.162**	.108*	.143*	.168**
	Facet 1	.168**	-.003	.086	.160**	.109*	.042
	Facet 2	.150**	-.084	.075	.036	.054	.079
	Facet 3	.241**	-.022	.193**	.058	.179**	.224**
	Facet 4	.203**	-.063	.162**	.089	.138*	.180**
NEO-FFI	Neur.	.158*	.183*	.151*	-.013	.118	.165*
	Agree.	-.119	-.012	-.160*	.010	-.120	-.157*
STAS	Anger	.177*	.095	.224**	.074	.198**	.204**



Table 4. Correlations OSAB and personality traits during measurement 1

Measure	Factors or sub-scales	Personality disordered patients			Chronically psychotic patients		
		Irritation/ Anger	Aggres- sive behavior	Pro- social behavior	Irritation/ anger	Aggres- sive behavior	Pro- social behavior
PCL-R	Total	.236**	.208**	.016	.169	.052	.080
	Facet 1	.097	.069	.057	.192	.056	.089
	Facet 2	.177*	.122	-.051	.078	-.012	.073
	Facet 3	.207**	.199*	-.001	.245*	.160	.034
	Facet 4	.290**	.274**	.091	.051	-.030	.039
NEO-FFI	Neur.	.199*	.209*	-.107	.059	-.001	.161
	Agree.	-.097	-.160	.093	-.111	-.127	-.099
STAS	Anger	.140	.214*	.023	.157	.182	.078



**Table 5. Change scores on the OSAB
(measurement 1 vs. Measurement 7)**

OSAB sub-scale	Personality disordered patients			Chronically psychotic patients		
	Measurement 1	Measurement 7	Effect size	Measurement 1	Measurement 7	Effect size
	M (SD)	M (SD)	d	M (SD)	M (SD)	d
Irrit./Anger	10.57 (3.31)	10.46 (3.04)	.057	9.60 (4.03)	9.36 (3.57)	.113
Aggr. beh.	14.93 (5.38)	15.16 (4.67)	.065	15.02 (6.15)	15.07 (5.79)	.015
Prosoc. beh.	29.50 (8.39)	32.70 (6.94)	.650	24.22 (7.99)	27.38 (7.60)	.646



Table 6. *Outflow of patients*

Patients	Percentage	Age	PCL-R	Aggression on the ward
7 measurements	56.4	36.97 (10.27)	20.49 (7.97)	14.97 (5.66)
3 year of stay but no 7 measurements	22.1	39.38 (11.78)	17.68 (7.94)	15.92 (4.60)
Reselection	9.8	36.95 (8.89)	22.63 (7.86)	16.16 (5.23)
Long-stay	2.9	55.00 (8.46)	23.40 (7.57)	18.40 (2.61)
Finishing TBS or leave	3.4	41.29 (11.94)	17.00 (8.25)	14.14 (2.48)
Others	5.4	35.89 (6.31)	25.67 (9.35)	15.67 (3.20)



Table 7. Correlations between scores on OSAB subscales and PCL-R total score

Measure- ment	N	OSAB scores		
		Irritation/anger	Aggressive beh.	Sanctions
1	253	.236**	.162**	.168**
2	248	.164**	.205**	.193**
3	236	.226**	.242**	.203**
4	213	.180**	.199**	.201**
5	178	.194**	.183*	.192*
6	146	.169*	.167*	.172*
7	115	.201*	.152	.190*
8	84	.121	.099	.036
9	70	.093	.031	-.004
10	48	.147	.160	.086
11	24	-.039	.308	-.001

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



Preliminary conclusions

- No relation between length of stay and mood, aggressive behavior, and sanctions.
- However, social skills are related to length of stay.
- Personality disordered patients exhibit more anger, more aggressive behavior, and more prosocial behavior than chronic psychotic patients.
- Patients with relatively high scores on the PCL-R exhibit more anger, more aggressive behavior, but also more prosocial behavior than patients with relatively low scores on the PCL-R.
- In general, base rates are low.



Discussion and recommendations

- Outcome of treatment programs should not be based on negative but on positive behavior.
- Limited validity of risk assessment instruments if they are based on negative behaviors.
- Protective factors, which refer to positive behavior, are better predictors for recidivism (SAPROF).
- There is a group of inpatients for which a stay longer than three or four years has no incremental value.

