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A good read

ten Brug, Annet

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Chapter 5 Listen!

Staff interactive style during multi-sensory storytelling with persons with profound intellectual and multiple disabilities

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5.1 Introduction

People grow up with stories and storytelling. Stories can contribute in many ways to learning and development (Collins, 1999; Grove & Park, 1997; Isbell, Sobol, Lindauer, & Lowrance, 2004; Park, 2001; Park, 1998). For instance, stories are creations of a culture, and often contain values a culture wants to pass on to next generations. Stories can be stimulating for language and communication. They stimulate mental mapping, imagination and empathy by presenting other worlds. As Ware (Ware, 1994) states, we should enable persons with PIMD to participate in those experiences which are uniquely human, including storytelling. With the concept of 'inclusive literacy', Lacey (Lacey, 2006) also stresses that literature can be useful even for people who cannot read, write, or even talk and understand verbal language. Apprehension precedes comprehension (Grove, 1998); through the recital and performance of stories one can experience the meaning of it without a literal understanding. Stories can be told to persons with PIMD, but should be adapted to their possibilities. When adapting stories for people with PIMD, we might elicit affect and engagement. This creates a context in which early communication skills (e.g. anticipation, turn taking, joint attention) can be stimulated (Grove, 1998; Grove & Park, 1996). Making use of objects illustrating the story, also creates the opportunity for people with PIMD to learn to understand objects of reference in a non-functional and non-utilitarian way (Park, 1997; Park, 2001).

Multi-sensory storytelling (MSST) fits within this framework. It originated from Park's (Park, 1998) multisensory interactive drama games and Chris Fuller's Bag Books (Fuller, 1999). It was further

developed, amongst others by Grove (Grove, 2005; Grove, 2009) and by PAMIS (PAMIS, 2007), a third sector organisation based at the University of Dundee, Scotland. 'Multi-sensory' refers to the emphasis on sensory experiences of what is being told. To develop a storytelling activity that is tailored to the capacities and interests of a person with PIMD, PAMIS (PAMIS, 2007) formulated some guidelines. The MSST-developer should make a personalized story. It should reflect aspects of the individual's personality and his life, relate to something important for him, or tell about things he has experienced. This could make the story more recognizable for the person with PIMD and gain the best response from him (PAMIS, 2002). The story should be kept short, including maximum 15 sentences, because of a shorter attention span of people with PIMD. Language should be adapted as far as possible to the person's age and cognitive abilities. Telling the story regularly, in the same form and the same wording, might contribute to the recognisability for the person and stimulate the apprehension. Each paragraph in the story should be explained by an object of reference. The objects should draw the person's attention, invite him to exploration and support meaning making. They should be adapted to his possibilities and age, as well as to his interests.

Up to now, there is very limited research evaluating the process and effects of storytelling activities for persons with PIMD. PAMIS (PAMIS, 2002) and Young et al. (Young et al., 2011) have demonstrated that people with PIMD show more frequent and varied reactions in later storytelling sessions, compared to the initial reading sessions. This might point to an increase in enjoyment, recognition and engagement in the story. There are also indications (Young et al., 2011) that MSST may

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assist people with PIMD to understand and cope with a range of situations and experiences, even sensitive topics.

This study forms part of a wider project in which several aspects of MSST are described and evaluated. A first, descriptive study about the implementation of MSST (Ten Brug et al., 2012) showed that most support workers (84%) are capable of making a story according to the PAMIS-guidelines. Nevertheless, the stories are not always age-appropriate and there is a lack of variety of stimulated senses, certainly when there is undecisiveness about the person's sensory preferences and abilities. In this study we focussed on staff during MSST activities and more specifically on staff interactive style. The specific role of staff during the interactions in MSST has not been studied yet. A good description of staff's interactive behaviour is important, since it might influence the engagement and well-being of clients during the activity. Some earlier studies, for instance of Fava and Strauss (Fava & Strauss, 2010), Lancioni, Cuvo and O'Reilly (Lancioni, Cuvo, & O'Reilly, 2002) and Vlaskamp et al. (Vlaskamp et al., 2003), have demonstrated that sensory stimulation sessions in which preferred objects are used and staff pay extensively attention to the interaction with the person with PIMD, lead to the same or even better results (e.g. alertness, active behaviours towards stimuli) than comparable activities in specifically designed and expensive multi-sensory rooms where there is less focus on social interaction. A lot of observation studies about staff interactions with persons with PIMD start from micro-level coding (Clegg, Standen, & Cromby, 1991b; Healy & Walsh, 2007; Hostyn & Maes, 2009; Realon, Bligen, La Force, Helsel, & Goldman, 2002). This means that the staff's interactive behaviour has been defined in very small behavioural

categories, such as looking at the person, giving comments etc. In this study we chose a more global coding of interactive style, where a global score is assigned based on the observation of the total interaction time (Mesman, 2010). This makes it possible to draw conclusions about interactive style as a result of underlying processes over the whole interaction (Linell, 1998).

The main aim of this study was to describe staff interactive style during MSST, making use of a global coding method. Firstly, we will focus on the nature of staff interactive style. Since MSST is embedded in a 1-to-1-interaction, stimulates active engagement of the person and is adapted to the person's interests and capabilities we expect staff interactive style during MSST to be highly positive, expressive and affective. Secondly, it is expected that the staff interactive style will change in time. It can be assumed that staff will pay more attention to the interaction once they know the story better themselves and notice the increased response of clients during the activity. Finally, we wanted to explore the relationship of specific client and staff characteristics to the staff interactive style. Knowledge about the relation between client (cognitive abilities, visual abilities, motor abilities, communicative and interactive behaviours...) and staff characteristics (communicative and interactive strategies, perception and role, knowledge about the person with PIMD and the target group in general, education and training...) and interaction quality in general is still limited and inconclusive (Hostyn & Maes, 2009).

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5.2 Methods

5.2.1 Participants

Participants were people with PIMD, having a profound intellectual disability and a severe motor disability (Nakken & Vlaskamp, 2007), and professional caregivers. In Flanders a centre of expertise was set up for parents and professionals working with persons with PIMD. Staff members from 30 services and schools are associated with a professional expert group of this centre. They were all invited to participate in this research. They selected 20 dyads of a person with PIMD and a professional caregiver. The study was performed in accordance with the guidelines of the ethical committee of the author's university. For all participating clients with PIMD, the parents gave their written consent.

The participating clients with PIMD included 16 people in 10 services and 4 people in 2 schools. Both sexes were equally represented and the clients' mean chronological age was 20 (range = 4-43, $SD = 13.45$). For some participants, developmental age was not known to the researchers, but all had a profound intellectual disability. Most of them had motor problems as well: 75% wasn't mobile or had to make use of a suitable aid to be mobile. Many additional impairments were present: 57.9% had visual and/or hearing problems ($N = 19$), 31.6% had autism spectrum disorder ($N = 18$), 15% was tube-fed and 25% consumed liquid foods ($N = 19$), 70% had epilepsy ($N = 20$), one of the clients had a chronic disease ($N = 17$).

Professional caregivers were the story readers. Different caregivers were used for 18 participants with PIMD, with 2 participants interacting

with the same caregiver. The majority of caregivers were female (17 female, 2 male) and had a mean age of 33 (range = 23-47). The caregiver group consisted of direct support workers ($n = 8$), speech therapists ($n = 6$), teachers ($n = 2$) and music therapists ($n = 2$). There was a wide range in how much experience the caregivers had with people with PIMD as well as with the specific client in the MSST activity: 1 to 26 years of experience with the target group ($M = 8.03$, $SD = 6.79$) ($N = 18$), 3 months to 20 years of experience with the specific client with PIMD ($M = 3.71$, $SD = 4.81$) ($N = 19$).

5.2.2 Measures

Checklist of Child Characteristics

Information about client characteristics was gathered with the *Checklist of Child Characteristics* (CCC). This was filled in by the professional caregiver. The CCC (Tadema & Vlaskamp, 2004) is a Dutch questionnaire which provides information on the strengths and weaknesses of clients with a developmental perspective up to 24 months and additional disabilities, and the corresponding essential and preferred level of support required for increasing participation. Although the instrument was developed for children, the CCC can also be used with adults according to the authors. The instrument contains 4 parts: general information, functions, activities and participation, with a total of 118 items. In the categories of functions and participation one has to fill in whether the client shows the particular behaviour 'always', 'sometimes' or 'never'. In the category of activities the question is asked whether the client can carry out the activity 'independently', 'with support' or 'not at all, even if complete support is given'. The type of support the client

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needs is also charted in the category of activities: physical, verbal, from a suitable aid or a combination of these. The instrument contains 11 factors. The sum of scores on the items per factor leads to a total score for a factor. These raw total scores are converted to quartile scores, based on the raw scores of a large group of children with PIMD. The quartile scores are divided into the categories 'weak', 'moderate', 'fairly strong' and 'strong' and show whether the factor is a relative strength or weakness for the client. The psychometric qualities of this instrument are good (Tadema, Vlaskamp, & Ruijssenaars, 2005).

Maternal Behaviour Rating Scale

For the coding of staff's interactive style, the *Maternal Behaviour Rating Scale* (MBRS) (Mahoney, 1992) was used. The MBRS is a global rating scale consisting of 12 items. These items refer to maternal behaviours in parent-infant interaction, that have been reported in the child development literature as having significant impact on the development of young children (Mahoney, Powell, & Finger, 1986). No restrictions are made on the kind of interactions assessed. The instrument has been used in diverse samples of children and especially in groups of children with developmental disabilities. It has been used in interaction with parents, teachers or professional caregivers; during free play interactions but also in problem-solving task situations (Hostyn, Petry, Lambrechts, & Maes, 2011; Kim & Mahoney, 2004; Mahoney et al., 1986; Mahoney & Powell, 1988; Mahoney, Robinson, & Powell, 1992; Mahoney & Wheeden, 1999; Mahoney & Perales, 2003; Mahoney & Perales, 2005). Psychometric research (Hostyn et al., 2011) has also shown the applicability and usefulness of the MBRS to evaluate interactions between children and adults with PIMD and their direct

support staff on the basis of sufficient training and knowledge of the interaction with persons with PIMD.

By scoring videotaped interactions on a 5-point Likert-scale for the 12 items, four interactive style factors are described (Boyce et al., 1996). The first factor, *responsive/child oriented*, comprises sensitivity to child's interest, responsiveness and effectiveness (reciprocity). The factor *affect/animation* consists of acceptance, enjoyment, expressiveness, inventiveness and warmth. The factor *achievement orientation* contains the scales achievement and (verbal) praise and a fourth factor, *directive*, includes the scales directiveness and pace. A description of the 12 interactive style dimensions of the original MBRS can be found in table 1. In this research, not all interactive style factors and dimensions from the MBRS were coded. For the factor *affect/animation* the scale inventiveness was not scored. This scale was not meaningful in this research because the caregivers had to follow a strict scenario in the MSST-activity and were not expected to be inventive. The factors *achievement orientation* and *directive* and their corresponding scales were also not used. The factor *achievement orientation*, which is concerned with the amount of stimulation by the parent overtly oriented toward promoting the child's developmental progress and congruent (verbal) praise (Mahoney, 1992), was also not described. This kind of stimulation was not an explicitly stated goal of the MSST-activity. Because the MSST-activity was inherently directive since the caregiver had to follow the text and actions of the storytelling script, the factor *directive* was also excluded.

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Table 1

Description of the original 12 Mahoney Behaviour Rating Scale dimensions (Mahoney, 1992)

FACTOR A – RESPONSIVE/
CHILD ORIENTED

- | | |
|-------------------------------------|--|
| 1 - Sensitivity to child's interest | This item examines the extent to which the parent seems aware of and understands the child's activity or play interests. This item is assessed by the parent's engaging in the child's choice of activity, parent's verbal comments in reference to child's interest and parent's visual monitoring of child's behaviour or activity. Parents may be sensitive but not responsive - such as in situations where they describe the child's interests but do not follow or support them. |
| 2 - Responsivity | This item rates the appropriateness of the parent's responses to the child's behaviours such as facial expression, vocalizations, gestures, signs of discomfort, body language, demands, intentions. |
| 3 - Effectiveness (reciprocity) | This item refers to the parent's ability to engage the child in the play interaction. It determines the extent to which the parent is able to gain the child's attention, cooperation and participation in a <i>reciprocal</i> exchange characterized by balanced turntaking in play or conversation. |

FACTOR B – AFFECT/
ANIMATION

- | | |
|--------------------|--|
| 1 - Acceptance | This item assesses the extent to which the parent approves of the child and the child's behaviour. Acceptance is measured by the intensity of positive affect expressed toward the child and the frequency of approval expressed either verbally or nonverbally. |
| 2 - Enjoyment | This item assesses the parent's enjoyment of interacting with the child. Enjoyment is experienced and expressed in response to the child himself -- his spontaneous expressions or reactions, or his behaviour when interacting with his parent. There is enjoyment in child's being himself rather than the activity the child is pursuing. |
| 3 - Expressiveness | This item measures the tendency of the caregiver to express and react emotionally toward the child. It assesses the voice quality to express a range of emotions toward the child. Both intensity, animation and frequency are |

considered in these ratings.

4 – Inventiveness

This item assesses the range of stimulation parents provide their child; the number of different approaches and types of interactions and the ability to find different things to interest the child, different ways of using toys, combining the toys and inventing games with or without toys. Inventiveness is both directed toward and effective in maintaining the child's involvement in the situation. Inventiveness does not refer merely to a number of different, random behaviours, but rather to a variety of behaviours which are grouped together and directed towards the child.

5 - Warmth

This item rates the demonstration of warmth to a child which is positive attitude revealed to the child through pats, lap-holding, caresses, kisses, hugs, tone of voice, and verbal endearments. Both the overt behaviour of the parent and the quality of fondness conveyed are included in this rating. It examines positive affective expression; the frequency and quality of expression of positive feelings by the parent and the parent's show of affection.

FACTOR C - ACHIEVEMENT
ORIENTATION

1. - Achievement

This item is concerned with the parent's encouragement of sensorimotor and cognitive achievement.

2. - Praise (verbal)

This scale assesses how much verbal praise is given to the child.

FACTOR D - DIRECTIVE

1. - Directiveness

This item measures the frequency and intensity in which the parent requests, commands, hints or attempts in other manners to direct the child's immediate behaviour.

2. - Pace

This item examines the parent's rate of behaviour.

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5.2.3 Procedure

Training for caregivers

The researchers informed the caregivers about the background and principles of MSST as well as the research design in a half-day during workshop.

Development of the stories

At the end of this workshop and the weeks after the workshop, the caregivers developed a story for their client. The researchers gave feedback during this development process. Every multi-sensory story was tried out in a pilot session with the client and the caregiver, in the presence of a researcher. Based on this experience, the story was refined and finalized.

Implementation of the MSST-activity

The caregivers were asked to tell the story to their client during 10 weeks, once a week. This took place on a fixed moment and at a fixed, quiet room in the service or school. The duration of the session depended on the story as well as the time the caregiver took or needed to tell the story. The video-recorded sessions took 2:02 minutes to 23:41 minutes ($M = 7:56$ min, $SD = 5:34$ min) ($N = 59$).

Observational procedures

The first, fifth and tenth storytelling sessions were videotaped by the researchers. For one client, a first session could not be videotaped because the client wouldn't cooperate at that time.

Observer training and data coding procedures

Three people received an eight-hour training in using the MBRS. This was organized by another researcher (Hostyn, cf. Hostyn et al. 2011) who was already trained in using the instrument. The training first consisted of getting to know the MRBS: reading the accompanying manual, understanding the background of the instrument, the underlying concepts and the operationalization in factors and scales. The trainer also informed the raters about how the MBRS should be used in studying interactions with people with PIMD, based on previous research (Hostyn et al., 2011). Different videotapes from other research projects were viewed and adopted codes were discussed. Afterwards, the three raters and the trainer independently scored eight videotapes. The codes were compared and discussed until substantial interobserver agreement ($k > .61$) (Landis & Koch, 1977) was reached.

From the 59 videotapes, 2 could not be rated because the images were too dark. Each videotape was rated independently by two raters. They scored the selected items of the MBRS (7 items) on the 5-point Likert scale.

The total percentage of full agreement was 57.9%, within one scale point it was 95.7%. Per item, the percentage of full agreement ranged from 49.1% to 71.9% and the percentage of agreement within one scale point ranged from 84.2% to 100%. When raters had given a different score to an item, they recoded the item afterwards together to attain mutually agreed-upon ratings.

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5.3 Results

First, an overview is given of the staff interactive style as described by the 7 items retained from the MBRS. Next, we will report on the change of interactive style in time and the effect of the registered client and staff characteristics on the staff interactive style.

5.3.1 Description of staff interactive style

Mean global MBRS-ratings (table 2) were all above the midpoint of the 5-point scale. This means that on average, the caregivers were at least 'moderately sensitive', 'consistently responsive', 'moderately effective', 'acceptant', 'pervasively enjoying', 'moderately overtly expressive' and 'warm' during the MSST-activity (qualitative labels corresponding to the mean scores, according to the manual). Expressiveness had the highest mean global rating ($M = 3.44$, $SD = 0.76$). It was followed by effectiveness ($M = 3.40$, $SD = .65$), sensitivity ($M = 3.37$, $SD = 0.94$), responsiveness ($M = 3.23$, $SD = 0.95$), pleasure ($M = 3.21$, $SD = 0.67$), acceptance ($M = 2.89$, $SD = 0.56$), and lastly, warmth ($M = 2.53$, $SD = 0.83$) ($N = 57$). Acceptance and warmth scored relatively lower than the other items. These results were confirmed for the mean scores separately for the first, fifth and tenth storytelling session.

5.3.2 Change of interactive style in time

Repeated measures MANOVA showed no significant main effect of time (session) on the scores for the different staff interactive style dimensions: Wilks' $\lambda = 0.30$, $F(14,4) = 0.66$, $p = 0.75$.

Table 2

Staff interactive style in the first, fifth and tenth session (N = 19)

	<u>session 1</u>		<u>session 5</u>		<u>session 10</u>	
	M	SD	M	SD	M	SD
sensitivity	3.37	0.83	3.37	1.07	3.37	0.96
responsivity	3.21	0.98	3.21	0.92	3.26	0.99
effectiveness	3.42	0.69	3.42	0.61	3.37	0.68
acceptance	2.95	0.62	2.89	0.46	2.84	0.60
pleasure	3.21	0.63	3.26	0.65	3.16	0.77
expressiveness	3.47	0.70	3.42	0.77	3.42	0.84
warmth	2.68	0.82	2.47	0.77	2.42	0.90

5.3.3 Factors contributing to staff interactive style

Effect of client characteristics on staff interactive style

In table 3, the labeled quartile scores on each factor of the Checklist of Child Characteristics are reported, to show the strengths and weaknesses of the participants on different domains. A lot of the participants had problems on several of these domains. For every factor more than 50% of the clients only scored 'weak' or 'moderate', except for 'Control of basic communication skills', 'Taking part in group activities where the pupil is oriented on others (and assumes an active attitude)' and 'Personal orientation on another; seeking contact and reacting to contact', for which clients scored better.

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Table 3

Checklist of Child Characteristics: labeled quartile scores per factor (%)

Factor descriptions per category	Labeled quartile scores			
	weak	Mode- rate	fairly strong	strong
Functions				
F1 Active orientation on the surroundings, possibility of recognizing events, images and noises from the surroundings and of reacting to these ($N = 20$)	20.00	35.00	25.00	20.00
F2 Muscle control over functions that are of importance for eating, drinking and care moments ($N = 20$)	30.00	40.00	25.00	5.00
F3 Being able to express feelings of displeasure and tensions ($N = 20$)	5.00	50.00	30.00	15.00
F4 Being open to physical contact ($N = 20$)	40.00	20.00	25.00	15.00
Activities				
F5 Being able to carry out task-oriented activities and actions and to understand and communicate concrete messages ($N = 20$)	55.00	30.00	15.00	0.00
F6 Control of basic motor skills that can increase the independence of the child ($N = 20$)	50.00	25.00	25.00	0.00
F7 Control of basic communication skills ($N = 20$)	25.00	15.00	40.00	20.00
Participation				
F8 Taking part in group activities when a carer takes the initiative ($N = 18$)	38.89	33.33	11.11	16.67
F9 Taking part in group activities whereby the child is oriented on others (and assumes an active attitude) ($N = 18$)	5.56	22.22	33.33	38.89
F10 Personal orientation on another; seeking contact and reacting to contact ($N = 20$)	35.00	5.00	20.00	40.00
F11 Residual category, no further description ($N = 18$)	33.33	33.33	11.11	22.22

It was analysed whether there was an effect of client characteristics on the different interactive style dimension scores. Only sex, chronological age, developmental age, having visual and/or hearing problems, autism spectrum disorder, epilepsy and the scores on the 11 factors of the CCC were retained because the other variables did not have enough variation. The results of these analyses are shown in table 4. Repeated measures one-way MANOVA and MANCOVA with each of the client characteristics as independent variable and the scores for the 7 staff interactive style dimensions as dependent variables, showed no significant effect for all the above mentioned client characteristics.

Table 4

Effect of client characteristics on staff interactive style: Repeated measures one-way MAN(C)OVA

	F (df)	p
sex	1.66 (7,10)	.22
chronological age of the client	0.99 (7,10)	.49
developmental age	0.23 (7,10)	.97
visual and/or hearing problems	1.73 (7, 9)	.22
epilepsy	2.35 (7, 10)	.11
autism spectrum disorder	1.04 (7, 9)	.47
active orientation on the surroundings, possibility of recognizing events, images and noises from the surroundings and of reacting to these	2.05 (21, 24)	.05
muscle control over functions that are of importance for eating, drinking and care moments	1.71 (14, 18)	.14

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being able to express feelings of displeasure and tensions	1.01 (21, 24)	.49
being open to physical contact	1.10 (21, 24)	.41
being able to carry out task-oriented activities and actions and to understand and communicate concrete messages	0.85 (14, 18)	.62
control of basic motor skills that increase the independence of the pupil	0.94 (14, 18)	.54
control of basic communication skills	0.82 (21, 24)	.68
taking part in group activities when a teacher takes the initiative	0.83 (21, 18)	.66
taking part in group activities where the pupil is oriented on others (and assumes an active attitude)	1.85 (21, 18)	.10
personal orientation on another; seeking contact and reacting to contact	0.87 (21, 24)	.63
the residual category	1.10 (21, 28)	.42
active orientation on the surroundings, possibility of recognizing events, images and noises from the surroundings and of reacting to these	2.05 (21, 24)	.05

Effect of staff characteristics on staff interactive style

Possible effects of staff characteristics were also analysed. A possible effect of the job, age, experience with people with PIMD and experience with the specific client of the staff member was investigated. Sex was not taken into account, because all but one were women. Repeated measures one-way MANOVA showed no significant main effect of the specific job of the caregiver on the 7 staff interactive style dimensions ($F(21,18) = 0.55, p = .91$). Repeated measures one-way MANCOVA showed no significant main effect of the experience with people with PIMD ($F(7,8)$

= 2.08, $p = .16$), the experience with the specific client ($F(7,9) = 2.28, p = .12$) nor the age of the caregiver ($F(7,8) = 0.37, p = .90$).

5.4 Discussion

The main objective of this study was to describe staff interactive style during MSST, and to explore if staff interactive style changes in time and is associated with child and staff characteristics. To describe staff interactive style we made use of the Maternal Behaviour Rating Scale. Moderate scores on the different dimensions of staff interactive style were found. This could be considered as a good result. Nevertheless, since persons with PIMD are very dependent on the quality of staff interactions, staff might be expected to have the highest ratings on the different interactive style dimensions. For example: staff show on average moderate sensitivity. This means, according to the MBRS-manual, that they are only sensitive for explicit child behaviour and signals (MBRS: 'moderately' sensitive), but not for more subtle and hard-to-detect communications from the client (MBRS: 'highly' sensitive). Persons with PIMD usually communicate in a pre- or protosymbolic way, using subtle facial or bodily expressions and vocalisations that are difficult to interpret. Comparable observational studies about staff interactive style are scarce. The study of Clegg, Standen and Cromby (Clegg, Standen, & Cromby, 1991a; Clegg, Standen, & Cromby, 1991b) showed good sensitive responsiveness of staff towards clients with PIMD, but Healy's and Noonan Walshs study (Healy & Walsh, 2007) showed more negative results on the same variable. Besides, moderate scores on the interactive style dimensions are remarkable because the storytelling activity is meant to be individualized and tailored to the

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clients' interests and capacities, creating a pleasant situation which is an optimal starting point for high-quality interaction (Daelman, Nafstad, & Rodbroe, 1993; Daelman, 2006). Similar conclusions might be drawn for other multisensory activities with people with PIMD, like for example Snoezelen. Maes and Petry (Maes & Petry, 2006) showed that not all staff members were responsive during Snoezelen, while this is also seen as an activity which might optimize the relationship and interaction between staff and client (Hogg, Cavet, Lambe, & Smeddle, 2001). Therefore, staff training, building on existing staff knowledge and skills (Forster & Iacono, 2008), might be considered to improve high-quality interactions with people with PIMD, even in activities with maximal opportunities for good interaction.

The higher rating for expressiveness might indicate a possible effect of the context and the activity on the quality of interactive style. The MSST-activity creates a highly structured but non-task situation, in which stimuli of preference are used and which has the specific features of a storytelling situation. One might expect that telling a story lends itself easily to use an expressive body language, voice quality and facial expression; to be expressive. Research (Mahoney & Wheeden, 1999) shows indeed that in general, the specific context can have an influence on the interactive style caregivers adopt. For example, teachers appear to be more directive and less responsive in situations where they need to instruct preschool-aged children with disabilities. The lower rating for acceptance and warmth, on the other hand, is consistent with general research evidence that the emotional component in interactions with persons with complex needs needs more attention from staff (De Waele & Van Hove, 2005; Seys, Duker, Saleminck, & Franken-Wijnhoven,

1998). On the other hand, the social context and expectations should also be taken into account in judging the dimension of warmth. In Flanders, it is accepted to physically show warmth to a client but with clear limitations because of abuse incidents the last decades. In other regions staff are even much more prohibited from displaying some of the behaviours listed in the 'warmth' dimension of the MBRS.

While the research of PAMIS (PAMIS, 2002) has shown that there is a change in time in the way the client responds to the story told, no change in staff interactive style was found. The quality of staff's interactive style doesn't seem to regress due to, for example, the repetitive nature of the activity during 10 weeks. On the other hand, getting to know the story better themselves and getting insight in how the client reacts and can be stimulated during the storytelling, could have improved the quality of staff interactive style. This isn't the case either. As staff are only moderately sensitive, they might simply not have perceived signs of increased client response. Staff were instructed to follow rather strictly the text and actions of the storytelling script, which might also have lead to a rigidity in staff interactive style. Another possible explanation of the lack of change in time, is that interactive style may be considered to be a personal trait, which will not change easily over time.

There were already indications of good psychometric qualities of the MBRS (Hostyn et al., 2011). This study shows this tool can be used to make meaningful conclusions about staff interactive style during activities with people with PIMD. Nevertheless, the 5-point scale might not be sufficiently sensitive for detecting subtle differences and changes

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in staff interactive style. Code 1 and 5 reflect extreme negative and extreme positive ratings, which often leads to the scoring of 2 to 4. In-depth qualitative descriptions and comparisons should complement these ratings to get a fuller picture.

Because of some methodological limitations one has to be careful in drawing definite conclusions from this research. First of all, staff knew they were being filmed, which might have influenced their interactive style. Besides, the small sample size does not allow to generalize our conclusions. Our adaptation of the MBRS (the removal of some items) might have affected the psychometric quality of the scale. The lack of differentiation in codings of the MBRS probably prohibited to find any effect of client or staff characteristics on staff interactive style.

Directions for future research can be listed. This study focussed on staff interactive style as such, but research could also relate this to clients' interactive behaviour and interactive style since both are assumed to be intertwined (Clegg, Standen, & Cromby, 1991b; Hostyn & Maes, 2009; Wilder & Granlund, 2003). Future research could also investigate whether there is an effect of staff interactive style on client behaviour such as well-being and engagement during activities (Maes & Petry, 2006). Also more long-term effects of interactive style of for example parents of people with PIMD on the child's functioning could be studied, in line with the studies with children with disabilities in general (Mahoney et al., 1992). Finally, comparing staff interactive style in different activities with people with PIMD would be interesting, as well as studying the influence of other potentially influencing context factors

(e.g. physical properties, organisational setting, organisational culture) (Hostyn & Maes, 2009).

This exploratory study shows how a global coding instrument like the MBRS can be used to describe staff interactive style in activities with people with PIMD. Using it in combination with a qualitative description of the video observations, can create an excellent framework for staff and parents to reflect on their interaction with persons with PIMD during activities. It can be the starting point for investigating the impact of this staff interactive style on client behaviour. With regard to MSST in specific, the moderate scores on the MBRS show we cannot automatically assume high-quality staff interactive style in activities which offer maximal opportunity for good interaction. It urges us to think about what is expected from staff during this activity and whether training might be useful to improve their interactive style.

