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Mental health problems in young children: Self-reports and significant others as informants

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Summary

Although children may be the best source of information regarding their feelings and self-perceptions, there are severe limitations to self-report measures especially for young children. Therefore, it is advisable to complement the self-reports by information by parents and teachers. This research aims at the connection between the self-reports of children on different mental health measures including aspects of social integration and the reports of parents and teachers on mental health symptoms of children using the same or similar measures. In this context it is also investigated whether the use of recently developed pictorial self-report questionnaires effects the correspondence between the self-reports of children and the reports of parents and teachers. The following measures were administered to a sample of young school children and a sample of pre-school children, their parents and/or their teachers: Pre-school Symptom Self-Report (PRESS) (Martini), TONI (Valla), Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Harter & Pike) in its German version by Asendorpf & van Aken, all three cartoon-like questionnaires of mental health aspects; Depression Test for Children (DTK) (Rossmann); and the Children's Depression Scale for Classrooms (CDRSC) (Morris) for teachers. Although children as well as adults score consistently on different measures, there are almost no connections between the ratings of children and those of adults with regard to mental health. The results will be attributed to "informant variability". Implications for therapeutic approaches will be discussed.

Key words: Mental health in young children, self-, parent- and teacher-reports, pictorial tests

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Introduction

The research done at the Institute of Education at the University of Graz during the last years addressed a variety of topics connected with a developmental perspective on mental health in children and juveniles. This research objective was not only motivated by the association between emotional problems and further much impairment of psychological functioning of children (see among others Angold & Costello, 1993; Biedermann, Newcorn & Sprich, 1991), but also by the high recurrence risk with strong continuity into adulthood (see among others Asarnow, Goldstein, Carlson, Perdue, Bates, & Keller 1988; Harrington, Fudge, Rutter, Pickles & Hills, 1990; Hofmann, 1991).

An important part of our work concentrated on diagnostic aspects of emotional and behavioural disorders in children and juveniles (see among others Buchmann, 2000; Buchmann & Ederer, 1999, 2001; Ederer, 1996a, 1996b, 1998a, 1998b, 1998c, 1999a, 1999b, 1999c, 2000a, 2000b, 2000c; Ederer, Rossmann & Schein, 2001; Ederer & Royer, 1997a, 2000a, 2000b; Ederer & Reicher, 1997; Fuchs, Hanfstingl & Reicher, 1999; Reicher, Fuchs & Hanfstingl, 2001; Rossmann, 1993; Rossmann & Pichler-Janisch, 1998; Rossmann & Schein, 1993; Royer, 1998; Royer & Ederer, 1999, 2001; Schein, 1995; Schinnerl, 2001). Although children may be the best source of information regarding their feelings and self-perceptions, there are severe limitations to self-report measures especially for young children. Therefore, it seems advisable to complement such data by information from the social environment, especially from parents and teachers (see among others Blöschl, 1998; Clarizio, 1994; Ederer, 1997, 1998d; Ederer & Royer, 1997a; Kazdin, 1994; Reicher, 1998).

A recent development to assess the mental health of children is the use of pictures combined with verbal questions to facilitate the communication with children, overcoming the sociocognitive immaturity and the lack of reading ability of young children (see among others Asendorpf & van Aken, 1993; Harter & Pike, 1981, 1984; Martini, 1987; Martini, Strayhorn & Puig-Antich, 1990; Valla, Bergeron, Berube, Gaudet & St.-Georges, 1994; Valla, Bergeron, Bidault-Russell, St.-Georges & Gaudet, 1997; Valla, Bergeron & Smolla, 2000; Valla & coworkers, 2000). These instruments also take advantage of the propensity of images to help children convey feelings which many are otherwise reluctant to acknowledge verbally. On this background, the work of the author during the last years concentrated on the adaptation and translation of pictorial tests originally developed for American and Canadian children (Ederer, 1999d, 1999e, 2001; Ederer & Royer, 1997b).

This paper presents two investigations, one in young school children and the other in pre-school children, using self-report and outside evaluation of mental health in the sense of emotional state and aspects of social integration by pictorial instruments and verbal questionnaires. The main aim of this paper is to investigate the connection between the self-reports of children on different mental health measures and the reports of parents and teachers on mental health of children, using the same or similar instruments. In this context it is also investigated whether the use of recently developed pictorial self-report questionnaires effects the correspondence between the self-reports of children and the reports of parents and teachers.

The previous empirical research on this topic shows a low to moderate agreement among self-reports of children and reports of parents and teachers. Specifically, evidence suggests that children report „internalizing symptoms“ (impaired emotional state, anxiety, somatic complaints) more frequently than parents and teachers; and parents and teachers rather report „externalizing behaviour“ (oppositional behaviour, conduct disorders, hyperactivity).

Furthermore, there are indications that any agreement between children and adults is stronger with respect to externalizing compared to internalizing symptoms (see among others Kazdin, 1994; Reicher, 1998; Rossmann & Pichler-Janisch, 1998; and references in these publications).

Methods

Samples

The young school children‘s sample consists of 119 children (60 girls and 59 boys) from 3rd and 4th elementary school grade between 8;7 and 10;10 years old, with an average age of 9 years and 4 months, and their teachers.[2]

The pre-schoolers‘ sample consists of 90 children (48 girls and 42 boys) between 4;9 and 6;2 years old, with an average age of 5 years and 5 months, one parent of each child (76 mothers and 14 fathers) and the pre-school teachers of the children.[3]

Measures

The following instruments were applied to the young school children‘s sample:

The TONI (Valla, 1996a, 1996b; Valla, Bergeron, Berube, Gaudet & St.-Georges, 1994; Valla, Bergeron, Bidault-Russell, St.-Georges & Gaudet, 1997; Valla, Bergeron & Smolla, 2000; Valla & coworkers, 2000, 2001) is a cartoon-like pictorial instrument including additional verbal questions, translated from the Canadian DOMINIC and adapted for Austrian children. It aims at the self-report on the most common mental problems in school children, based on DSM-III-R criteria. The items of the TONI refer to the following 7 disorders: Separation anxiety disorder – SAD (13 items), Oppositional defiant disorder – ODD (13 items), Overanxious disorder – OAD (11 items), Simple phobia – SPh (10 items), Conduct disorders – CD (12 items), Major depressive disorder – MDD (19 items) and Attention-deficit hyperactivity disorder – ADHD (16 items).

The Depression Test for Children (DTK) (Rossmann, 1993; Rossmann, 1990, 1991) enables the self-report on the current depressive state of school children by three subscales: DTK subscale 1: Depressed mood and low self-esteem (25 items), referring to dysthymia and problems with self-image, DTK subscale 2: Agitation and problems of norm integration (16 items), searching for acting out and aggressive behavior, and DTK subscale 3: Tiredness and psychosomatic problems (14 items), relating to the loss of energy and other psychosomatic aspects of dysthymia.

The Children’s Depression Rating Scale for Classrooms (CDRSC) (Morris, 1978, 1980-81, 1992) for teachers was translated into German. It facilitates the teacher’s assessment of the severity and frequency of the child‘s depressive symptoms according to the following subscales: CDRSC subscale 1 – Social inhibition (16 items), describing feelings of sadness, unhappiness, lack of confidence, withdrawal from relationships, and vocal and postural signs of depression; CDRSC subscale 2 – Intellectual inhibition (8 items), describing difficulties

[2] Data were collected by Buchmann (2000) in the context of her diploma thesis.

[3] Data were collected by Royer (1998) in the context of her diploma thesis.

in learning, remembering, and concentrating on school work, and clearly resembling clinical descriptions of intellectual inhibition found in depressive reactions; CDRSC subscale 3 – Anger inhibition (5 items), describing the inhibition of the direct expression of aggression, resembling clinical descriptions of depressed children who over-control aggression and who are compliant or obedient; CDRSC subscale 4 – Anxiety (3 items), describing symptoms of weepiness, hypersensitivity, tenseness and worry, and resembling clinical descriptions of depressive anxiety with neurotic and phobic symptoms; and CDRSC subscale 5 – Dependency inhibition (2 items), which was not applied in this investigation.

The following instruments were applied to the pre-schooler‘s sample:

The Pre-school Symptom Self-Report (PRESS) (Martini, 1987; Martini, Strayhorn & Puig-Antich, 1990) is a measure to facilitate the self-report of depressive symptoms in pre-school children, primarily focusing on symptoms accessible to the child‘s perception such as depressed mood, worrying, fatigue, fearfulness, and poor self-image. This instrument was translated into German. It consists of 25 items, each comprising two illustrations and matching captions. A modified version for parents allows for comparing the pre-school children's self-reports of their depressive symptoms with the parents‘ evaluations of the symptoms of the children.

The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Harter & Pike, 1981, 1984) in its German version by Asendorpf & van Aken (1993) is a pictorial instrument that allows for self-report and outside evaluation of social acceptance/ competence (S A/C) in pre-schoolers by the children and their parents. The following three subscales were administered: Peer acceptance – S A/C 1 (6 items), concerning the involvement with friends, Sports competence – S A/C 2 (6 items), aiming at physical skills like swinging, climbing etc. and Maternal acceptance – S A/C 3 (6 items), referring to activities of the mother that let her child know that she likes or loves him or her.

The Depression Test for Children (DTK) (Rossmann, 1993; Rossmann, 1990, 1991) which is here used in a slightly modified version for the parents of pre-school children facilitates the evaluation of the child's current depressive state by the parent. As to the subscales see the description above.

The Children's Depression Rating Scale for Classrooms (CDRSC) (Morris, 1978, 1980-81, 1992) for teachers was translated and adapted for pre-school teachers for the present paper. As to the subscales see above.

To compute test-retest reliabilities the PRESS and the social acceptance/competence (S A/C) subscales and the Children's Depression Rating Scale for Classrooms (CDRSC) were administered a second time after a period of 10 weeks to a subsample of 30 pre-schoolers and their teachers.

Results

The internal consistency and the test-retest reliability coefficients (tables 1 to 3) in general are in an acceptable range, with rather low Cronbach‘s Alphas for the PRESS and the S A/C subscale 2 (Sports competence) as rated by the children as well as the parent rated S A/C subscale 3 (Maternal acceptance). The retest coefficients for the PRESS and the S A/C subscales are also rather low and should lead to careful interpretations.

In order to investigate the connection between the self-reports of children on different mental health measures and the reports of parents and teachers on mental health of children,

using the same or similar instruments the children‘s, parents‘ and teachers‘ reports were intercorrelated. Moreover, factor analyses for the scales administered to the two samples were computed.

As shown by the intercorrelations (table 4 and 5), the children's self-reports on mental health in the sense of emotional state and aspects of social integration usually correlate in the expected direction. This is true for the young school children‘s sample (table 4: self reports on the TONI and DTK) as well as for the pre-school children‘s sample (table 5: self reports on PRESS and S A/C).

Furthermore there are some significant correlations between different measures for parents (PRESS, DTK and S A/C) and between the reports of parents (PRESS, DTK and S A/C) and teachers (CDRSC) in the pre-schooler‘s sample. (In the sample for the young school children, this question cannot be answered since outside evaluation was taken only from teachers but not from parents.)

There are, however, only a few significant intercorrelations – all in the expected direction – between the self-reports of the children and the evaluations by their parents and/or teachers (table 4 and 5). As to the young school children‘s sample (table 4), while the internalizing disorders as self-reported by the children on the TONI (SAD, OAD, SPh and MDD) are not at all reflected in the teacher ratings (CDRSC subscales), the children's self-reports on their dysphoric state and self-esteem (DTK 1) as well as on their tendency towards psychosomatic reactions (DTK 3) are also registered by the teachers as anxious behaviour (CDRSC 4) and as intellectual inhibition (CDRSC 2). In addition, the teachers tend to evaluate the behavioural problems with respect to social integration reported by the children – defiance (TONI: ODD), disturbed social behaviour (TONI: CD) and agitated behaviour (DTK 2) – as slight social inhibition (CDRSC 1) and reduced anger inhibition (CDRSC 3).

The intercorrelations for the pre-school children‘s sample (table 5) show only one significant correlation (out of 44 coefficients) between the children's self-reports on depressive symptoms and social integration (PRESS, S A/C) and the evaluations of parents (PRESS, DTK and S A/C) and teachers (CDRSC).

A detailed comparison (table 6) of the responses of the pre-school children and their parents to the individual items of the PRESS demonstrates clearly that children and parents report differently on certain symptoms. Parents tend to see rather those symptoms in their children (see $^{+}$ in table 6) that refer to more disagreeable and disturbing aspects of their child's behaviour. These relate mainly to externalizing problems which usually lead to problems in the daily interaction with the child (Frustration tolerance: Cannot take it when his mother says that he can‘t have something, Irritability: Can get very mad and stay mad for a long time, Disobedience: Will not pick up blocks when his father asks him to, Appetite decrease: Does not feel like eating and it does not feel good for him to eat, Fearful: Is afraid to go to bed by himself. He thinks something will happen to him). On the other hand, pre-school children tend to report internalizing symptoms (see ° in table 6) more often than parents. These symptoms are more irritating and bothersome for them, but are usually hard for parents to notice (Depressed mood: Is sad and crying most of the time, Self-image: Thinks that he is not good looking, Anhedonia: Is playing with his toy and not having fun, Fatigue: Is tired and does not want to play, Insomnia: Cannot fall asleep and does not sleep well at night, Social isolation: Would rather play by himself than play with friends, Socialization: Other boys and girls do not like this boy).

The results, showing low agreement among self-reports of children and reports of parents and teachers, and that children report internalizing symptoms more frequently than adults

while parents and teachers rather report externalizing symptoms, are fully in accordance with previous research. The indication in previous research that agreement between children and adults is stronger with respect to externalizing compared to internalizing problems, however, cannot be confirmed by this investigation: In the preschoolers‘ sample (only in this sample parents and children reported on the same instrument, the PRESS) there was only one significant coefficient of correlation (Kappa) – out of 25 – between reports of children and parents (table 6). Furthermore, table 6 shows that all significant mean differences between endorsements of children and parents refer to externalizing symptoms.

As to the question whether the use of pictorial self-report questionnaires influences the correspondence between the self-reports of children and the reports of parents and teachers, the following can be said: The results for the young school children‘s sample (table 4) – the children had to answer the TONI (pictorial measure) as well as the DTK (traditional verbal self-report measure) – show that the use of a pictorial measure in this case did not have any measurable effect on the low level of the intercorrelations between self reports of children and outside evaluations of their teachers (CDRSC). (In the pre-schooler‘s sample this question cannot be investigated since the children had to report only on pictorial tests.)

The factor analyses (table 7 and 8) confirm the correlations between the children’s self-reports on different measures and to some degree also the correlations between the parents‘ reports on different measures. However, the reports of parents and teachers load partly on different factors (table 8). The main result of the analyses of correlations – the lack of correspondence between the children’s self-reports and the evaluation by their parents and/or teachers – is fully confirmed by the factor analyses.

In the factor analysis for the dimensions of the young school children‘s sample (table 7), factor 1 refers to the subscales of the TONI and the DTK measuring mainly internalizing disorders (impaired emotional state, anxiety symptoms); factor 3 refers mainly to those subscales of the TONI and the DTK assessing externalizing disorders in the sense of problems in social integration. The double loadings of some TONI and DTK subscales on factor 1 and 3 reflect the co-morbidity between depressive and attention-deficit hyperactivity disorders (Angold & Costello, 1993; Biedermann, Newcorn & Sprich, 1991). The fact that the outside evaluation by the teachers (CDRSC subscales) makes up a separate factor (factor 2) is of particular interest and reflects the distinct perspective of the teachers concerning the problems of their students.

The factor analysis for the scales of the pre-school children‘s sample (table 8) is also in accordance with these results and confirms the correlation between the children’s self-reports as well as the lack of correspondence between the children’s self-reports and the evaluation by their parents and teachers. Factor 3 clearly refers to the children’s self-reports on depressive symptoms (PRESS) and aspects of social integration (S A/C subscales). All parents’ ratings (PRESS, DTK subscales and S A/C subscales) with the exception of sport competence (S A/C subscale 2) load on factor 1. The teacher ratings (CDRSC) load with three of the four subscales on a further separate factor (factor 2), together with the subscale 2 and subscale 1 (second loading) of the parent evaluated social acceptance/competence (S A/C).

Table 1:
Internal consistency (Cronbach‘s Alpha) and number of items for child ratings (TONI and DTK) and teacher ratings (CDRSC) for the young school children‘s sample

	Alpha	Items
Child ratings (TONI and DTK)		
Separation anxiety disorder (TONI: SAD)	.77	13
Oppositional defiant disorder (TONI: ODD)	.82	13
Overanxious disorder (TONI: OAD)	.67	11
Simple phobia (TONI: SPh)	.48	10
Conduct disorders (TONI: CD)	.77	12
Major depressive disorder (TONI: MDD)	.81	19
Attention-deficit hyperactivity disorder (TONI: ADHD)	.81	16
Depressed mood and low self-esteem (DTK 1)	.86	25
Agitation and problems of norm integration (DTK 2)	.71	16
Tiredness and psychosomatic problems (DTK 3)	.76	14
Teacher ratings (CDRSC)		
Social inhibition (CDRSC 1)	.91	16
Intellectual inhibition (CDRSC 2)	.96	8
Anger inhibition (CDRSC 3)	.91	5
Anxiety (CDRSC 4)	.56	3

Table 2:
Internal consistency (Cronbach‘s Alpha) and number of items for child ratings (PRESS and S A/C), parent ratings (PRESS, DTK and S A/C) and teacher ratings (CDRSC) for the pre-schooler‘s sample

	Alpha	Items
Child ratings (PRESS and S A/C)		
PRESS	.56	25
Peer acceptance (S A/C 1)	.74	6
Sports competence (S A/C 2)	.54	6
Maternal acceptance (S A/C 3)	.63	6
Parent ratings (PRESS, DTK and S A/C)		
PRESS	.70	25
Depressed mood and low self-esteem (DTK 1)	.68	25
Agitation and problems of norm integration (DTK 2)	.69	16
Tiredness and psychosomatic problems (DTK 3)	.69	14
Peer acceptance (S A/C 1)	.80	6
Sports competence (S A/C 2)	.66	6
Maternal acceptance (S A/C 3)	.39	6
Teacher ratings (CDRSC)		
Social inhibition (CDRSC 1)	.95	16
Intellectual inhibition (CDRSC 2)	.92	8
Anger inhibition (CDRSC 3)	.88	5
Anxiety (CDRSC 4)	.72	3

Table 3:
Test-retest reliabilities and number of items in a subsample of 30 children of the preschooler‘s sample for child ratings (PRESS and S A/C) and teacher ratings (CDRSC)

	Retest	Items
Child ratings (PRESS and S A/C)		
PRESS	.52	25
Peer acceptance (S A/C 1)	.41	6
Sports competence (S A/C 2)	.30	6
Maternal acceptance (S A/C 3)	.53	6
Teacher ratings (CDRSC)		
Social inhibition (CDRSC 1)	.89	16
Intellectual inhibition (CDRSC 2)	.64	8
Anger inhibition (CDRSC 3)	.61	5
Anxiety (CDRSC 4)	.60	3

Table 4:
Intercorrelations of child ratings (TONI and DTK) and teacher ratings (CDRSC) for the young school children's sample

	Child ratings (TONI and DTK)										Teacher ratings (CDRSC)			
	SAD	ODD	OAD	SPh	CD	MDD	ADHD	DTK 1	DTK 2	DTK 3	CDRSC 1	CDRSC 2	CDRSC 3	CDRSC 4
Child ratings (TONI and DTK)														
Separation anxiety disorder (TONI: SAD)														
Oppositional defiant disorder (TONI: ODD)	.16													
Overanxious disorder (TONI: OAD)	.69**	.14												
Simple phobia (TONI: SPh)	.30**	.21*	.42**											
Conduct disorders (TONI: CD)	-.09	.42**	-.05	.06										
Major depressive disorder (TONI: MDD)	.56**	.53**	.54**	.42**	.22*									
Attention-deficit hyperactivity disorder (TONI: ADHD)	.38**	.61**	.39**	.39**	.42**	.76**								
Depressed mood and low self-esteem (DTK 1)	.40**	.45**	.49**	.33**	.18*	.60**	.53**							
Agitation and problems of norm integration (DTK 2)	.14	.54**	.14	.21*	.38**	.46**	.56**	.57**						
Tiredness and psychosomatic problems (DTK 3)	.34**	.24*	.42**	.24**	.08	.42**	.34**	.59**	.37**					
Teacher ratings (CDRSC)														
Social inhibition (CDRSC 1)	-.07	-.23*	-.07	-.08	.00	-.08	-.06	.09	-.05	.01				
Intellectual inhibition (CDRSC 2)	.02	-.09	.02	.04	.05	.06	.08	.21*	.05	.14	.64**			
Anger inhibition (CDRSC 3)	-.07	-.06	.01	-.02	-.27**	-.09	-.13	-.16	-.18*	-.09	-.15	-.42**		
Anxiety (CDRSC 4)	.06	.02	.06	.10	.12	.08	.08	.28**	.16	.22*	.33**	.31**	-.57**	

**: p < .01 *: p < .05

Table 5:
Intercorrelations of child ratings (PRESS and S A/C), parent ratings (PRESS, DTK and S A/C) and teacher ratings (CDRSC) for the pre-schooler's sample

	Child ratings (PRESS, S A/C)				Parent ratings (PRESS, DTK and S A/C)							Teacher ratings (CDRSC)			
	PRESS	S A/C 1	S A/C 2	S A/C 3	PRESS	DTK 1	DTK 2	DTK 3	S A/C 1	S A/C 2	S A/C 3	CDRSC 1	CDRSC 2	CDRSC 3	CDRSC 4
Child ratings (PRESS and S A/C)															
PRESS															
Peer acceptance (S A/C 1)	-.26*														
Sports competence (S A/C 2)	-.26*	.33**													
Maternal acceptance (S A/C 3)	-.13	.34**	.28**												
Parent ratings (PRESS, DTK, S A/C)															
PRESS	.003	.15	.09	-.01											
Depressed mood and low self-esteem (DTK 1)	-.01	.18	.16	.07	.50**										
Agitation and problems of norm integration (DTK 2)	-.17	.16	.18	.03	.60**	.52**									
Tiredness and psychosomatic problems (DTK 3)	.12	.11	.04	-.05	.44**	.47**	.42**								
Peer acceptance (S A/C 1)	-.08	-.13	.05	-.21	-.42**	-.21*	-.25*	-.18							
Sports competence (S A/C 2)	.11	-.14	.11	-.15	-.31**	-.16	-.12	-.08	.47**						
Maternal acceptance (S A/C 3)	.08	.05	-.01	.09	-.35**	-.08	-.13	-.03	.27**	.24**					
Teacher ratings (CDRSC)															
Social inhibition (CDRSC 1)	.14	.15	-.02	.23*	.12	.28**	-.01	.05	-.16	-.31**	-.08				
Intellectual inhibition (CDRSC 2)	.10	.09	-.05	.12	.01	.08	.06	-.07	-.27*	-.28**	-.03	.51**			
Anger inhibition (CDRSC 3)	.05	.13	-.03	-.02	-.25*	-.07	-.25*	.10	.11	-.02	-.07	.17	-.25*		
Anxiety (CDRSC 4)	-.06	.17	.03	.16	.21*	.46**	.20	.11	-.12	-.13	.02	.41**	.32**	-.16	

**: p< .01 *: p< .05

Table 6:
Percentage of children and parents of the pre-schooler's sample endorsing each symptom as present and Kappa statistics of the individual item for interrater reliability between children and parents estimations

Item	Characteristic of the depicted child with the symptom	% C	% P	Kappa
1°	Sad and is crying most of the time.	11	8	.16
2+ *	Cannot take it when his mother says that he can‘t have something.	28	48	-.18
3	Thinks that his parents do not love him.	4	8	-.06
4°	Thinks that he is not good looking.	6	4	-.05
5	Thinks that he cannot play as well as his friends.	9	16	-.03
6	Does not want to leave his father and play outside. He thinks that his father will go away.	3	10	.12
7	Does not feel good about the things that he does, and he does not want to show his mother.	2	7	-.03
8°	Is playing with his toy and not having fun.	6	4	-.05
9	Is mad when he plays with someone else.	4	10	-.07
10°	Is tired and he does not want to play.	16	8	.10
11°	Cannot fall asleep and does not sleep well at night.	24	18	.07
12	Does not like to play with his friends.	3	12	-.06
13+ *	Does not feel like eating and it does not feel good for him to eat.	16	29	.06
14	Feels sick and he doesn‘t want go out to play.	3	4	-.04
15	Does not want to pet the little dog. He thinks that the dog will hurt him.	23	30	.15
16	Is feeling bad about himself and he is sad.	2	7	-.03
17+**	Can get very mad and stay mad for a long time.	12	33	-.16
18°	Would rather play by himself than play with friends.	11	6	.21*
19	Thinks that it is bad if his parents leave him for a short time. He does not know if he will see them again.	10	12	.10
20°	Other boys and girls do not like this boy.	10	3	.12
21	Likes to tease and make fun of other children evenif it makes them feel bad.	7	14	.13
22+**	Is afraid to go to bed by himself. He thinks something will happen to him.	12	32	.09
23	Feels that he does not have enough energy to keep up with his friends.	3	9	.14
24	Cannot listen to his mother read a story to him from the beginning to the end.	4	12	-.07
25+**	Will not pick up blocks when his father asks him to.	9	31	-.03

% C: Percentage of pre-school children endorsing each symptom as present
% P: Percentage of parents endorsing each symptom as present
°: Symptom endorsed more often by pre-schoolers (not significant)
+: Symptom endorsed more often by parents (if significant; **: p< .01, *: p< .05)

Table 7:
Factor analysis of child ratings (TONI and DTK) and teacher ratings (CDRSC) for the young school children's sample (Main component analysis with non orthogonal – oblimin – rotated factor loadings – loadings less than .35 were discarded)

	Factor 1	Factor 2	Factor 3
Child ratings			
Separation anxiety disorder (TONI: SAD)	.80		
Oppositional defiant disorder (TONI: ODD)			-.81
Overanxious disorder (TONI: OAD)	.85		
Simple phobia (TONI: SPh)	.58		
Conduct disorders (TONI: CD)			-.73
Major depressive disorder (TONI: MDD)	.78		-.56
Attention-deficit hyperactivity disorder (TONI: ADHD)	.61		-.74
Depressed mood and low self-esteem (DTK 1)	.71		-.52
Agitation and problems of norm integration (DTK 2)	.36		-.77
Tiredness and psychosomat. problems (DTK 3)	.62		
Teacher ratings (CDRSC)			
Social inhibition (CDRSC 1)		.73	
Intellectual inhibition (CDRSC 2)		.81	
Anger inhibition (CDRSC 3)		-.69	
Anxiety (CDRSC 4)		.72	
Eigenvalue	4.59	2.27	1.76
Explained variance in percent	32.75	16.23	12.60

Table 8:
Factor analysis of child ratings (PRESS and S A/C), parent ratings (PRESS, DTK and S A/C) and teacher ratings (CDRSC) for the pre-schooler‘s sample (Main component analysis with non orthogonal – oblimin – rotated factor loadings – loadings less than .35 were discarded)

	Factor 1	Factor 2	Factor 3
Child ratings			
PRESS			-.59
Peer acceptance (S A/C 1)			.70
Sports competence (S A/C 2)			.70
Maternal acceptance (S A/C 3)			.63
Parent ratings			
PRESS	.86		
Depressed mood and low self-esteem (DTK 1)	.67		
Agitation and problems of norm integration (DTK 2)	.80		
Tiredness and psychosomatic problems (DTK 3)	.71		
Peer acceptance (S A/C 1)	-.49	-.50	
Sports competence (S A/C 2)		-.58	
Maternal acceptance (S A/C 3)	-.42		
Teacher ratings (CDRSC)			
Social inhibition (CDRSC 1)		.80	
Intellectual inhibition (CDRSC 2)		.77	
Anger inhibition (CDRSC 3)			
Anxiety (CDRSC 4)		.64	
Eigenvalue	3.34	1.99	1.75
Explained variance in percent	22.30	13.26	11.70

Conclusion and final comments

The results of this research show that, although the children’s self-reports on different scales for mental health of children are highly interrelated as well as the reports of parents and teachers on different scales, there is nearly no connection between the ratings of children and those of adults. This informant variability is in accordance with previous research and is not altered by the use of pictorial self-report measures instead of traditional verbal self-report instruments.

Additionally, the detailed comparison of the responses of the pre-school children and their parents to the individual items of the PRESS demonstrates that children report internalizing symptoms more frequently than parents, and parents rather report aspects of externalizing behaviour. This is also in accordance with previous research.

Therefore, for diagnostic purposes, reports of children, parents and teachers can be seen as partly supplementary. Each group of informants (children, parents and teachers) has access to different, only partly overlapping information about mental health aspects of children and can therefore contribute in different ways to the diagnostic evidence of a test.

While children have deeper access to internalizing symptoms like fearfulness, fatigue, poor self-image, sadness, reports of parents and teachers reveal situation-specific manifestations of externalizing behaviour of children (weepiness, hypersensitivity, lack of obedience etc.). Teachers – in contrast to parents – have the advantage of comparing the behaviour of a child to that of his peers in many achievement related and social situations, independent from the family dynamics.

In which manner the reports of different informants can be combined to form an integral picture of the mental health of a child is a wide open question. The research on integrating data gained from different informants by complex algorithms is still at the beginning (see Bird, Gould & Staghezza, 1992; Offord, Boyle, Racine, Szatmari, Fleming, Sanford & Lipman, 1996; Piacentini, Cohen & Cohen, 1992; Rossmann & Pichler-Janisch, 1998). Especially when deciding on therapeutic interventions concerning different spheres of the child's life, i. e. within family therapy or preventive programs in schools, the weight given to answers gained from different informants is of the utmost importance.

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