



universität
wien



Screening for mental health: PAS-ADD-Checklist and ABC

German language psychometric properties and standardized norms

Elisabeth Zeilinger

Barbara Brehmer

Germain Weber

Outline

- Aim of the study
- Instruments used
- Data collection and sample-characteristics
- **Psychometric analysis**
 - **Construct Validity: Factor Structure**
 - **Internal consistency**
 - **Interrater-reliability**
- **Construction of standardized norms**
 - Differences concerning socio-demographic variables
- Descriptive analysis – prevalence of mental health problems
- Conclusion

Aim of the study

1. Exploring and evaluating the German translation of two well-established screening instruments
 - PAS-ADD-Checklist (Moss, 2002)
 - ABC – Aberrant Behavior Checklist-Community (Aman & Singh, 1994)
2. Construction of Norms for the German-language area
 - There are hardly any screening-instruments concerning mental-health in ID in German language
 - Following an internationally recognized structure or classification, like ICD-10 (PAS-ADD)
 - Important for early-detection and health-prevention!
 - Factor-structure and psychometric properties can differ from one language-area to another
 - Norms need to be established separately for different cultural backgrounds and languages

Screening-Instruments

ABC and PAS-ADD-Checklist

- Informants are proxies, who should know the person very well
 - No knowledge of psychopathology is required
 - Proxies have a crucial role in early detection of mental-health problem
 - In everyday contact with the person
 - Often decide if and which health professionals are consulted
- Instruments help in decision-making

ABC – Community (Aman & Singh, 1994) Aberrant Behavior Checklist - Community

- Screening- and Monitoring-Instrument
- Designed for frequent use (to evaluate interventions)
- Construction: Factorially derived
- 58 Items
- 4-point rating scale
- 5 Subscales (Number of Items)
 - Irritability (15)
 - Lethargy, social withdrawal (16)
 - Stereotypic Behavior (7)
 - Hyperactivity, Noncompliance (16)
 - Inappropriate Speech (4)

behavioral

PAS-ADD Checklist (Moss, 2002) Psychiatric Assessment Schedule for Adults with a Developmental Disability

- Screening-Instrument for psychiatric disorders
- Aim is not a diagnosis, but an indication for further assessment of a potential psychiatric disorder
- Construction: Criterion-oriented
- 25 Items
- 4-point rating scale
- 5 Subscales combined to 3 Scales (Numb.of Items)
 - Affective or neurotic disorder(19)
 - Possible organic condition (6)
 - Psychotic disorder (3)

psychiatric

Method

- Project POMONA II – Health Indicators for People with Intellectual Disabilities (2005 – 2008)

- Funded by the EU Health Monitoring Unit
 - Grant Agreement No. 2004130



- Coordination: Prof. Patricia Noonan-Walsh
Centre for Disability Studies, University College Dublin

- 14 participating countries(n=1379)

Austria: n=190

Belgium: n=80

Germany: n=80

Finland: n=263

France: n=80

Ireland: n=70

Italy: n=80

Lithuania: n=52

The Netherlands n=72

Norway: n=63

Romania: n=80

Slovenia: n=84

Spain: n=115

UK: n=70

Sample characteristics

German-speaking area

- Gender: 44% female - 56% male
- Accomodation: 57% institution/group home – 43% alone/family
- Level of ID: 87% mild/moderate ID – 23% severe/profound ID
- Age:

N= 270	Mild/moderate (n=207)		Severe/profound (n=63)	
	institution/ group home	alone/ with family	institution/ group home	alone/ with family
18 – 29 (n=81)	22	30	16	13
30 – 39 (n=56)	22	22	9	3
40 – 49 (n=65)	29	25	7	4
50 – 59 (n=35)	19	10	5	1
60 + (n=33)	21	7	4	1

Construct Validity

Factor Structure - ABC

- confirmatory factor analysis with orthogonal rotation

Originally established Factors could be reproduced, but in different order
5 factors account for 51% of total variance

Original order	Factor	Zeilinger (2009)	Aman et al. (1995)	Ono (1996)
		n=270	n=1024	n=322
		German	English	Japanese
1	Irritability	4	4	5
2	Lethargy	2	2	2
3	Stereotyp.	5	3	3
4	Hyperactivity	3	1	1
5	Speech	1	5	4

Different sample characteristics:

Zeilinger: 87% mild/moderate ID – 23% severe/profound ID

Aman: 30% mild/moderate ID – 70% severe/profound ID

Ono: no mild ID – 30% moderate – 70% severe/profound ID

Construct Validity

Factor Structure-PAS-ADD-Checklist

- exploratory factor analysis with orthogonal rotation

German language

Seven interpretable factors with eigenvalue > 1
account for 59% of total variance

Factor	Items with highest loadings
1	Autistic spectrum and anxiety Odd gestures startled by sudden sound/movement fearful/panicky
2	Restlessness during the day Restlessness Forgetful/Confused Less able to concentrate
3	Restlessness during the night Waking too early Delay in falling asleep Broken sleep
4	Loss of adaptive skills Loss of self-care skills Increased appetite Loss of confidence
5	Social withdrawal & psychotic tendencies Loss of appetite Suspicious Avoids social contact
6	Affective spectrum Sad/down Loss of interest Too happy/high
7	Irritability Irritable/bad tempered Repeated actions

other studies - English language

Major differences concerning factor-structure in different studies!

- Moss et al. (1998): 7 interpretable factors:
 1. Depression
 2. Restlessness
 3. Phobic anxiety
 4. Psychosis
 5. Hypomania
 6. Autistic spectrum
 7. Depression (suicidal)
- Sturmey et al.(2005)
 - One-factor-solution:
 - Characterized by „mood“-items

Construct Validity

Factor Structure

• Conclusion



ABC

Robust Factor Structure

- Bottom-up construction
- Scales derived by Factor Analysis
- Types of items used:
 - homogenous
 - Only observable behavior



PAS-ADD Checklist

Factor Structure differs betw. studies

- Top-down construction
- Criterion-oriented derived scales
- Types of items used:
 - heterogenous:
 - observable behavior
(e.g. “waking up too early” or “odd gestures”)
 - symptoms related to psychiatric disorders: more subjective to interpretation
(e.g. “loss of confidence” or “strange believes”)

•Level of ID: different symptoms for psychiatric conditions?

- different factor structure for different levels of ID?

Reliability– Internal Consistency

Cronbach's Alpha

ABC

ABC	Num. of Items	Zeilinger (2009)	Aman et al. (1995)	Ono et al. (1996)
		n=270	n=1024	n=322
		German	English	Japanese
TOTAL SCALE	58	,95		
Irritability	15	,92	,92	,92
Lethargy	16	,89	,91	,95
Stereotyp.	7	,78	,88	,92
Hyperactivity	16	,88	,94	,94
Speech	4	,81	,84	,85



• very good internal consistency!

Reliability– Internal Consistency

Cronbach's Alpha

PAS-ADD-C

PAS-ADD-C	Num. of Items	Zeilinger (2009)	Moss et al. (1998)	Sturmey et al. (2005)
TOTAL SCALE	24	,83	,87	
Affect./Neurot.	19	,81	,63	,7
Organic	6	,55	,84	,8
Psychotic	3	,57	,51	,6

- ☺ • Affective/neurotic: very good internal consistency
- ☺ • Psychotic: only three items > therefore values acceptable
- ☹ • Organic: worst scale in the German study

Reliability– Internal Consistency

Cronbach's Alpha

PAS-ADD-C

PAS-ADD-C	Num. of Items	Zeilinger (2009)	Moss et al. (1998)	Sturmey et al. (2005)
TOTAL SCALE	24	,83	,87	
Affect./Neurot.	19	,81	,63	,7
Organic	6	,55	,84	,8
Psychotic	3	,57	,51	,6

Itemcharacteristics

<u>„Possible organic condition“</u>		
Item	Item-Scale- Correlation	Alpha, if Item deleted
Less able to use self-care skills	,44	,43
Forgetful/confused	,35	,52
Broken sleep	,06	,58
Less able to concentrate	,51	,46
Restless	,49	,49
Irritable	,22	,54

- 😊 • Affective/neurotic: very good internal consistency
- 😊 • Psychotic: only three items > therefore values acceptable
- 😐 • Organic: worst scale in the German study

Interrater-Reliability

Cohen's Kappa

ABC

	<u>ABC: (58 items)</u>
<u>Austria</u> (n=2)	Kappa = ,87 sign. = ,000 1x: total consistency
<u>Germany</u> (n=5)	Kappa = 1 sign. = ,000 Kappa = 1 sign. = ,000 Kappa = 1 sign. = ,000 Kappa = 1 sign. = ,000 1x: total consistency

PAS-ADD-C

	<u>PAS-ADD-C: (25 items)</u>
<u>Austria</u> (n=3)	2x: total consistency
<u>Germany</u> (n=5)	Kappa = 1 sign. = ,000 4x: total consistency



- Most interraters: total consistency

Standardized Norms

Importance

- Possibility for norm-oriented testing
 - Using Cut-Offs = criterion-oriented
- More and different information can be gathered by comparing the person to a normative sample

Norms used

- Scales are not normally distributed
 - Most people show no mental health problems, thus get a score of 0
 - Very right-skewed distribution
- Percentile Rank and Stanine (Standard Nine)

Standardized Norms

- Percentile Rank and Stanine-Values were computed
 1. whole sample
 2. Separately for different socio-demographic variables
 - Testing for differences

Variable	Values				
Country	Austria		Germany		
Gender	Female		Male		
Level of ID	Mild/Moderate		Severe/Profound		
Accommodation	Institution/Group home		Alone/with family		
Age	18-29	30-39	40-49	50-59	60 +

Standardized Norms

- Percentile Rank and Stanine-Values were computed
 1. whole sample
 2. Separately for different socio-demographic variables
 - Testing for differences

No differences found

Variable	Values				
Country	Austria		Germany		
Gender	Female		Male		
Level of ID	Mild/Moderate		Severe/Profound		
Accommodation	Institution/Group home		Alone/with family		
Age	18-29	30-39	40-49	50-59	60 +

Differences in socio-demographic variables

Variable	Values				
<u>level of ID</u>	<u>mild/moderate</u>		<u>severe/profound</u>		
accommodation	institution/group home		alone/with family		
age	18-29	30-39	40-49	50-59	60 +

ABC

level of disability:

- Severe/profound ID > higher scores/more psychopathologies
 - Lethargy: $p = 0,001$
 - Stereotypic Behav.: $p = 0,005$
 - Hyperactivity: $p = 0,006$

PAS-ADD-C

level of disability:

- none
- All tendencies point to the same direction: severe/profound ID > higher scores

Differences in socio-demographic variables

Variable	Values				
level of ID	mild/moderate			severe/profound	
<u>accommodation</u>	<u>institution/group home</u>			<u>alone/with family</u>	
age	18-29	30-39	40-49	50-59	60 +

ABC

level of disability:

- Severe/profound ID > higher scores/more psychopathologies
 - Lethargy: $p = 0,001$
 - Stereotypic Behav.: $p = 0,005$
 - Hyperactivity: $p = 0,006$

accommodation:

- Institutionalized persons > higher scores/more psychopathologies
 - Irritability: $p < 0,001$
 - Stereotypic Behav.: $p < 0,001$
 - Hyperactivity: $p < 0,001$
 - Speech: $p = 0,005$

PAS-ADD-C

level of disability:

- none
- All tendencies point to the same direction: severe/profound ID > higher scores

accommodation:

- Institutionalized persons > higher scores/more psychopathologies
 - Organic: $p = 0,006$
 - Affective/Neurotic: $p = 0,002$

Differences in socio-demographic variables

Variable	Values				
level of ID	mild/moderate		severe/profound		
accommodation	institution/group home		alone/with family		
<u>age</u>	<u>18-29</u>	<u>30-39</u>	<u>40-49</u>	<u>50-59</u>	<u>60+</u>

ABC

level of disability:

- Severe/profound ID > higher scores/more psychopathologies
 - Lethargy: $p = 0,001$
 - Stereotypic Behav.: $p = 0,005$
 - Hyperactivity: $p = 0,006$

accommodation:

- Institutionalized persons > higher scores/more psychopathologies
 - Irritability: $p < 0,001$
 - Stereotypic Behav.: $p < 0,001$
 - Hyperactivity: $p < 0,001$
 - Speech: $p = 0,005$

age:

- Younger age-groups (18-39J) and oldest age group (60+) > higher scores
 - Irritability

PAS-ADD-C

level of disability:

- none
- All tendencies point to the same direction: severe/profound ID > higher scores

accommodation:

- Institutionalized persons > higher scores/more psychopathologies
 - Organic: $p = 0,006$
 - Affective/Neurotic: $p = 0,002$

age:

- 60+ years old > higher scores
 - Possible organic condition $p < 0,001$

Descriptive analysis

German-speaking area

- 52 persons (app.20%) reached at least one cut-off of ABC and/or PASADD-C :
 - 5 cut-offs: 2 persons
 - 4 cut-offs: 4 persons
 - 3 cut-offs: 3 persons
 - 2 cut-offs: 11 persons
 - 1 cut-off: 32 persons

Descriptive analysis

German-speaking area

ABC	total n=270	percent
Irritability	11	4,1%
Lethargy	7	2,6%
Stereotypic Behav.	3	1,1%
Hyperactivity	4	1,5%
Speech	19	7%

PAS-ADD-C	total n=269	percent
Affective/Neurotic	20	7,4%
Organic	8	3%
Psychotic	17	6,3%

Conclusion

- Possibility of norm-oriented testing
 - Preliminary norms (small sample-size)
 - Need to increase sample for German-speaking area
- Insight into psychometric properties
 - Explored Construct Validity
 - Reliable Instruments: internal consistencies and between raters
 - Recommended for use in German-language areas
- Further research:
 - Psychometric properties: other measures of Validity, Retest-Reliability
 - underlying factors of PAS-ADD-C?
 - Different factor-structure for different levels of ID?
 - Relation betw. aberrant behavior and psychiatric conditions
 - Follow-up in Austria using the two instruments
 - Development over time
 - Systematic changes

Literature

- Aman, M. (1991). *Assessing psychopathology and behavior problems in persons with mental retardation: A review of available instruments*. Rockville, MD: U.S. Department of Health and Human Services.
- Aman, M. & Singh, N. (1994). *Aberrant Behavior Checklist – Community. Supplementary Manual*. East Aurora, NY: Slosson Educational Publications.
- Cooper, S. A., Smiley, E., Morrison, J., Williamson, A. & Allan L. (2007). Mental ill-health in adults with intellectual disabilities: prevalence and associated factors. *British Journal of Psychiatry* 190, 27–35.
- Cronbach, L. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297-334.
- Moss, S. (2002). *The PAS-ADD checklist (revised)*. Brighton: Pavilion Publishing.
- Moss, S., Prosser, H., Costello, H., Simpson, N., Patel, P., Rowe, S. et al. (1998). Reliability and validity of the PAS-ADD Checklist for detecting psychiatric disorders in adults with intellectual disability. *Journal of Intellectual Disability Research*, 42, 173-183.
- Ono, Y. (1996). Factor Validity and Reliability for the Aberrant Behavior Checklist-Community in a Japanese Population with Mental Retardation. *Research in Developmental Disabilities*, 17, 303-309.
- Sturme, P., Newton, J., Cowley, A., Bouras, N. & Holt, G. (2005). The PAS-ADD Checklist: independent replication of its psychometric properties in a community sample. *British Journal of Psychiatry*, 186, 319-323.
- Suen, H.K. (1990). *Principles of Test Theories*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Taylor, J., Hatton, C., Dixon, L. & Douglas, C. (2004). Screening for psychiatric symptoms: PAS-ADD Checklist norms for adults with intellectual disabilities. *Journal of Intellectual Disability Research*, 48, 37-41.



universität
wien



universität
wien

Faculty of Psychology

Contact the authors

Elisabeth Zeilinger

elisabeth.zeilinger@univie.ac.at

Barbara Brehmer

barbara.brehmer@univie.ac.at

Germain Weber

germain.weber@univie.ac.at