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**Measuring attachment representation in four-year-olds using the Manchester Child Attachment Story Task**


Graduate thesis, Profesjonsstudiet Psychology

October, 2012

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**Preface**

My interest in developmental psychology and attachment theory started early in my studies of psychology. Working at one of the world's greatest longitudinal studies in children's mental health and in finding early risk factors for later on psychopathology has been a huge inspiration. The study "Tidlig Trygg i Trondheim" is still in its early phases and I very much look forward to follow this project and the results in the future. As a part of my engagement in the project I have been through months of training and later reliability test as a coder of MCAST. I have been coding on the research material for the children in TTiT. This direct insight to the instrument has been crucial for being able to write this article.

I send my greatest regards to førsteamanuensis, Øyvind Kvello, my supervisor, for recruiting me into the project, to dr.psychol. Turid Suzanne Berg-Nilsen, who gave me insight to the method of Manchester Child Attachment Story Task, for inspiration and guidance to the world of attachment. Many thanks to the project leader, Professor Lars Wichstrøm, for giving me some interest and insight into research methods. And at last the greatest thanks to my husband, for supporting my decision to become a psychologist, and for emotional support (and regulation) when needed. To my children Ingebrigt, Julie, Tobias and Karl Ingemar for helping me to put other things but work to my daily schedule, which no doubt makes me better at everything. To my friend Line for accepting me being an on and off friend for years, and to my little sister Lise Mari for herinputs and daily phone calls, and my colleague Turid for sharing the same field of interest the past six years.

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October 2012

Abstract

The Manchester Attachment Story Task (MCAST) is an instrument developed to assess preschool and school-aged children's attachment representations. It has previously not been validated for children below 4.5 years. This study examined the discriminative validity of MCAST against a series of potential factors that may threaten the validity of the measured attachment in four-year-olds. Specifically variations in; children's; (1) age and (2) cognitive/ language ability, administrators (3) experience and (4) style, and coders (5) inter-rater reliability, and these factors in relation to MCAST attachment classifications, disorganization-scores and narrative coherence were investigated. A total of 872 children were assessed using MCAST as a measure of attachment. Peabody Vocabulary Test III-r (PPVT) was used to assess language/ cognitive competence, and Språk 4 to assess language competence. There were no age effects in attachment classifications for the whole interview or for some of the vignettes, in narrative coherence or disorganization scores. PPVT and Språk 4 showed a significant relationship to the variance in attachment categories. PPVT accounted for 2.3 % of the variance in d-scores and 1.3 % of the variance in coherence. It was found significant negative relationship in administrators experience and children's scores on disorganization. Coder's factor measured by inter-rater reliability was low. It is discussed whether the results from the study can be reliable considering low inter-rater-reliability. According to findings related to children and administrator factors, the results indicate that MCAST can be used in younger children than it is previously validated for. A more comprehensive validation study and some adjustments in the manual are recommended.

The Strange Situation procedure (Ainsworth, Blehar, Waters, & Wall, 1978) was developed to study infant's attachment strategies. Since this, several other methodologies have been developed for the same purpose but for older children. Attachment has been linked to mental health and psychopathology, behavioral and social adjustment (Futh, O`Connor, Mathias, Green, & Scott, 2008). Refinements and improvements of methods for assessing attachment is an ongoing work to give better insight and understanding to these phenomena and to provide guidance to interventions.

Attachment is in theory described as a biological bond or tie between a child and its caregiver developed from infancy. This bond is supposed to assure the childs need for food, and protection from dangers. Harry Harlow's studies (1959) of monkeys separated from their mothers after birth showed that not only a basic need as nutrition was important, but also care was important for development of a secure attachment.

On the basis of how the child is met early in life the child develops an internal working model of itself and others. Bowlby (1969) describes attachment-signal and approach behavior, such as crying, comfort and proximity seeking, and through this a gradually developing tie between child and caregiver. It is questioned whether existence of a critical age for development of internal working models, during second year of life, but also agreements of gradually development from early infancy. The way the child is met, decides the quality of this bond. An assumption in attachment theory has linked maternal sensitivity to attachment security. Using Maternal Behavior Q-set Behrens, Parker and Haltigan (2011) has found empirical support for this assumption.

**Individual differences in attachment**

In attachment theory there is made a distinction between secure and insecure attachment strategy. Ainsworth's studies of the Strange Situation (Ainsworth et al., 1978) in how children react upon separation and reunion with their mothers, has led to the distinction of different attachment categories. Secure attachment will in this study be featured as secure/B. The secure child has internalized a representation of its caregiver as available and trustable, and will when distressed, seek back to its secure base for comforting and help. Typical attachment behavior will be comfort- and proximity seeking. After assuagement the child will show explorative behavior again. When separated from the caregiver the securely attached child will show discomfort, but seek to its mother/father in a positive way in the reunion phase. The insecure/avoidant (A) child has a non-interpersonal strategy. The avoidant child has a relationship experience of a non-available caregiver and sees no purpose in

seeking back to its base, which will be seen in the reunion after separation. In older children elaborate self-care often develops. The insecure/ambivalent (C) child is described in the Strange Situation as the child making more noise and having persistent crying when distressed. The ambivalent child differs in between seeking comfort, clinging, and when getting closeness rejects it, as a developed response to changing care conditions.

In the eighties, Main and Solomon (1986) presented their discovery of a new category of parent-infant attachment, which they called insecure/disorganized (D). When exploring the previously so-called unclassified children from the Strange Situation, they found a pattern of disorganization and non-coherence with an absence of clear strategy. There was often observed a contradictory behavior, such as strong proximity seeking and then strong avoidance, confusion and often stereotyped behavior as freezing (Main & Solomon, 1986). This classification was found both in high and low risk samples, where approximately 15 % of normative samples and higher in high-risk samples (Solomon & George, 2008). In a study by Van IJzendoorn and Kroonenberg (1990) it was also observed a high cross cultural consistency in the attachment coding in the Strange Situation.

The Attachment strategy is presumed to be relation-specific, meaning that the child may have different strategy in the mother-child dyad than in the father-child dyad. Never the less, their primary attachment strategy can be a guide to how the child interacts in other less close relationships, with friends, teachers and later life partners. The attachment system is not always activated, but will be under stress conditions.

**Stability over time**

Waters, Merric, Treboux, Crowell and Albersheim (2000) investigated what they describes as  one of the cornerstones in attachment studies; theories that attachment is stable over time, but open to revision as a result of negative life events. Sixty children were observed in the Strange Situation at the age of twelve months and later measured using Berkley Adult attachment interview (AAI) 20 years later. Their findings suggest that lifetime experiences play a role in adult attachment representation. Thirty-six percent changes classification from the first to the second measure. They also found that when mothers reported no stressful events, attachment stability was 72 %. The secure-insecure dichotomy stability was 78 % (Waters et al., 2000, p.686). Furthermore, in a study by Main, Kaplan and Cassidy (1985) a strong stability in secure attachment over a 5-year period was found ($r =$ .76). Crittenden (1992) has focused more on the dynamics of the quality of attachment due to maturation and development in time, and the way this may alter the relationship. Her results

in exploring the interaction between abused children and their mother showed a change in childrens' coping with stress and play with mothers. She indicated this to be adaptive, and a reduction of angry interchanges between mother and child.

**Attachment and cognition**

The relationship between attachment and cognition has been a field of interest in research, yet there are few empirical tests who fully out explain this association. Attachment theory suggests mediating mechanisms between attachment and cognitive abilities such as children's exploration, parental instructions, social relationship and behavior in test situations (O`Connor & McCartney, 2007). Lower level of exploration, poorer communication abilities, and lower high quality relations of explorations, poorer parental instructions, leads to less knowledge and poorer cognitive ability. A previous study has found that secure children has more advanced cognitive skills, including ability, intelligence, memory, reasoning, than insecure children (O`Connor & McCartney, 2007). Especially children from the group of insecure/ other attachment or the D category are associated with this. In the study by O'Connor and McCartney (2007), they did not find differences in cognitive skills between insecure/avoidant children. However they found differences between secure, insecure/ambivalent and insecure/other. They suggested that for the insecure/other children the attachment system is always activated, leading to impeded cognitive development. Similar findings were observed by Von der Lippe, Eilertsen, Hartman, Killén (2010), indicating that the readily activated attachment system in insecure children draws attention away from learning. The results from their study also showed that the mothers' internal working model has had an effect on the child's executive functions.

Other theories concerning cognition are the compensatory hypothesis and the lost resources hypothesis. These theories have also been tested empirically (Spieker, Nelson, Petras, Jolley & Barnard, 2003). Results from Spieker et al. (2003) indicated support for the compensatory hypothesis, but not the lost recourses hypothesis. Meaning that in insecure attached children from low-income families, the daycare was a more stimulating environment and could compensate for lack of stimuli in a way that mitigated adverse effects that insecure attachment has on cognitive abilities. The same study did not find any support for negative development in language development for secure-attached children when they spent time away from their caregiver.

**Measuring attachment**

It is now 34 years since Ainsworth first naturalistic observations of the bonds between

mother and child in Uganda, trying to prove Bowlby's theories empirically (Bowlby, 1969). It has been some disagreement in the field of psychology whether attachment at all is possible to measure and if it is meaningful to categorize this. There are many approaches to this and the debate is still active concerning whether attachment categories does exist or if dimensional thinking gives more meaning (Ravitz, Maunder, Hunter, Sthankia, & Lancee, 2009).

Attachment measuring instruments are widely used in research. Not all attachment instruments are used in clinical settings. In a study by Futh et al. (2008) it is discussed whether attachment narratives and behavioral symptoms that are strongly evidence-based measures, have advantages also in clinical work. Most instruments require training, both administration, but also in interpretation and coding. Even though moderate training is needed, they can be time consuming nevertheless, and give important information about the child-parent relationship and give rich descriptive information (Futh et al., 2008).

Concerning the clinical use and attachment disorders, Minnis et al. (2009) explores the association between reactive attachment disorder, as defined in the DSM-IV criteria, and its relation to attachment categories. A substantial group had secure attachment, and it was concluded that attachment disorders is not the same as insecure attachment. Attachment is considered more specific whilst reactive attachment disorder is a more general disruption of general function (Minnis et al. 2009). However, robust findings indicate relation between attachment disorganization and behavior problems and classroom behaviors rated by teachers (Goldwyn, Stanley, Smith, & Green, 2000). A meta-analysis has also reported a strong link between insecure attachment and disorganization as rated in attachment instruments and externalizing problems (Fearon, Bakermans-Kranenburg, Van IJzendoorn, Lapsley and Roisman, 2010). Internalizing problems are not linked to disorganization and resistance but to avoidance (Groh, Roisman, Van IJsendoorn, Bakermans-Kranenburg, Fearon, 2012). In a meta-analysis by Bakerman-Kranenburg et al. (2005), they explored usefulness of interventions based on children with disorganized attachment. They found that disorganization could be prevented or changed and that sensitivity focus was one of the core components in interventions with success. In this work, instruments may serve as useful in describing or understanding difficulties in the parent-child dyad.

Ainsworth's Strange Situation observational method (Ainsworth et al. 1978) is developed for infants between 12-20 months of age. The classification is based on the child's reaction and behavior during separation and reunion with its mother. Other methods has also developed for the purpose of measuring attachment in older children, both modified versions

of the Strange Situation but also other methods such as picture response procedures. The Separation Anxiety Test (SAT) developed by Hansburg (1972) and Kaplan's (1987) classification system (as cited in Solomon and George, 2008) are both examples of instrument with base in children's responses to pictures. Kaplan (1987) measures attachment representation on the basis of children's emotional openness and ability to envision constructive solutions to feelings engendered by separation (Solomon & George, 2008, p. 399).

Earlier studies of attachment were based on children non-verbal behavior. Symbolic representation and language is in focus when studying attachment in older children. Theories of children organizing experience, memory and internal representations in cognitive scripts can help overcome difficulties in observing the children's internal representations. Play and narratives is considered a mental instrument (Feldman, 2005). Models of assessing attachment through children's narratives is based on that narratives represent the child's inner world. It is focused on internal representations, representing the actual relationship experiences (Solomon & George, 2008). Warren, Emde and Sroufe (2000) studied play narratives and children's anxiety. They concluded that narratives give useful information of emotions and experiences, thus story stem methodology can be useful for exploring the child's inner world and attachment strategy.

Research results from Klitzing, Kelzay, Emde, Robinson and Schmitz (2000), indicated gender differences in play narratives with lower coherence for boys, and more aggression themes for boys than for girls. There was also a correlation between aggressive themes in play narratives and behavior problems reported in CBCL. Especially coherence and d-scores has been found developing in younger children, who are more susceptible for cognitive development, but has also been found to explain individual differences in attachment classifications. Coherence has been a central part in instruments including older children. A coherent narrative includes telling an attachment relevant story, with good quality, which is believable and has no missing parts. In MCAST, manner is included in coherence and defines whether the child engages with the administrator and the task in a proper way (Green, Stanley, Smith, and Goldwyn, 2000). Moreover, Waters, Rodrigues, and Ridgeway (1998) investigated children's scripts and reported higher script elaboration in older than younger children, and differences in script resolution as a response to stress. The children had longer and more elaborated narratives when they were older, and secure children also had a more rapid recovery after stress induction. D-scores are used to describe to what extent the child breaks down in his or her attachment strategy in critical points in the

interview, including sudden shifts and contradictory behavior (Green et al., 2000).

MCAST is an example of another approach which through children's doll play, assesses older children's attachment representation. Also other doll play procedures like the Attachment Story Completion Task (ASCT) (Bretherton, Ridgeeway, & Cummings, 1990) is developed to assess 4-year olds, and Cassidy's (1988) Incomplete Stories with doll Family (ADPA) to assess 6-year-olds. Many of these instruments are inspired by the Adult Attachment Interview.

The Adult attachment interview (AAI) was developed by George and colleagues (as cited in Main and Solomon, 1996) as a way of measuring adult attachment. There has been observed a strong relationship in parents attachment classification measured by AAI and attachment between child and the parent (Fonagy, Fearon, Steele, & Steele, 1998). The coding scheme in AAI focuses on predictive clues in the interview, such as narrative coherence in the secure adults and idealizations of caregiver in avoidant/dismissing adults (Ravitz et al., 2010, p. 420). The MCAST used in the present study is strongly built upon this system of measuring. Goldwyn et al. (2000) investigated MCAST relationship to AAI and reported significant findings of disorganization in MCAST and the Unresolved status in AAI.

The Manchester Child Attachment Story Completion Tasks (MCAST) is developed by Dr. Jonathan Green and colleagues at The Manchester University, UK. The present study explores attachment in four-year-olds, to investigate if MCAST can be an instrument for assessing young children's attachment representation. This instrument has not been previously validated for children younger than 4.5 years old. The present study is not a full validation of the instrument. This study examines the discriminative validity of MCAST against a series of potential factors that may threaten the validity, variations in children; (1) age and (2) language/cognitive ability, administrators (3) experience and (4) style. At last (5) coders inter-rater reliability will be examined as a potential factor threatening validity.

The a priori hypothesis in the present study is that since MCAST is a narrative test, younger children with lower cognitive ability, will exhibit/show lower coherence. They will also get higher disorganization scores and be rated as less secure in the MCAST than older children. It is hypothesized that some of the vignettes are more age sensitive than others. We already know that children from just turned four to almost five years is in a rapid developing period when it comes to regulation of emotions and language, but also in the ability of taking instructions and being able to engage in tasks. A central question is if MCAST and its manual, in the group of four-year-olds, to a large enough extent take into account children specific characteristics.

Administration factor is first specified in the administrators' experience, where it is hypothesized that experience has an impact on the child's attachment classification and d-scores. The other administrator factor that may threaten MCAST validity is administrators' style. A hypothesis is postulated that some of the administrators will exhibit the test in a way that make the young children more insecure and disorganized. This will lead to a higher d-score and hence more insecurity as we see it in the MCAST coding. However this potential impact is not specified in personality measures, warmth or ability to lead through the test. It is only measured whether relating to differences in the MCAST coding or not.

For coders it is hypothesized that it is harder to discriminate between the insecure categories in the narrative test than in older children. Because of children's young age and the nature of this being a narrative test also be expected somehow lower inter-rater reliability.

**Methods**

**Participants**

The sample in this paper is based on the sample from a large study "Tidlig Trygg i Trondheim" (TTiT). Of all children in Trondheim born in 2003 and 2004 who met at community well-child clinics, 2475 children had their parents consent to be screened for emotional and behavior problems using Goodmans' (1997) Strength and Difficulties Questionnaires- SDQ. 1250 children were randomly chosen to participate in different test after the parents of total 995 children completed a diagnostic interview. As can be seen from Table 1, most parents have college or university degrees, were married or cohabitating. Income is high for most families. Further descriptions of the sample (Wichstrøm, Berg-Nielsen, Angold, Egger, Solheim & Sveen, 2012) can be found in Table 1. At the time the data analysis for the present thesis was performed, data for 872 children were coded with the MCAST and constitutes the sample this paper is based on. Age range in the sample is from 48 months to 68 months. Mean age is 55 months.

Table 1. *Sample characteristics*

| Sample Characteristics | Characteristics category | % |
|---|---|:---:|
| Gender parents | Female | 84.8 |
| | Male | 15.2 |
| Ethnicity mother | Norwegian | 93 |
| | Western | 2.7 |
| | Other | 4.3 |
| Ethnicity father | Norwegian | 91 |
| | Western | 5.8 |
| | Other | 3.2 |
| Parents marital status | Married | 56.3 |
| | Divorced | 6.8 |
| | Other | 36.9 |
| Parents highest completed education | Not completed Junior High | 0 |
| | Completed 10$^{th}$ grade | 0.6 |
| | Completed 13$^{th}$ grade | 17.3 |
| | Some college education | 7.6 |
| | College 3-4 years | 33.6 |
| | Masters degree | 20.3 |
| | Other | 20.6 |
| Family income | 0-225 000 | 3.3 |
| | 222-525 000 | 18.4 |
| | 525-900 000 | 51.6 |
| | 900 000 + | 26.7 |

**Setting**

In addition to the clinical interviews, the children and their parents were invited to the research clinic at The Norwegian University of Science and Technology (NTNU), Department of Psychology, Trondheim, to participate in testing and observation. One of the

cognitive measures, Språk 4, was conducted in the local community well-child clinic. All other instruments used in this paper in conducted in the research clinic, including The Peabody Picture Vocabulary test and The Manchester Child Attachment Story Task.

**Instruments**

      **The Manchester Child Attachment Story Task (MCAST)** is a story completion test developed by Jonathan Green and is validated to measure inner working model of attachment of children age 4.5 to 8 years old (Green et al. 2000). The instrument has a focus on the child and caregiver dyad and consists of five vignettes. The first vignette is a non-stress-vignette to measure the child's ability of symbolic play and if the child at all is able to use both dolls and engage in the test. In the four other vignettes the administrator induces stress to mobilize attachment behavior and thoughts in the child (Green et al. 2000). The stress-vignettes consist of a nightmare, hurt knee, tummy-ache, and a lost shopping vignette. This is a doll play procedure. The administrator starts telling the story, and hands over the dolls as the stress is induced, for the child to finish the story. This requires ability of symbolic play in the child. Attachment category is coded and is based on the child/ dolls attachment related behavior, the narrative coherence, disorganization, and the bizarreness if narrative content (Green et al., 2000). The categories B (secure), A (insecure/ avoidant), C (insecure/ ambivalent), D (insecure/ disorganized), is coded for each vignette and later predominant classification for the whole test. To illustrate the research question, it was made a choice to focus on total coherence, total disorganization score, category classification in total and for each vignette. It is important to note the distinction between the insecure/ D classification and the disorganization score (d-score). The d-score is a nine point scale of disorganization, but it also has implications for scoring of Insecure/D classification at a cut-off point. The coherence score used in the main analysis is a mean score for the four dimensions in coherence; quality, quantity, relevance and manner. The mean is based on all the vignettes together.

      *Administration of MCAST* was conducted by ten different trained administrators. The coding analysis is based on nine administrators. Some of the administrators were ruled out from the analysis, because the numbers of children they administrated the test to were too limited (<20). The analysis was conducted using SPSS, in addition to manual calculation using Janson and Olsons (2004) equation, developed to measure agreement among a total of observations.

*__MCAST coding.__* Five MCAST coders/raters were trained to code attachment representation and had a preliminary reliability test developed by Green and colleges based on videotapes of British children. Coders code attachment representation in TTiT by watching videotapes of the children. Coders were in this particular study two doctorate clinical psychologist and two students in the last year of studies in clinical psychology. Coders were blind to other child-data/results on other tests. 175 children were recoded by independent raters.

**Peabody Picture Vocabulary Test III N (PPVT).** PPVT is a test developed to assess children's receptive language ability (Dunn, 1959). It is commonly used in research and later revised. The administrator presents pictures for the children to point out a certain picture which the administrator gives a name. In this study we use the sum-score for the child in the analysis. When using PPVT, the term language/cognition will be used, since this instrument is found to correlate well with verbal comprehension scores on WISC-III. Correlation of 0.90 between PPVT and full scale IQ in Wechsler Abbreviated Scale (WASI) has been revealed (Castellino, Tooze, Flowers, Pearsons, 2011).

**Språk 4** [Language 4]. Språk 4 is a mapping instrument of language abilities/competence for the Norwegian language. It is conducted at the regular consultation of 4-year-olds at the local well-child clinic. The instrument is previously not widely used in research, nor is it developed a proper scoring system for this use. Reliability and validity data are therefore lacking. Preliminary and unpublished data using factor analysis (Principal components, oblique rotation using information from eigenvalues, factor loadings and interpretability) from TTiT suggested that the scores on Språk 4 tap into three dimension, numeracy (understanding of numbers), word structure/sentence structure (herby called structure), and denomination (naming, frequency of words the child identifies correctly) (Wichstrøm, personal communication, august 2012.). A sum score of these three dimensions has been made. Because scales differed in the number of items and scoring ranges, some of these individual items were z-transformed to avoid placing unduly weight on some items at the expense of other items. When Språk 4 is referred to in the results or in discussion, the term language will be used and not cognition as with PPVT.

**Data analysis**

Descriptive analyses were applied to investigate characteristics of the sample, to explore distribution of attachment categories, age range and gender differences in the

attachment classifications, coherence and d-scores. The data was multivariate normal distributed according to Shapiro-Wilk test of normality.

It was made a choice to use both the secure-insecure dichotomy in the analysis, and measuring of every subcategory as stated in the MCAST manual.

One-way ANOVA was applied to investigate age and PPVT/Språk 4 against attachment classifications. In the post hoc analyses, Bonferroni correction was used to account for multiple tests.

Språk 4 was conducted before the children came to the clinic for MCAST testing. Since results from Språk 4 are expected to correlate strongly with age, age was adjusted for by using partial correlations whenever Språk 4 was included in the analysis in order to avoid tapping into age-effects rather than receptive language effects. For PPVT and its relation to coherence and d-score both bivariate correlations and linear regression was used. The regression analysis was carried out to determine how much of the variance in PPVT could explain variance in d-scores and coherence, and how much of the variance that was explained by age. A stepwise selection procedure was conducted in these regressions, where non-significant predictors were removed before the next step. The initial models included age and PPVT as predictors, and d-score and coherence as independent variables. In the final models, age was excluded as a predictor as it was non-significant.

A Chi-Square analysis was used to examine differences between administrators in attachment categories. A one way-ANOVA was run to investigate differences in children's d-scores distributed on administrators. Correlation analyses were used to investigate relation between administrator experience and d-scores. Multinomial regression was used to investigate potential significant learning curve with an impact on MCAST. Two-tailed test were used in all correlation analyses.

## Results

### Descriptives

Descriptive statistics were applied to investigate characteristics of the sample. Mean age in the sample was 55 months ($M = 55$, $SD = 2.93$) and age range was 48 to 68 months.

Mean coherence score in the MCAST was $M = 5.20$, $SD = 1.32$. The mean was greater for girls ($M = 5.65$, $SD = 1.19$) than for boys ($M = 4.69$, $SD = 1.28$. However this was not significant t(700)=10.28, $p =.06$.

A t-test was conducted to check for gender difference in coherence in the different vignettes and the greatest difference was in the hurt knee vignette. Girls ($M =6.05$, $SD =1.54$)

had a significantly greater mean coherence score (t(691)=10.55, $p$ =.001) than boys ($M$ = 4.71, $SD$ = 1.80).

Analyses show no significant differences between boys and girls in PPVT. On average girls ($M$ = 3.2, $SD$ = 3.92) had a significantly higher score (t(482) = 3.12, p<.05) than boys ($M$=1.98, $SD$ = 4.63) on the Språk 4/Total and for all other parts in Språk 4 than for Språk 4/ numeracy.

**Distribution of attachment**

Distribution of attachment strategy in category classification of the whole interview is shown in Table 2. The Pearson's Chi- Square test was used to measure gender differences. The results show a significant difference in attachment style between boys and girls ( $x^2$ (3) 64.10, p<.001) and this was due to more girls than boys being scored secure ( $\chi^2$=53.63 (1), p<.001).

Table 2. *An overview of the distribution of attachment categories, and frequencies of boys and girls.*

| Category | Frequency Girls | Frequency Boys | Total | % |
|---|---|---|---|---|
| Insecure/A | 70 | 92 | 162 | 22.9 |
| Secure/B | 245 | 123 | 368 | 52.1 |
| Insecure/C | 25 | 22 | 47 | 6.7 |
| Insecure/D | 37 | 92 | 129 | 18.3 |

**Age**

A one-way ANOVA was used to examine if there were age differences between the different attachment categories. No significant results were found (Table 3.).

To investigate potential correlations between age and coherence, a bivariate correlation analysis was conducted and no significant correlation was found (Table 4). A one-way ANOVA was used to examine if any of the vignettes were more age-sensitive. There were no significant correlation between age and the vignettes in the MCAST.

A bivariate correlation was used to see if there is any correlation between d-score and age, however the correlation was not significant (Table 4).

**Cognition/ Language**

**Peabody vocabulary Test III-r**

A bivariate correlation was conducted to test for potential relations between age and score on PPVT. The result showed a significant positive correlation between age and score at the PPVT (bivariate correlation: $r$=.23, $p$<.001). There is a tendency that higher age indicates higher score on the test.

A one-way ANOVA was used for comparing differences between attachment categories in cognition/language using PPVT. The results (Table 3) show a significant difference in PPVT score on MCAST overall attachment classifications ( $F$ (3,724) = 5.29, $p$=.001). Bonferroni Post-hoc comparisons indicated that the secure/B category had higher scores than all the other classifications and significantly higher scores than insecure/A (*Mdiff* = -5.24, *SE* = 1.98, $p$ =.05) and insecure/ D (*Mdiff* =7.43, *SE*=2.14, $p$ =.003). Comparison between the other classifications (within the insecure group and between B and C) were not statistically significant (Table 3).

Table 3. The r*elationship between children variables and attachment categories*

| Children variables | Insecure/ A | | Secure/ B | | Insecure/ C | | Insecure/ D | | F | Posthoc |
|---|---|---|---|---|---|---|---|---|---|---|
| | M | SD | M | SD | M | SD | M | SD | | |
| Age in months | 54.58 | 2.78 | 54.99 | 3.05 | 54.74 | 2.82 | 54.79 | 2.68 | .778 | - |
| PPVT | 89.01 | 21.82 | 94.25 | 20.10 | 88.57 | 22.07 | 86.82 | 23.48 | 5.29*** | B>D |
| | | | | | | | | | | B>A |
| Språk 4/Total | 1.63 | 4.71 | 3.18 | 3.82 | 3.91 | 2.75 | 2.23 | 4.67 | 3.90** | B>A |

Note: ***p<.001, **p<.01, *p<.05

The results from the bivariate correlation analysis between PPVT and Coherence on MCAST (Table 4) showed a significant, but low correlation. Bivariate correlation between PPVT and d-score was significant, but low (table 4.)

Table 4. *Correlations between MCAST variables and children variables (Spearman r)*

| MCAST | Children Variables | | |
|---|---|---|---|
| | Age | PPVT | Språk 4 |
| Coherence | .026 | .111** | .102* |
| D-score | -.057 | -.148*** | -.089 |

Note: ***$p<.001$, **$p<.01$, *$p<.05$: (two-tailed)

Two regression analysis was conducted to examine how much of the results in the relation between PPVT and d-scores and PPVT and coherence, can be explained by age. Results indicate that PPVT accounts for 2.3 % of the variance in d-scores, *R* square=.023, *F* (1,722) =17.28, *p*<.001. The PPVT as a predictor of coherence was somewhat weaker, accounting for 1.3% of the variance, *R* square=.013, *F* (1,722) = 9.32, *p*<001, table 5).

Table 5. *PPVT as predictor for disorganization score and coherence in MCAST. 95% confidence interval.*

| | β | Se | 95 CI | |
|---|---|---|---|---|
| | | | Lower | Upper |
| Disorganization | -.153 | 1.73 | -.018 | -.007 |
| Coherence | .113 | 1.31 | .002 | .011 |

Note: IV= independent variable, DV= dependent variable

**Språk 4**

In average, girls (*M* = 3.2, *SE*=) had significantly higher score (*t* (.122) =*p*<.05) than boys (M=1.98) on Språk4/Total test, and for all parts but the language/ numeracy.

The relation between secure attachment versus insecure attachment (including both insecure/A, insecure/C, Insecure D) was tested using a one-way Anova. The results showed that the secure attachment category had significantly higher language score on Språk 4/Total than the insecure group, (*F* (1,390) = 5.725, *p* = .017). When Språk4/naming and Språk4/structure was analyzed, no significant relationship was found. When dividing the insecure category in insecure/A, insecure/C, insecure/ D, it was a significant difference between language scores using Språk 4, *F* (3,388) = 3.90, *p* =.009. Bonferroni Post-hoc

comparisons shows that greatest difference was between secure/B and insecure/A (*Mdiff* =-1.55, *SE* =.52, *p* =.021). Comparisons between the other classifications were non-significant.

Correlations between Språk 4/Total and d-scores in the MCAST showed non-significant results for none of the three parts of the test, nor when correcting for age and not (Table 4). Results in a partial correlation analysis between Språk 4/ Total and coherence on MCAST when corrected for age, showed a low, but significant correlation, *r* =.102, *p* =.046. For Språk 4/denomination, Språk 4/ structure, Språk 4/numeracy and coherence there was no significant correlations.

**Administrator factors**

A Chi-Square was used to check if attachment categories were overrepresented for some of the administrators. Tests were run to look at both total attachment categories and the vignettes, however no significant results were found. One-way ANOVA test also showed that no administrator had higher mean d-scores for the children. Results of the correlation analyses show a significant negative correlation between testers experience and d-score, *r* = -.109, *p* = .007. No significant results of in multinominal logistic regression nor linear or quadratic.

**Inter-rater reliability/ reliability measures**

Reliability of coding was examined by both internal consistency and inter-rater agreement (Table 6).

Cronbach's *α* was used to examine the internal consistency of four MCAST-coherence scores; quality, quantity, relevance, manner -within each vignette and across vignettes for each dimension. When analyzing dichotome variables (secure versus insecure) theta was used. Internal consistency was found to be high, indicating that raters to a high extend agreed with themselves. As seen in Table 1, internal consistency was very good to excellent.

To measure inter-rater reliability 86 children (10 percent) were re-coded. In total 176 scores. Inter-rater reliability for overall predominant classification was measured using intra-class correlation (ICC) and Kappa (Janson and Olsson, 2004).

Table 1. *Reliabiliy in MCAST dimensions, showing Alpha, Theta, Kappa and ICC (N= 872 reliabilty, N= 176, Inter-rater reliability).*

| MCAST dimensions | Internal-consistency/Alpha | Interrater-reliability/ Theta | Interrater-reliability/Kappa | Intraclass-correlation/ ICC |
|---|---|---|---|---|
| Nightmare/ Coherence | 0.98 | | | |
| Hurt Knee/ Coherence | 0.98 | | | |
| Illness/ Coherence | 0.98 | | | |
| Shopping/ Coherence | 0.98 | | | |
| Coherence/ Quality across four vignettes | 0.90 | | | 0.66 |
| Coherence/ Quantity across four vignettes | 0.89 | | | 0.65 |
| Coherence/ Relevance across four vignettes | 0.88 | | | 0.72 |
| Coherence/ Manner across four vignettes | 0.91 | | | 0.68 |
| Coherence/ Total | 0.98 | | | 0.68 |
| Total/ disorganization acsoss four vignettes | 0.85 | | | 0.62 |
| Predominant/ A sum across four vignettes | | 0.82 | | 0.67 |
| Predominant/ B sum across four vignettes | | 0.86 | | 0.76 |
| Predominant/ C sum across four vignettes | | 0.84 | | 0.35 |
| Predominant/ D sum across four vignettes | | 0.90 | | 0.75 |
| Overall classification/ A | | | 0.32 | |
| Overall classification/ B | | | 0.54 | |
| Overall classification/ C | | | 0.40 | |
| Overall classification/ D | | | 0.39 | |

**Discussion**

This is to our knowledge, the first study exploring use of MCAST in four-year olds in a large sample, with a younger population than the instrument is validated for. Previous research has revealed high reliability and validity of this instrument. The main goal of the present study was to explore if MCAST can be used as a measure of attachment of four-year-olds. Five threats were postulated to the usefulness of MCAST as measure of attachment in this age group; (1) that attachment classification, coherence and disorganizations would be confounded with age. (2) Children with lower language/cognitive competence would exhibit lower coherence, higher d-scores and because of this be rated as less secure than children with higher language scores. (3) Administrators experience and 4) style would affect MCAST codings, and 5) that inter-rater reliability was lower when coding attachment in this age group, and that it would be difficult for coders to distinguish between the insecure categories. The results can be an indication of MCASTS strengths as an attachment instrument also for four-year-olds.

The present study contradicts the hypothesis that younger children are rated with higher d-scores have lower coherence and are also more insecurely attached, as there was no significant relation between age and these factors. The results showed no effect of age in the MCAST. This result was consistent both in the overall classification of attachment category, but also in the coherence and in the disorganization score when measuring four-year-olds. Furthermore, the results showed that no vignette was more age sensitive than others. The analyses revealed that children rated with secure attachment in MCAST had significantly higher scores in PPVT and Språk 4, and a significant correlation between these instruments and attachment coherence and disorganization scores. The administrator's style did not affect attachment classification or disorganization scores for children, however experience had a significant negative correlation with children's d-scores. Inter-rater reliability in the present study is as was expected, lower than in previous validation studies of MCAST.

Contrary to Waters et al. (1998), who reported more script elaboration in older children, no significant age effects were found in the present study. A possible explanation for the non-significant age effect in coherence can be due to the strict coding manual. To be rated as secure, children have to show the ability to tell a coherent narrative when it comes to quality, quantity, relevance and manner. In MCAST coherence-score has to be higher than five, on a nine-point scale for secure coding. It is possible that coders are forcing coding into the cut-off point in coherence in order to be able to give the child a secure attachment

classification when all the other parts in coding are indicating a secure attachment. On the other hand, it is possible that age range in our population is too small to get significant results, as age range in the present study is from 48-68 months. In a study by Green et al. (2000), a small age effect was found, however the age range was between 5-7 years and the effect was wiped out for the youngest children. The age effect in Green et al. (2000) was particularly connected to d-score and coherence. Similarly, Waters et al. (1998) showed that the age effect was small and decreasing as a confounding variable on attachment classification in older children. The findings in the present study may indicate that age alone is not a factor preventing the use of MCAST as a measure of attachment representation in four-year-old children.

The distribution of attachment categories in this study is consistent with prior studies (Green et al., 2000), with slightly fewer children in the B and D category than in the comparing study using MCAST. Of the children in this non-clinical sample, 18.3% were rated with an insecure/D attachment. Bakermans- Kranenburg, Van IJzsendoorn and Juffer (2005) highlights in a meta-analysis the association between attachment disorganization and later social maladaptive behavior. It can be questioned whether the Insecure/D category in this study is too high, due to the low poverty rate in Norway, the child care systems for all children between 1 to 6 years of age, and the highly developed free welfare system. Furthermore, it can be speculated upon the 18 percent of the children show what Hesse and Main (2000) call a total collapse in behavioral and attentional strategies. Wichstrøm et al. (2012) reported prevalence of 7.1% (excluding encopresis) of psychiatric disorders in a study of preschoolers in Trondheim, Norway, using partly same sample as in the present study. This is lower prevalence than in similar studies in USA (Heirang et al. 2007). The dynamic maturational model of attachment does not use the term disorganization and states the ABCD model of attachment not necessary is a fit for childrens development. Instead, organization as a respond to fear, is a term used (Crittenden, Kozlawska & Landini, 2010). In this model it would be unlikely that 18 % of children in this sample have a fearful experience and would fulfill requirements of this coding.

Distribution of classifications in boys and girls reveals that girls are rated more secure than boys. Also in the cognitive tests, girls show slightly higher scores than boys, which is interesting when considering the hypothesis of the relation between attachment and cognitive ability. Do we rate them as secure in instruments based on narratives, since they emerge with better language, or is it their secure attachment which make them develop these abilities?

The present study gives some support to the hypothesis of the relation between

cognition/language and overall predominant attachment scores using PPVT and Språk 4. Analyzed categorically, children in the secure category scored better than insecure attached children, and when analyzed dimensionally children's degree of security was positively correlated with their language scores. Contrary to O'Connor and McCartney (2007), the greatest difference in the present study was between the secure/B, and insecure/A. O'Connor and McCartney (2007) reported less difference between these two attachment categories and greater difference between the B/C and the B/D, and suggested that children with C attachment style is preoccupied with attachment, with less resources for development of cognitive skills and perhaps less supportive parents in this development process. A meta-analyses conducted by Van IJzendoorn et al. (1995) supported association between language and attachment, but found no differences in intelligence. The findings in the present study are similar, showing that secure children score higher on measures of cognition/language. There could, however, have been expected greater difference between B/C and B/D categories. This illustrates the difficulty reported by the coders in differentiating the various subcategories within the insecure category, and which may also explain the low inter-rater reliability. On the other hand, differences in PPVT scores between children with A and C attachment strategies are minimal. Språk 4 is not widely used in research and has not been validated for research. It may only serve as an additional instrument to the Peabody Vocabulary test as only the Språk 4/Total showed significant correlation with the MCAST. Possibly this is due to a statistical artifact whereby the sum-score contained more variability than sub-scores, thus enhancing the possibility of detecting associations between other variables.

My results showed a significant correlation between cognition/language and coherence, but not between coherence and age. This is consistent with Waters et al. (1998) who found correlations between cognitive scripts and attachment representation. In this study, they also measured attachment representation in a time span of 1.5 year, and despite language advances for the children in this period, the correlation of the cognitive variables across age was significant (Waters et al., 1998). The predictive power of PPVT on MCAST measures was analyzed. This was not done for Språk 4 because of the uncertainty in the Språk 4 instrument. The regression analysis that served to explore predictive power for PPVT on MCAST coherence and d-score, revealed the strongest predictive power of 2.3 % on coherence. PPVT accounted for 1.3 % of the variance on the d-scores. This is not surprising considered previous findings and that the coherence construct has a cognitive component, requiring the child to tell a believable narrative with good quality and quantity. The d-score is a more behavior sensitive score, including contradictory behavior in the child, stilling or

freezing in a crucial point in the child's storytelling. The concern of Solomon and George (2008) is that language and cognitive ability requires a high level of abstraction ability in an attachment representation. Instruments based on narratives could be too difficult for small children and children with intellectual or language problems. On the other hand language/cognition explained only 2.3 % of the variance in attachment categories and cannot be seen as compromising use of MCAST for four-year-olds.

It is important to stress that the analyses do not reveal anything about the causal relation between cognition/language and attachment category. It is not possible to state that a high level of language skills make coders rate children as more securely attached, or that attachment strategy makes children more open to cognitive development or that results reflect only cognitive competence. Main et al. (1985) discussed these relationships and suggested that early measuring of nonverbal behavior and secure attachment was related to higher language competence and secure attachment expressed verbally through fluency in discourse six years later. They argue that these results do not only reflect on language competence, but also the children's attachment. O'Connor and McCartney (2007) suggested mediating mechanisms, such as parental instructions and engagement in test situations between cognition and attachment as referred to in the introduction of this article. The present study does not contain analysis of engagement with administrator, which could have shed light on engagement as a mediating mechanism. However, coherence score also includes manner, defined as children's ability of engagement in the task in an expected way, and engagement and social referencing with the administrator.

It has been questioned whether the administrators experience or style has an impact on the MCAST attachment measures and if administrators differ in use of prompting as a strategy in administration. The administrator's style does not seem to have an impact when it comes to overrepresentation of either of the category classifications for some of the administrators, or over-representations of high d-scores. The analyses showed no effect of experience on the attachment classifications, neither a linear effect nor a quadratic effect. This means that the properties of the possible learning curve has been checked, observing if the curve i.e. is sharpest in the beginning and then evens out. Coders' experience showed a negative correlation with children's d-scores, indicating that more experience is related to lower d score. The range of administrations goes from 20 to 224 administrations of MCAST. Two year cohorts of children have been investigated, and the administrators were employed at different times, and experience did not have a significant effect on coding. This range in experience can strengthen results. The results which are based on a large amount of

administrations may indicate that the training program for administrators is good enough. The purpose of the present study however, is not to evaluate the training. It is of great importance in psychometric that children are exposed to the same stimuli, support and promptings and stressed to the same limit when induced for the stress. It should be noted that this study has not investigated which administrators characteristics that could have a potential impact, but for the experience. If differences between administrators have been revealed in the analyses such investigations may have been suggested.

The last factor explored in this study is coders' impact on the measures. Reliability testing is in psychometric a core value. By this showing that the same phenomena, here attachment, is rated in the same way, regardless of coders. For the Strange Situation and also other validated psychometrics, reliability has been high. All coders in the present study have been through reliability tests prior to coding the research material. The reliability test is however based on videotaped material of older British children.

In the present study, it was postulated a lower inter-rater reliability and difficulties in differentiating between insecure categories. As hypothesized, the analysis showed lower inter-rater reliability than would be expected compared to other studies of MCAST. In this study kappa was .45 for the secure/B category, and lower for the insecure category. Our results are in contrast to Minnis et al. (2010) who reported high kappa of .93 for MCAST and kappa of .93 for CMCAST, which is a computerized version of the MCAST (Minnis et al., 2010). Moreover, Green et al. (2000) reported agreement on the A/B/C categories of 91 %. In statistics the ideally kappa value can be discussed. Cicchetti (1984) considered kappa of .40-.59 as fair, whereas .60-.74 as good, and above .75 as excellent. A central question that follows is if the results in this study, which all are based on MCAST measures, can be reliable when the raters/coders do not agree more upon the scores. However, according to Cichetti (1984) it can be considered as fairly reliable. When using continuous variables, in coherence and sum of attachment classifications across vignettes, results show higher inter-rater reliability. Intra-class correlation coefficient (ICC) varied from .35 to .76. This may indicate that results are more meaningful when not using strict attachment classifications, but a more dimensional thinking. Coders at least agree in overall classifications. In the subjective reports from coders in advance of this study, it was reported difficulties in rating symbolic play, coherence, d-scores and mentalization in the seemingly more immature children. It was hypothesized that this could complicate discriminating between insecure categories. One might wonder if in the younger children, it is harder to decide whether "I don't know" answers which mostly is associated with avoidance, also can be more frequent in this sample

of young children. The young children were also very concrete in answers. When asked how mother doll or child doll were doing, as a test for mentalization, there was a tendency to answer "blood inside her" or "bone inside her", and have less spontaneous assuagement. This is not however possible to make analysis of in this particular study, and hard to catch in the coding form developed. Also Solomon and George (2008) express a concern of not detected age-specific manifestations of defensive processes, and claim this to be particularly relevant when it comes to the avoidant group. Crittenden et al. (2010) also claim that children in response to maturation and experience, develop new strategies and that this applies to both A and C attachment classifications. This could complicate coding because of what might be detected is a less developed C or A strategy.

So what are the implications of this study? Due to the findings in the present study and low inter-rater reliability, especially in overall attachment classifications, some adaptations in the manual should be considered. To avoid coding difficulties and systematic forcing of coding above cut-off in coherence and mentalization, a possible review or adaptation in the manual should be considered. The existing requirement of no prompting in assuagement for secure attachment should also be considered. Future studies of these patterns of younger children when using narrative testing can help overcome measurement difficulties.

This study explores more deeply use of an attachment measure instrument, but does not give any answers to if it is at all meaningful to classify human relationship or if it is useful in daily clinical work. Main et al. (1985) discuss this in the sense that each relationship is individual and that a more dimensional approach may give more meaning. It can be argued that MCAST take this into account in its classification system, with its subcategories within each category. An example of a weak insecure/A category is less developed self care, and a suboptimal Secure/B category there is not extensive explorative play after assuagement. This study includes only the first and most prominent strategy. Counting secondary strategies across vignettes could have been done. Considered findings in the study, use of narrative tests in younger children in clinical settings can be more problematic. The administration does not seem to influence coding and threaten validity, but interpreting results may be more difficult in this age group. A great deal of training and experience will be required to be able to take into account age specific manifestations.

## Limitations

This study aimed to investigate use of MCAST, but has been limited by only making

analysis of a few, but important factors or codings. A full validation would require analysis of the whole instrument. It could be particularly interesting to investigate not only category classification, but also predominant strategy. Predominant strategy is based mostly on the first behavior of the child in the test. This strategy might be less language sensitive, since they do not include relations to coherence coding in the manual.

Using language as the only measure of cognition has its limitations even if PPVT is considered to measure verbal intelligence. In "Tidlig Trygg i Trondheim", Wechsler Abbreviated Scale of Intelligence (WASI) will be conducted when the children included in this study turn six years old, which can capture other cognition constructs. This will give even more robust results in addition to the results from this study.

The large sample size is one of the strengths in this study, however children with high SDQ scores are oversampled, which could have affected attachment classifications since child strengths and difficulties and attachment are correlated. Weights could have been applied to adjust in the stratified sampling. Statistical competence for this purpose is above what would be expected in a graduate thesis. On the other hand, it is possible that parent reporting on SDQ not necessarily reflect actual problems, but also reflects parents of secure children having more metalizing abilities and a more realistic view of the child.

Some of the correlations between factors are low, thus sample size and possible false positives has to be considered when interpreting results. As discussed, inter-rater reliability in the study was low and it was not possible to measure test-retest reliability.

**Conclusions**

This study's core aim was to explore if MCAST can be used as a measure of attachment in four year olds. The study has explored if variations in children, administrator and coders factors may threaten discriminative validity of the instrument in this age group. In summary, results from the study showed no significant association between age and MCAST measures of attachment classifications, disorganization scores and coherence in the narrative. Cognition/language skills were better for securely attached children than for insecure children. The study gives no answers to whether, children are rated as secure because of good cognitive skills or if they have good skills because of their attachment strategy. However, my findings are in agreement with other research in the same field. The only administrator factor with significant effect was a negative relationship between administrators experience and d scores. Inter-rater reliability was low for overall classifications which can be considered problematic. However, a more dimensional approach gives better results when analyzing

coders agreement. Further studies are needed to give a full validation of MCAST for four-year olds, and it is recommended to investigate possible adaptations in the manual.

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**Appendix A**

Manchester Child Attachment Story Task, Mcast, codingsceme

**NTNU**
Det skapende universitet

## MCAST – KODINGSSKJEMA

| *LES*<br>*DETTE*<br>*FØR DU*<br>*STARTER!* | Skjemaet skal leses maskinelt. Følg derfor disse reglene:<br>• *Bruk svart/blå kulepenn. Skriv tydelig, og ikke utenfor feltene.* **Kryss av slik:** ☒.<br>• *Feilkryssing kan annulleres ved å fylle* <u>*hele*</u> *feltet med farge. Kryss så i rett felt.*<br>• *Sett bare ett kryss på hvert spørsmål om ikke annet er oppgitt.* |
|---|---|

### BREAKFAST

1. Engagement ⇨  (1 2 3 4 5 6 7 8 9) ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

2. Symbolic play ⇨  (0 1 2 3) ☐ ☐ ☐ ☐

3b. Oppositional behaviour/ tantrums ⇨  (0 1 2) ☐ ☐ ☐

3a. Overactivity/agitation ⇨  (-1 0 1 2) ☐ ☐ ☐ ☐

3c. Anxiety/inhibition ⇨  (0 1 2) ☐ ☐ ☐

Comments

|  | Ikke i tvil 1 | Litt i tvil 2 | Ganske tvilende 3 | Mye i tvil 4 | Sterkt tvilende 5 |
|---|---|---|---|---|---|
| 4. I hvilken grad er du i tvil om barnet ut ifra umodenhet eller utviklingsnivå forøvrig forsto instruksen?...... | ☐ | ☐ | ☐ | ☐ | ☐ |

### UROLIGHET, IMPULSIVITET OG UOPPMERKSOMHET - FROKOSTSEKVENS

KODING: Alle items kodes på <u>en skala fra 0 til 100</u> hvor 0 er lavest skåre dvs. fullstendig underaktivering, hyperkonsentrering eller hemmet atferd. 50 er midtpunktet mellom underaktivering/hyperkonsentrering/hemmet og urolighet/overaktivering og impulsivitet. 100 er maksimalt tenkelig urolighet, uoppmerksomhet eller impulsivitet. Skåres ut fra kontekst og barnets utviklingsnivå. Skårene er antatt normalfordelt i befolkningen, dvs. de fleste barn vil skåre mellom 25 og 75.

**KROPPSLIG URO**

1. Unødvendige bevegelser med enkelte kroppsdeler når barnet ellers er i ro (f.eks. vrir seg i stolen, vipper med føttene) ⇨  ☐

2. Vansker med å sitte stille når det er påkrevd (forlater stolen/plassen når det ikke er naturlig i forhold til konteksten) ⇨  ☐

3. Snakker over-drevent mye ⇨  ☐

4. Leker/samhandler på en urolig måte ⇨  ☐

**UOPPMERKSOMHET**

5. Vansker med å følge instruksjoner (som ikke skyldes manglende vilje) og som fører til manglende utførelse ⇨  ☐

6. Vansker med å organisere samhandlingen eller leken (usikker på hvordan å begynne leken/samhandlingen, hopper fra tema til tema uten å vende tilbake til utgangspunktet) ⇨  ☐

7. Unøyaktig i samhandling eller i lek (svarer omtrentlig, er unøyaktig i lek som krever nøyaktighet – bygging, tegning etc.) ⇨  ☐

8. Vansker med å konsentrere seg om oppgaven(e) ⇨  ☐

9. Distrahert av uvedkommende stimuli (telefoner, stemmer på gangen) ⇨  ☐

**IMPULSIVITET**

10. Vansker med å vente på tur i leik eller intervju ⇨  ☐

11. Plumper ut med svar på spørsmål før det er ferdig stilt ⇨  ☐

12. Avbryter eller forstyrrer den voksne (forelder eller tester) ⇨  ☐

ANNET

13. Barnets emosjonalitet: 100 = kraftige emosjoner (gråter, raser, uhyre forventningsfull), 0 = fullstendig avflatet ⇨  ☐ | |

14. Manglende kontroll av emosjoner (100 = ingen kontroll, 0 = hemmet/overkontrollert) ⇨  ☐ | |

**INITIATION PHASE NIGHTMARE**

|  | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Engagement ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. | Quality of arousal ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

**VIGNETTE PHASE NIGHTMARE**

|  | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Proximity seeking, child to mother ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. | Proximity seeking, mother to child ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. | Child selfcare, self-soothing behaviour ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. | Child reversal patterns or enmeshment ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. | Child angry, resistance/motivational conflict ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

|  | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6. | Caregiver responsiveness and sensitivity ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7. | Caregiver warmth ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 8. | Caregiver intrusiveness/Control ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 9. | Assuagement, child report ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 10. | Assuagement, observer report ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

|  | | 0 | 1 | 2 |
|---|---|---|---|---|
| 11. | Exploratory play ⇨ | ☐ | ☐ | ☐ |

|  | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 12. | Bizarre play content ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

|  | | B1.1 | B1.2 | B1.3 | B1.4 | A2.1 | A2.2 | C3.1 | C3.2 | D4.1d | D4.1t | D4.2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13. | Predominant strategy ⇨ | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 | ☐ 6 | ☐ 7 | ☐ 8 | ☐ 9 | ☐ 10 | ☐ 11 |
| 14. | Secondary strategy ⇨ | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 | ☐ 6 | ☐ 7 | ☐ 8 | ☐ 9 | ☐ 10 | ☐ 11 |

|  | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 15. | Coherence: Quality/internal consistency ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 16. | Coherence: Quantity ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 17. | Coherence: Relevance ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 18. | Coherence: Manner (clarity and orderliness) ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

|  | | 0 | 1 | 2 | 3 |
|---|---|---|---|---|---|
| 19. | Coherence: Mentalising child of self ⇨ | ☐ | ☐ | ☐ | ☐ |
| 20. | Coherence: Mentalising child of mother ⇨ | ☐ | ☐ | ☐ | ☐ |

|  | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 21. | Episodic disorganisation ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 22. | Pervasive disorganisation ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 23. | Bizarre themes without resolution ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 24. | Total disorganisation score ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

|  | | A | B | C | D |
|---|---|---|---|---|---|
| 25. | Predominant classification ⇨ | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 |
| 26. | Classification #2 ⇨ | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 |
| 27. | Classification #3 ⇨ | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 |

**INITIATION PHASE**
**HURT KNEE**

|  | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Engagement ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. | Quality of arousal ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

**VIGNETTE PHASE**
**HURT KNEE**

|  | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Proximity seeking, child to mother ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. | Proximity seeking, mother to child ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. | Child selfcare, self-soothing behaviour ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. | Child reversal patterns or enmeshment ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. | Child angry, resistance/motivational conflict ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

|  | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6. | Caregiver responsiveness and sensitivity ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7. | Caregiver warmth ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 8. | Caregiver intrusiveness/Control ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 9. | Assuagement, child report ⇨ | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 10. | Assuagement, observer report ⇨ | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

|  | | 0 | 1 | 2 |
|---|---|---|---|---|
| 11. | Exploratory play ⇨ | ☐ | ☐ | ☐ |

|  | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 12. | Bizarre play content ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

|  | | B1.1 | B1.2 | B1.3 | B1.4 | A2.1 | A2.2 | C3.1 | C3.2 | D4.1d | D4.1t | D4.2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13. | Predominant strategy ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
|  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

|  | | B1.1 | B1.2 | B1.3 | B1.4 | A2.1 | A2.2 | C3.1 | C3.2 | D4.1d | D4.1t | D4.2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14. | Secondary strategy ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
|  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

|  | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 15. | Coherence: Quality/internal consistency ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 16. | Coherence: Quantity ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 17. | Coherence: Relevance ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 18. | Coherence: Manner (clarity and orderliness) ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

|  | | 0 | 1 | 2 | 3 |
|---|---|---|---|---|---|
| 19. | Coherence: Mentalising child of self ⇨ | ☐ | ☐ | ☐ | ☐ |
| 20. | Coherence: Mentalising child of mother ⇨ | ☐ | ☐ | ☐ | ☐ |

|  | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 21. | Episodic disorganisation ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 22. | Pervasive disorganisation ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 23. | Bizarre themes without resolution ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 24. | Total disorganisation score ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

|  | | A | B | C | D |
|---|---|---|---|---|---|
| 25. | Predominant classification ⇨ | ☐ | ☐ | ☐ | ☐ |
|  |  | 1 | 2 | 3 | 4 |
| 26. | Classification #2 ⇨ | ☐ | ☐ | ☐ | ☐ |
|  |  | 1 | 2 | 3 | 4 |
| 27. | Classification #3 ⇨ | ☐ | ☐ | ☐ | ☐ |
|  |  | 1 | 2 | 3 | 4 |

**INITIATION PHASE ILLNESS**

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Engagement ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. | Quality of arousal ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

**VIGNETTE PHASE ILLNESS**

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Proximity seeking, child to mother ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. | Proximity seeking, mother to child ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. | Child selfcare, self-soothing behaviour ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. | Child reversal patterns or enmeshment ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. | Child angry, resistance/motivational conflict ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6. | Caregiver responsiveness and sensitivity ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7. | Caregiver warmth ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 8. | Caregiver intrusiveness/Control ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 9. | Assuagement, child report ⇨ | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 10. | Assuagement, observer report ⇨ | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | 0 | 1 | 2 |
|---|---|---|---|---|
| 11. | Exploratory play ⇨ | ☐ | ☐ | ☐ |

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 12. | Bizarre play content ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | B1.1 | B1.2 | B1.3 | B1.4 | A2.1 | A2.2 | C3.1 | C3.2 | D4.1d | D4.1t | D4.2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13. | Predominant strategy ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 14. | Secondary strategy ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 15. | Coherence: Quality/internal consistency ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 16. | Coherence: Quantity ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 17. | Coherence: Relevance ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 18. | Coherence: Manner (clarity and orderliness) ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | 0 | 1 | 2 | 3 | | | | 0 | 1 | 2 | 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19. | Coherence: Mentalising child of self ⇨ | ☐ | ☐ | ☐ | ☐ | 20. | Coherence: Mentalising child of mother ⇨ | ☐ | ☐ | ☐ | ☐ |

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 21. | Episodic disorganisation ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 22. | Pervasive disorganisation ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 23. | Bizarre themes without resolution ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 24. | Total disorganisation score ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | A | B | C | D | | | A | B | C | D | | | A | B | C | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25. | Predominant classification ⇨ | ☐ | ☐ | ☐ | ☐ | 26. | Classification #2 ⇨ | ☐ | ☐ | ☐ | ☐ | 27. | Classification #3 ⇨ | ☐ | ☐ | ☐ | ☐ |
| | | 1 | 2 | 3 | 4 | | | 1 | 2 | 3 | 4 | | | 1 | 2 | 3 | 4 |

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**INITIATION PHASE SHOPPING**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| 1. Engagement ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. Quality of arousal ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

**VIGNETTE PHASE SHOPPING**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| 1. Proximity seeking, child to mother ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. Proximity seeking, mother to child ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. Child selfcare, self-soothing behaviour ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. Child reversal patterns or enmeshment ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. Child angry, resistance/motivational conflict ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 6. Caregiver responsiveness and sensitivity ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7. Caregiver warmth ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 8. Caregiver intrusiveness/Control ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 9. Assuagement, child report ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 10. Assuagement, observer report ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| | 0 | 1 | 2 |
|---|---|---|---|
| 11. Exploratory play ⇨ | ☐ | ☐ | ☐ |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| 12. Bizarre play content ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| | B1.1 | B1.2 | B1.3 | B1.4 | A2.1 | A2.2 | C3.1 | C3.2 | D4.1d | D4.1t | D4.2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 13. Predominant strategy ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

| | B1.1 | B1.2 | B1.3 | B1.4 | A2.1 | A2.2 | C3.1 | C3.2 | D4.1d | D4.1t | D4.2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 14. Secondary strategy ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| 15. Coherence: Quality/internal consistency ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 16. Coherence: Quantity ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 17. Coherence: Relevance ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 18. Coherence: Manner (clarity and orderliness) ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| | 0 | 1 | 2 | 3 | | | 0 | 1 | 2 | 3 |
|---|---|---|---|---|---|---|---|---|---|---|
| 19. Coherence: Mentalising child of self ⇨ | ☐ | ☐ | ☐ | ☐ | 20. Coherence: Mentalising child of mother ⇨ | ☐ | ☐ | ☐ | ☐ |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| 21. Episodic disorganisation ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 22. Pervasive disorganisation ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 23. Bizarre themes without resolution ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 24. Total disorganisation score ⇨ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| | A | B | C | D | | A | B | C | D | | A | B | C | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25. Predominant classification ⇨ | ☐ | ☐ | ☐ | ☐ | 26. Classification #2 ⇨ | ☐ | ☐ | ☐ | ☐ | 27. Classification #3 ⇨ | ☐ | ☐ | ☐ | ☐ |
| | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 |

## CATEGORY CLASSIFICATION OF THE WHOLE INTERVIEW

1. Overall pre-dominant classification⇨

   A ☐ 1   B ☐ 2   C ☐ 3   D ☐ 4

2. Overall classification #2⇨

   A ☐ 1   B ☐ 2   C ☐ 3   D ☐ 4

3. Overall classification #3⇨

   A ☐ 1   B ☐ 2   C ☐ 3   D ☐ 4

|  | Ikke i tvil 1 | Litt i tvil 2 | Ganske tvilende 3 | Mye i tvil 4 | Sterkt tvilende 5 |
|---|---|---|---|---|---|
| 4. I hvilken grad er du i tvil om skårene du har gitt er riktige og tvilen alene skyldes barnets umodenhet eller utviklingsnivå? | ☐ | ☐ | ☐ | ☐ | ☐ |

## UROLIGHET, IMPULSIVITET OG UOPPMERKSOMHET - NIGHTMARE-, HURT KNEE-, ILLNESS- OG SHOPPING-SEKVENSENE

KODING: Alle items kodes på <u>en skala fra 0 til 100</u> hvor 0 er lavest skåre dvs. fullstendig underaktivering, hyperkonsentrering eller hemmet atferd. 50 er midtpunktet mellom underaktivering/hyperkonsentrering/hemmet og urolighet/overaktivering og impulsivitet. 100 er maksimalt tenkelig urolighet, uoppmerksomhet eller impulsivitet. Skåres ut fra kontekst og barnets utviklingsnivå. Skårene er antatt normalfordelt i befolkningen, dvs. de fleste barn vil skåre mellom 25 og 75.

**KROPPSLIG URO**

1. Unødvendige bevegelser med enkelte kroppsdeler når barnet ellers er i ro (f.eks. vrir seg i stolen, vipper med føttene) ⇨

2. Vansker med å sitte stille når det er påkrevd (forlater stolen/plassen når det ikke er naturlig i forhold til konteksten) ⇨

3. Snakker over-drevent mye ⇨

4. Leker/samhandler på en urolig måte ⇨

**UOPPMERKSOMHET**

5. Vansker med å følge instruksjoner (som ikke skyldes manglende vilje) og som fører til manglende utførelse ⇨

6. Vansker med å organisere samhandlingen eller leken (usikker på hvordan å begynne leken/samhandlingen, hopper fra tema til tema uten å vende tilbake til utgangspunktet) ⇨

7. Unøyaktig i samhandling eller i lek (svarer omtrentlig, er unøyaktig i lek som krever nøyaktighet – bygging, tegning etc.) ⇨

8. Vansker med å konsentrere seg om oppgaven(e) ⇨

9. Distrahert av uvedkommende stimuli (telefoner, stemmer på gangen) ⇨

**IMPULSIVITET**

10. Vansker med å vente på tur i leik eller intervju ⇨

11. Plumper ut med svar på spørsmål før det er ferdig stilt ⇨

12. Avbryter eller forstyrrer den voksne (forelder eller tester) ⇨

**ANNET**

13. Barnets emosjonalitet: 100 = kraftige emosjoner (gråter, raser, uhyre forventningsfull), 0 = fullstendig avflatet ⇨

14. Manglende kontroll av emosjoner (100 = ingen kontroll, 0 = hemmet/overkontrollert) ⇨

Evt. kommentarer⇩

**Appendix B**

Språk 4

*Erna Horn og Astrid L. Dalin*

# SPRÅK 4

## Kartlegging ved 4-årskonsultasjon på helsestasjonen

Barnets navn: _____ Dato: _____

Barnets alder: _____ ☐ Gutt  ☐ Jente

Mors morsmål: _____

Fars morsmål: _____

Barnets hjemmespråk: _____

Er det brukt et annet språk enn norsk under kartleggingen? Hvis ja, hvilket? _____

Hvem tolket?  ☐ Foreldre  ☐ Offentlig tolk  ☐ Andre

Er barnet født i Norge?  ☐ Ja  ☐ Nei  Barnets alder da det kom til Norge: _____

Helsestasjon: _____

Helsesøster: _____

Går barnet i barnehage:  ☐ Ja  ☐ Nei  Hvis ja, i hvor lang tid: _____

Annet tilbud: _____
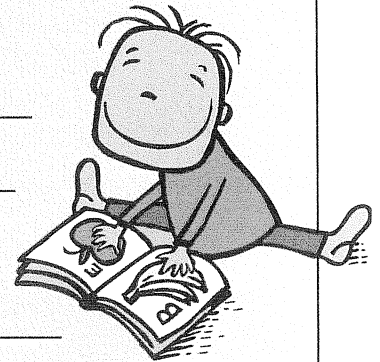
## BEHOV FOR OPPFØLGING

Behov for ny konsultasjon:  ☐ Ja  ☐ Nei  Tidspunkt: _____

Behov for oppfølging:  ☐ Ja  ☐ Nei

Ønsker foreldre oppfølging:  ☐ Ja  ☐ Nei

Hvis ja – hva slags oppfølging:

1. Henvisning til: _____

2. Ønsker barnehageplass:  ☐ Ja  ☐ Nei

3. Andre tiltak: _____

## OPPMERKSOMHET / SAMSPILL

Vurdering av barnets oppmerksomhet:  ☐ God  ☐ Mindre god

Vurdering av barnets samspill

• Med foreldre:  ☐ God  ☐ Mindre god

• Med helsesøster:  ☐ God  ☐ Mindre god

# INTRODUKSJON

Bli litt kjent med barnet gjennom samtale.

## 1. BARNETS KJENNSKAP TIL EGET NAVN

*Jeg vet du heter ... hva heter du for noe mer?* ☐

## 2. BARNETS KJENNSKAP TIL EGEN ALDER

*Hvor mange år er du?* ☐

# I STUEN

## 3. SETNINGSSTRUKTUR

*Kan du fortelle meg om dette bildet?* _____

_____

_____

## 4. ORDBENEVNING      ORDUTPEKING

*Hva er det?*      *Hvor er / kan du peke på ...?*      Barnets svar:

| | | | |
|---|---|---|---|
| ☐ | helikopter | ☐ | _____ |
| ☐ | blomster | ☐ | _____ |
| ☐ | tre | ☐ | _____ |
| ☐ | bok | ☐ | _____ |
| ☐ | lampe | ☐ | _____ |
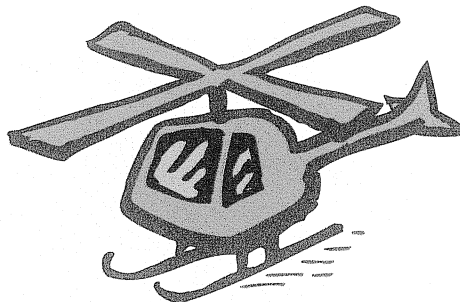
## 5. ADJEKTIV

| | Besvart | Utpeking | |
|---|---|---|---|
| *Her er tre bord som ikke er like store,* | | | |
| *hvor er det minste bordet?* | | ☐ | |
| *Det bordet er lite* | | | Barnets svar: |
| *Det bordet er? (større / stort)* | ☐ | ☐ | _____ |
| *Det bordet er aller? (størst)* | ☐ | ☐ | _____ |

## 6. ORDFORKLARING

| | Besvart | Med hjelp | Barnets svar: |
|---|---|---|---|
| *Kan du fortelle hva* | | | |
| • *en bok er?* | ☐ | ☐ | _____ |
| • *en TV er?* | ☐ | ☐ | _____ |
| • *en lampe er?* | ☐ | ☐ | _____ |

## PÅ BADET

### 7. HELHETSFORSTÅELSE / SETNINGSSTRUKTUR

*Kan du fortelle meg litt om dette bildet også? Hva gjør barna?* _____

_____

_____

### 8. ANTALL BARN
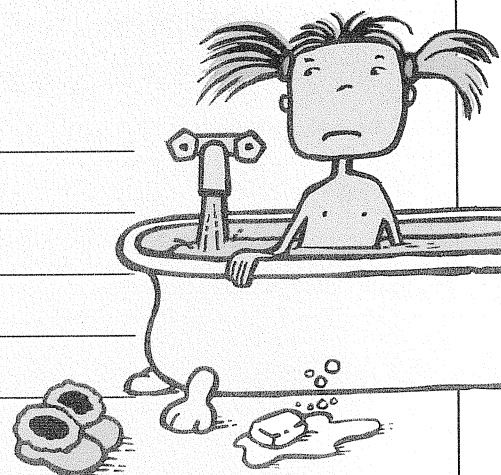
*Hvor mange barn er det?* _____

### 9. ORDBENEVNING    ORDUTPEKING

*Hva er det?*    *Hvor er / kan du peke på...?*    Barnets svar:

☐    speil    ☐    _____

☐    hår    ☐    _____

☐    bukse    ☐    _____

☐    såpe/svamp    ☐    _____

☐    tøfler/sko    ☐    _____

### 10. ÅRSAK / VIRKNING

*Hvorfor tyter / kommer tannkremen ut av tuben?* _____

*Ser du vannet som renner der? Tenk om hun glemmer å skru av vannet. Hva kommer til å skje?*

_____

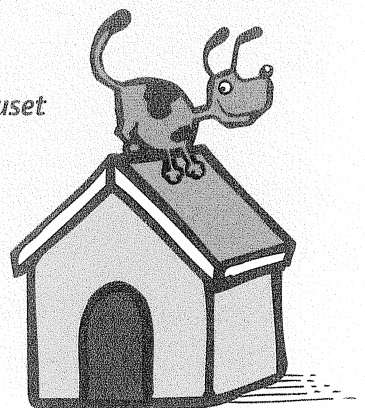### 11. FØLELSER

*Han er blid. Hva er hun?* _____

## HUND OG HUNDEHUS

### 12. PREPOSISJONER / ROMFORSTÅELSE

*Denne hunden sitter ikke stille. Den er over alt. Her er den oppå huset*

*Hvor er hunden her?*

| | Benevning | Utpeking |
|---|---|---|
| inni | ☐ | ☐ |
| bak | ☐ | ☐ |
| under | ☐ | ☐ |
| foran | ☐ | ☐ |
| ved siden av | ☐ | ☐ |

Hvis barnet gjør feil eller ikke svarer kan du for eksempel si: *Kan du peke på hunden som er foran huset?*

## 13. REKKETELLING

*Dette er et gjerde med mange stolper. Kan du telle hvor mange stolper det er?*

1  2  3  4  5  6  7  8  9  10  11  12  13  14  (Merk hvor langt barnet teller riktig.)

## 14. FARGER

*Hvilken farge er det på denne stolpen?*  ☐ Rød  ☐ Gul  ☐ Blå  ☐ Grønn

## 15. TALLBEGREP

*Hvor mange røde stolper er det?* _____

---

## 16. SETNINGSREPETISJON

*Nå kan du herme etter meg / si det samme som meg!* (Strek under ordene barnet sier.)

a. *Jeg så en katt*

b. *Katten tok en rotte*

c. *Den snille hunden leker med katten*

---

## KOPIERE KRYSS OG SIRKEL

Vis barnet sirkelen og si: *Kan du tegne en slik ball?* Motiver barnet.

Vis barnet krysset og si: *Kan du tegne et kryss også?* Motiver barnet.

## TEGNE

*Kan du tegne deg selv (eller et annet menneske)?*

## SKRIVE / TEGNE BOKSTAV

*Kan du skrive noen bokstaver du kjenner (f.eks. bokstaven i navnet ditt)?*

## TILLEGGSINFORMASJON

- Motorikk        Normal  ☐ Ja  ☐ Nei
- Hørsel          Normal  ☐ Ja  ☐ Nei
- Artikulasjon    Normal  ☐ Ja  ☐ Nei
- Syn             Normal  ☐ Ja  ☐ Nei

Kommentarer: _____

_____

_____