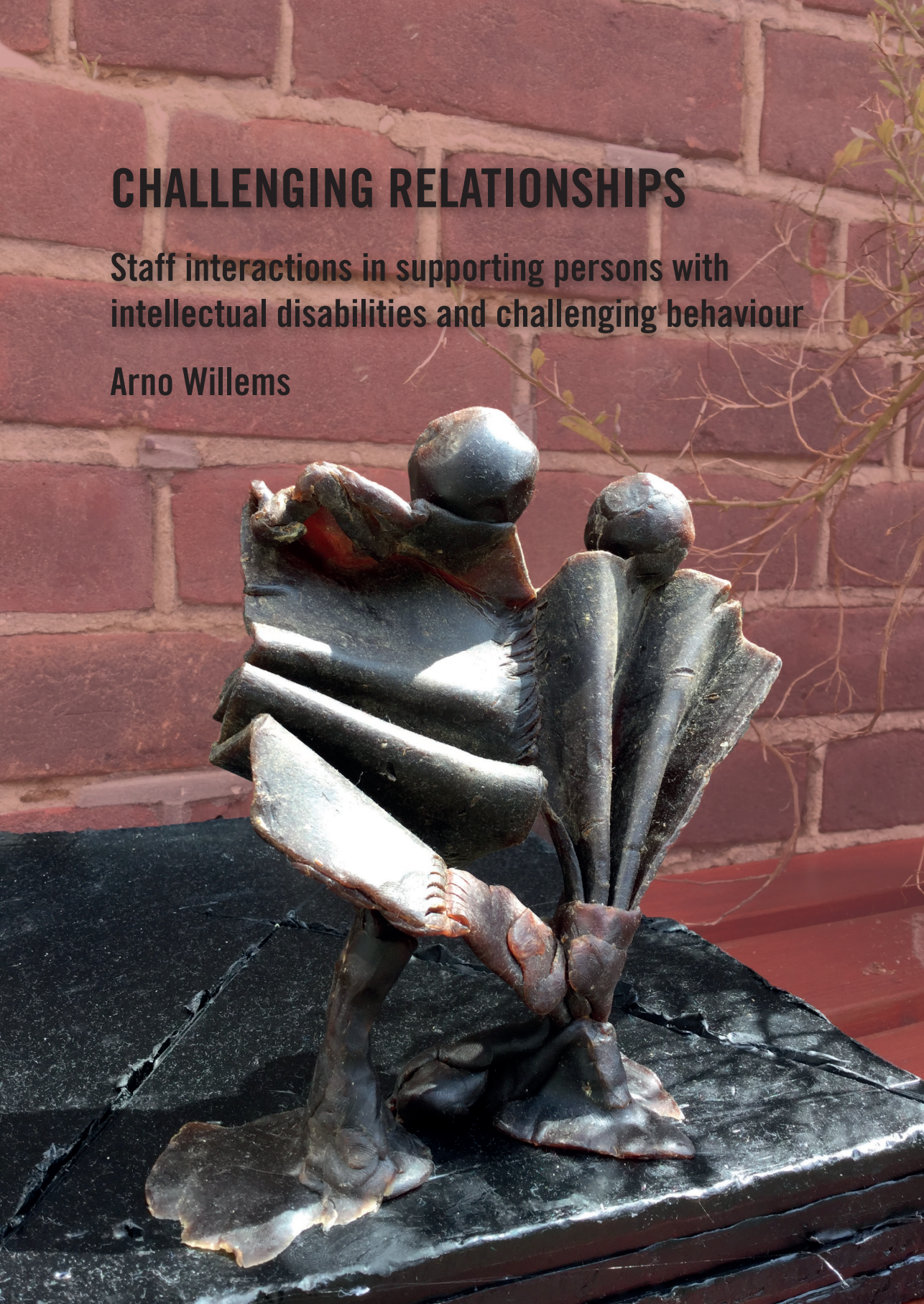
CHALLENGING RELATIONSHIPS

Staff interactions in supporting persons with intellectual disabilities and challenging behaviour

Arno Willems



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in de mooie stilte van heel samen
ligt alleen als diepste uitdaging

(30 april 2016)

voor Margo
voor hoe jij heelt
voor hoe jij uitdaagt

Contents

Chapter 1

General introduction

1.1 PEOPLE WITH INTELLECTUAL DISABILITIES AND CHALLENGING BEHAVIOUR

Like everybody else, individuals with intellectual disabilities experience periods of being distressed, when the fit between their personal capacity (both strengths/resilience and weaknesses/vulnerabilities) and their social and physical environment (both possibilities and demands) is limited (Delespaul, Milo, Schalken, Boevink, & Van Os, 2016; Wehmeyer, 2013). This imbalance is usually diagnosed as a mental disorder or defined as challenging behaviour, which can be a great burden for the individuals with an intellectual disability, for their relatives, the professionals and other members of their social network, and may even lead to exclusion from community life (Van Oorsouw, 2013). People with an intellectual disability can be diagnosed with almost any one of present-day mental disorders (Fletcher, Loschen, Stavrakaki, & First, 2007). Forms of challenging behaviour consist of externalizing behaviours such as aggression and destruction as well as internalizing behaviours such as social withdrawal and self-injurious behaviour (Emerson, 1995). Challenging behaviour is present in 10-15% of all people with intellectual disabilities and more severe levels of challenging behaviour are found in 5-10% (Kiernan et al, 1997).

People with intellectual disabilities run a risk of developing mental disorders or challenging behaviour three times higher than people without (Dekker, Koot, Van der Ende, & Verhulst, 2002; Emerson et al., 1997; Einfeld et al., 2006; Wallander, Dekker, & Koot, 2003). This higher risk is partly explained by their limited intellectual capacities and social-adaptive capabilities, such as insufficient reasoning and communication skills. Other aspects that contribute to challenging behaviour are increased risks of traumatic or negative life histories, impoverished social networks, lack of meaningful activity or employment, sensory or health problems, and genetic syndromes (Hastings, et al., 2013).

Although diagnoses and definitions of challenging behaviour are useful as a general and internationally shared language, they only prove their value when clear support needs can be determined and useful types of support or treatment can be provided (Van Os, 2014). The focus of my daily work as a clinical psychologist in MFCG-Limburg is giving advice concerning support or treatment to staff. MFCG-Limburg is a multidisciplinary consultative team on mental disorders and challenging behaviour for organizations supporting people with intellectual disabilities. Support staff and their supervising psychologists in these organizations face difficulties in their task and responsibility of restoring this imbalance in people with intellectual disabilities and even more, in supporting them in their search for well-being and mental health. Support staff also experience higher levels of stress, burnout and mental health problems, when working with people with intellectual disabilities and challenging behaviour (Hensel, Lunsky, & Dewa, 2013; Shead, Scott, & Rose, 2016; Smyth, Healy, & Lydon, 2015).

In this thesis, I will focus on support staff who are the backbone of the support for people with all levels of intellectual disabilities and challenging behaviour, with the

purpose of empowering them in the challenging care they provide, by offering them training, coaching, and team consultation. MFCG-Limburg recognized the significance of the role of support staff in treating challenging behaviour and partly funded the research presented in this thesis that started in 2009.

1.2 CHALLENGING BEHAVIOUR OR CHALLENGING RELATIONSHIPS?

Looking at support or care from an ethical point of view, people who need support in their lives, especially when they are behaviourally or mentally off-balance, depend on other people for that support (Reinders, 2000). In case of people with intellectual disabilities, this other person is often a professional caregiver. Moreover, in case of severe challenging behaviour or lower levels of intellectual functioning, professional long-lasting support has not been an autonomous choice of the person himself. This dependency means that professional caregivers need to be reliable for, sensitive and attuned to, compassionate with, and interested in the people they care for (Baart, 2001; Leget, 2006; Van Heijst, 2005). And it is precisely this emphasis on the value and quality of the professional-client relationship that is at the very heart of a rather new paradigm in care ethics for people with intellectual disabilities, called professional loving care (Embregts, 2009; Van Heijst, 2005).

Also in clinical practice, the focus on relationships between staff and people with intellectual disabilities and challenging behaviour is seen as important. Reasons for this will be discussed from a research point of view as well as from a theoretical perspective.

1.2.1 People with intellectual disabilities and their parents want positive relationships

When asked, both people with intellectual disabilities and challenging behaviour and their parents express that it is important that staff have a positive and friendly rather than restrictive attitude, listen sincerely and in a sensitive way, show real interest, handle power in an acceptable way, are respectful, empathetic and accepting, and able to build a trusting relationship (Clarkson, Murphy, Coldwell, & Dawson, 2009; Dodevska & Vassos, 2013; Moonen, 2006; Roeleveld, Embregts, Hendriks, & Van den Bogaard, 2011; Van der Meer, Embregts, Hendriks, & Sohier, 2011). In a study based on a framework for social networks, persons with mild intellectual disabilities appreciated support staff as highly as family members in areas such as affection and preference, feeling secure and liking the contact (Van Asselt, Embregts, & Hendriks, 2013). Also in another study on people with a moderate intellectual disability, the closeness of support staff as a network member was rated somewhat higher than that of family members or friends with intellectual disabilities (Robertson, Emerson, Gregory, Hatton, Kessissoglou, Linehan, 2001).

1.2.2 Support staff talk about reciprocity in their relationships

Support staff believe that it is important to foster a relationship of trust, respect, warmth, and giving autonomy to people with intellectual disabilities (Bastiaanssen, Kroes, Nijhof, Delsing, Engels, & Veerman, 2012; Hermsen, Embregts, Hendriks & Frielink, 2014; Raghavan & Patel, 2005). Furthermore, support staff greatly value intrinsically rewarding relationships, hoping to get some positive reactions from their client (Hutchison & Stenfert-Kroese, 2015). This need for reciprocity is in line with equity theory, stating that support staff are trying to maintain a balance between perceived inputs and perceived outcomes from their relationship with clients with intellectual disabilities (Disley, Hatton, & Dagnan, 2009; 2012; Thomas & Rose, 2010). However, because people with an intellectual disability and challenging behaviour may behave in an unpredictable or negative way, or show little improvement in their behaviour, building such a rewarding or equitable relationship can be a difficult task in itself. To maintain a good working relationship is therefore a frequent and important topic in staff discussions in clinical practice. This problem is exacerbated when a number of staff members support the same client because beliefs often differ regarding staff and clients' responsibilities for the interpersonal behaviour (Hastings, 2005).

1.2.3 Organizations care about relationship quality

Organizations caring for people with intellectual disabilities almost all hold a person-centered care view, adhering to the quality of life and care domains as conceptualized by the American Association on Intellectual and Developmental Disabilities (Schalock et al., 2007). The domains of interpersonal relationships and social inclusion are related to the way people with intellectual disabilities interact with other people. The rights of people with intellectual disabilities in these domains are also included in several articles of the UN Convention of the Rights of Persons with Disabilities (2006). Furthermore, the Dutch Association of ID Care Organizations explicitly specifies a systematic reflection on and the optimization of the relationship between people with an intellectual disability and a professional care person as one of its cornerstones of quality of care (VGN, 2013).

When confronted with challenging behaviour of people with intellectual disabilities, care organizations can also build upon a rather new paradigm (Wehmeyer, 2013). This paradigm is inspired by positive psychology and an evolution in the field of mental health care. It is moving away from 'repairing' challenging behaviour or mental disorders towards a strengths-based approach, stimulating positive mental health and well-being (Bohlmeijer, 2012; Delespaul, et al., 2016). The significance of relatedness in this approach is in line with an integrative theoretical perspective on how caring relationships and social support should not only be a safe haven and source of strength for buffering the negative effects of stress, but may also serve as a secure base and relational catalyst to support exploration, growth, and development (Feeney & Collins, 2015).

1.2.4 Integrative assessment of challenging behaviour includes relationships with support staff

In cases of challenging behaviour, sometimes the person with an intellectual disability, but certainly their relatives and support staff, want to understand its cause. There is international consensus that an integrative conceptual framework is needed that explains the development of and influences on challenging behaviour. *Figure 1* presents such a framework, integrating several perspectives on challenging behaviour (De Raad, Barelds, Timmerman, De Roover, Mlačić, & Church, 2014; Došen, Gardner, Griffiths, King, & Lapointe, 2008; Hastings et al., 2013; Mischel & Shoda, 1995; Read, Monroe, Brownstein, Yang, Chopra, & Miller, 2010; Saucier, 2010; Wigham, Taylor, & Hatton, 2014; Zayas, Shoda, & Ayduk, 2002). In most of these so-called diagnostic perspectives on challenging behaviour three major aspects are distinguished: a) the influence of developmental aspects, such as parenting styles or life events, b) the effect of context, such as living circumstances or social networks, and c) individual characteristics of the person with an intellectual disability. With regard to individual characteristics, this framework distinguishes six individual dimensions, in line with the emphasis on transdiagnostic factors and strengths: a biological-genetic dimension, perceptive-cognitive systems, negative and positive affect systems, control or regulatory systems, and self-social systems (Dellemann, 2013; Insel, et al., 2010; Wehmeyer, 2013).

Although all these aspects are essential in the assessment of challenging behaviour, this framework also stresses the fact that challenging behaviour is bidirectionally connected with other people's behaviour. When people with intellectual disabilities are supported by care organizations, support staff are the most frequent 'other people' with whom they interact and relate to. Interactions and relationships with these staff members are therefore essential in the assessment of challenging behaviour (McGrath, 2013).

Regarding this aspect, Hastings and colleagues (2013) summarize how, from a behaviourally oriented perspective, support staff can actually cause or maintain challenging behaviour. Examples are withholding or giving social attention, making demands or having clients avoid demands, increasing or decreasing stimulation/ activities, giving or denying access to tangibles such as food or preferred objects, and by means of offering pain reduction or neglecting health needs. This overview can be complemented by an extensive literature on relationships, attachment, parenting styles, communication, working alliance, and social systems that will be addressed in the next paragraphs.

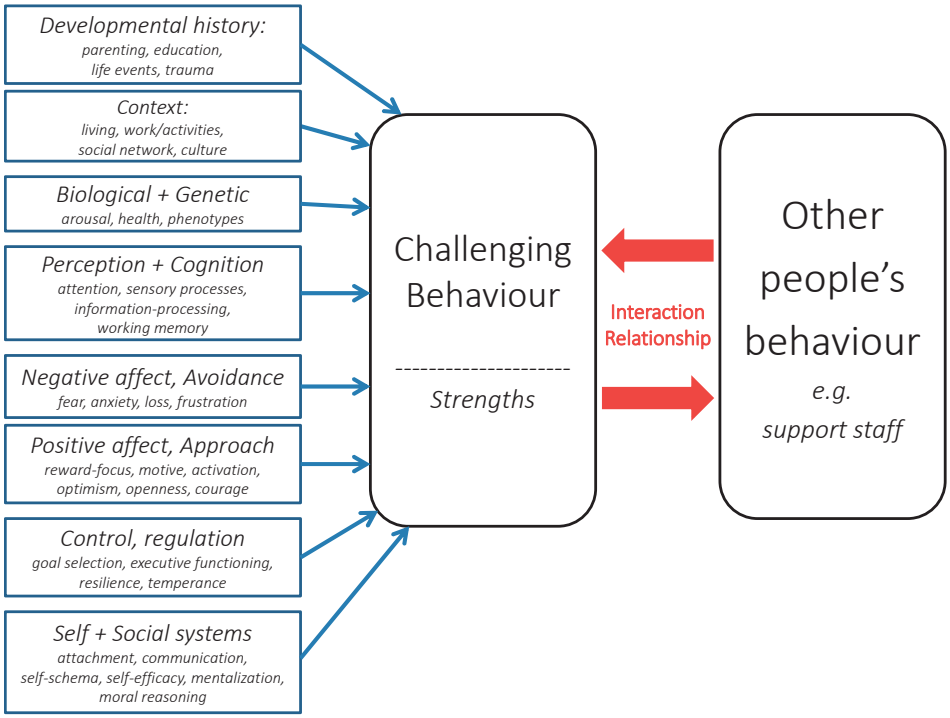

Figure 1. An integrative framework for assessment of challenging behaviour

1.2.5 Effective treatment is related to an adequate working relationship

When confronted with challenging behaviour in people with intellectual disabilities, all persons involved are primarily interested in an effective treatment for that behaviour. An obvious perspective is to look at the field of mainstream mental health, in which many therapies have been developed. In reviewing psychotherapy outcome research, Lambert (1992) presented his circle of therapeutic factors, demonstrating that 30% of the effects could be attributed to so-called common factors in all therapies, the most important being the working relationship or therapeutic alliance. In building on these findings, studies in the past two decades have shown that a number of transtherapeutic elements or principles affect the quality of therapist-client relationships (Beutler & Harwood, 2000; Budd & Hughes, 2009; Grawe, 1995, 2004; Keijsers, Vossen, & Keijsers, 2012; Michie, Wood, Johnston, Abraham, Francis, & Hardeman, 2015; Norcross, 2011). Examples of these elements and principles are empathy, positive regard, genuineness, goal consensus, matching low directiveness with high client resistance in tasks, and enhancing client motivation for therapy.

The association between therapist-client relationship and outcomes of psychological therapies is also suggested as one of the future directions for research in the field of

mental health care for adults with intellectual disabilities (Hastings, Hatton, Lindsay, & Taylor, 2013). As far as we know, the Integrative Therapy for Attachment and Behaviour is one of the first treatments illustrating the importance of the therapeutic relationship (Sterkenburg, Janssen, & Schuengel, 2008; Sterkenburg, Schuengel, & Janssen, 2008).

Because support staff are in the frontline of managing and treating challenging behaviour of people with intellectual disability, it is crucial to study staff-client relationships. In qualitative studies on support and interventions it has already been shown that people with intellectual disabilities and challenging behaviour consider several therapeutic or staff interpersonal skills as helpful in reducing challenging behaviour, such as restoring the imbalance of power they experience, being patient, validating and empathetic, and being able to laugh together (Griffith, Hutchinson, & Hastings, 2013; Pert, Jahoda, Stenfert Kroese, Trower, Dagnan, & Selkirk, 2013).

The importance of the relationship between support staff and people with intellectual disabilities and challenging behaviour has been described in several studies and models. There have been, however, critical questions regarding which actual social influence processes are involved in such therapeutic or supporting relationships, and what characteristics and determinants of professionals are important in these relationships (Budd & Hughes, 2009; Keijsers, 2014). These questions will be addressed in the present thesis, based on a model of relationships and a functional analysis that include these characteristics and determinants.

1.3 RELATIONSHIPS: A MODEL OF INTERPERSONAL BEHAVIOUR

First, in an attempt to order the body of knowledge on interpersonal relationships, Hinde (1995) and, more recently, Back and colleagues (2011) developed comprehensive frameworks for relationships. These approaches on social interactions include both overt behaviour and subjective experience or interpersonal perceptions. Research on client and support staff behaviour within the field of intellectual disabilities also emphasizes that subjective verbal descriptions partially shape staff behaviour, which therefore makes it important to use staff self-report instruments as well as observations (Hastings, 2010; Hastings & Remington, 1994).

Second, Hinde (1995) distinguishes between a focus on the quality of the relationship as a whole and a focus on actual behavioural interactions between two individuals within that relationship. With regard to the relationship as a whole, there has been a growing body of valuable research on the nature of this relationship between support staff and people with intellectual disabilities, as described in the previous paragraphs. However, in order to identify social influence processes involved in this relationship, there is also a need to study the structure as well as the dynamics of actual behavioural interactions between staff and people with intellectual disabilities and challenging behaviour (Hinde, 1995). Insights from such studies will be helpful in

moving forward in adequate assessment and treatment of challenging behaviour, when included in staff training, coaching, and team consultation.

1.3.1 Structure of interpersonal behaviour

Focusing on actual interactions in dyads, Hinde (1995) described two important structural categories, namely, intimacy, warmth or closeness and power or autonomy. The Interpersonal Circle or Circumplex, starting with the work of Leary and colleagues (1957; see Freedman, Leary, Ossorio & Coffey, 1951), is the most validated model that includes these two categories (Acton & Revelle, 2002; Birtchnell, 2014; Wiggins, 1982). The Interpersonal Circle describes two dimensions on orthogonal axes, taking into account both verbal and nonverbal behaviour: affiliation (friendliness vs. hostility) on the horizontal axis and control (dominance vs. submission) on the vertical axis. This model has also been used in assessment of offenders with a mild or borderline intellectual disability (Lindsay, Steptoe, Hogue, Mooney, Taylor, & Morrissey, 2009), finding evidence for the relevance of both the control and affiliation dimensions.

Schaefer (1965) presented a similar model for parental behaviour, proposing the same horizontal affiliation axis as in Leary, but suggesting a vertical control axis with autonomy giving as the opposite of dominance, rather than submission. Because staff supporting people with intellectual disabilities and challenging behaviour have professional pedagogical tasks as well, their interpersonal behaviour might be compared with parent-like relationships, which makes Schaefer's model also valid for our study.

In her Structural Analysis of Social Behaviour model (SASB model), Benjamin (1974, 1996) took into account both Leary's and Schaefer's interpersonal models, by including a category of two interpersonal foci, specifically focus on Other and focus on Self. Focus on Other refers to interpersonal behaviour directed towards the other person in an active and parent-like way. Focus on Self refers to interpersonal behaviour with the emphasis on what is happening to oneself in a reactive and child-like way. Interpersonal behaviours on the affiliation axis are the same for both foci, ranging from hostile to friendly, as illustrated in *Figure 2*. Interpersonal behaviours on the control axis are different, a distinction that has been confirmed by Lorr (1991). Control within the focus on Other ranges between dominance (high on control) and autonomy giving (low on control) and within the focus on Self, control ranges between separation (high on control) and submission (low on control).

The SASB model has been applied in a great many studies on psychopathology, therapies and therapeutic relationships (Bedics, Atkins, Comtois, & Linehan, 2012; Benjamin, Rothweiler, & Critchfield, 2006; Critchfield & Benjamin, 2010; Ruiz, Pincus, & Bedics, 1999), and also on staff who care for children or the elderly (France & Alpher, 1995; Van den Berg, 2000). To our knowledge, this is the first time the Interpersonal

Circle and SASB model has been used in studies on behaviour of staff members supporting persons with intellectual disabilities.

Research in personality and social psychology underlines the centrality of this two-dimensional circumplex, with its vertical axis of control, power, autonomy, or agency and its horizontal axis of warmth, attachment, connectedness or communion (Horowitz, Wilson, Turan, Zolotsev, Constantino, & Henderson, 2006; Locke 2014; Read et al., 2010; Safran & Muran, 2000). The importance of these two dimensions in behaviour, traits, goals, and needs is explained by Horowitz and colleagues (2006), who state that they reflect two broad tasks and evolutionary challenges in life, namely, 'getting ahead' (agency, assured-dominant) and 'getting along' (communion, warm-agreeable). These needs for autonomy and relatedness have also been proven to exist in people with mild and borderline intellectual disabilities (Frielink, Schuengel, & Embregts, 2016).

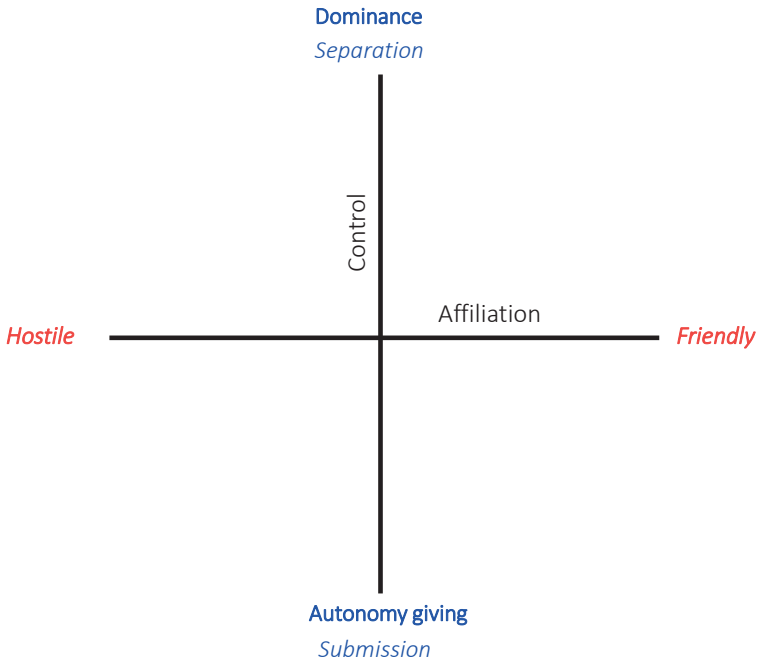

Figure 2. The SASB simplified cluster model (Benjamin, 1994; adjusted for this study). The poles of the two underlying axes appear at the end of the axes. Words in bold represent the focus Other, words in italic represent the focus Self. Words in bold and italic represent both foci.

1.3.2 Dynamics of interpersonal behaviour

From a linear perspective, research into the association between these two dimensions of relationships is valuable for describing the consistencies within persons (stability) and the differences between people (inter-individual variability). However, in a series of

interactions, two persons affect one another reciprocally and they also adjust their behaviour to each other over the course of time. In dynamic systems theory, these are called synchronisation processes in form and time between two partners, leading to recognizable or semi-stable dynamic patterns (Fogel, Garvey, Hsu, & West-Stroming, 2006; Lichtwarck-Aschoff, Kunnen, & Van Geert, 2009; Zayas, et al., 2002). To be able to discover these recognizable patterns in staff-client dyads in cases of challenging behaviour, we need to observe and study their actual bidirectional behaviour during interactions (Heerey, 2015; Van Geert, 1994).

Regarding synchronisation in form, Hinde (1995) formulated two major principles in interactions: similarity and complementarity. These principles are two of the most prominent predictive principles in the Interpersonal Circle and SASB. Similarity means that one person behaves in the same way as the person he is interacting with, which in case of friendly behaviour mostly leads to harmony, but in case of hostile, dominant or submissive behaviour often leads to conflicts within such a relationship. Complementarity is defined as both partners expressing the same type of affiliation (friendly or hostile), but who are opposite to one another on the control dimension and different in focus (see *Figure 3*). This means that one partner is acting dominantly (focus Other), whereas the other is acting submissively (focus Self); or one is acting in an autonomy giving fashion (focus Other) and the other is acting in a separation fashion (focus Self). Complementarity is often regarded as pleasant for both partners, unless one partner wants to change his usual interaction position on the control dimension and the other does not change his control position in a complementary manner (Benjamin, 1996).

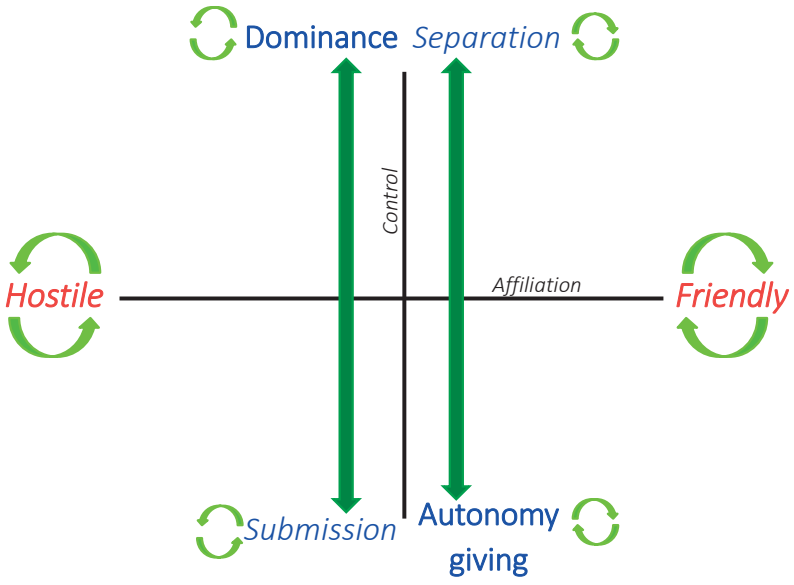

Figure 3. Dynamic interaction patterns in form: similarity and complementarity

These principles can be helpful in explaining interaction problems between support staff and people with intellectual disabilities and challenging behaviour, because there is usually a high degree of similarity between them on hostile, dominant, or submissive behaviour, or on low complementarity on both the control dimensions.

In search for effective treatment interventions, Beutler and Harwood (2000) demonstrated the power of these principles in several therapies. They argue that therapeutic change is greatest when the therapist provides a rather high level of friendliness and warmth. Furthermore, therapeutic change is also more effective when a therapist acts complementarily on the control dimension, by making the directiveness of his intervention correspond inversely with the current level of resistance (or need for control) of the client. Keijsers and colleagues (2012) recommended that psychotherapists use these interpersonal principles in motivating patients to change. It seems plausible that these change mechanisms can also be applied to support staff supporting and treating people with intellectual disabilities and challenging behaviour.

Another important form of synchronisation in interpersonal behaviour is synchronisation in time between two interacting partners (Cervone, 2004; Sameroff, 2010; see *Figure 4*). Recently, dynamical measures have become available to analyse time synchronisation between interacting members of a dyad (e.g., Louwerse, Dale, Bard, & Jeuniaux, 2012; Reuzel, Embregts, Bosman, Cox, Van Nieuwenhuijzen, & Jahoda, 2013). Analyses of dyadic interactions are needed, because inter-individual variation does not provide us with information regarding intra-individual variation (Molenaar, 2004; Molenaar & Campbell, 2009) Thus, findings from the prevailing nomothetic, cross-situational and inter-individual research cannot be transferred to the understanding of individual and dyadic patterns. Therefore, idiographic time-series research is needed, looking for patterns in both form and time within each partner and within the dyad. This type of research emphasizes the uniqueness of each person and dyad, whereas nomothetic research emphasizes generality in behaviour. There are several methods for conducting such time-series analysis, for example, State-Space modeling (Granic, & Hollenstein, 2003; Lewis, Lamey, & Douglas, 1999) and Cross Recurrence Quantification Analysis or CRQA (Webber & Zbilut, 2005). In this thesis, we will make use of CRQA techniques to assess who is leading and/or following the interaction.

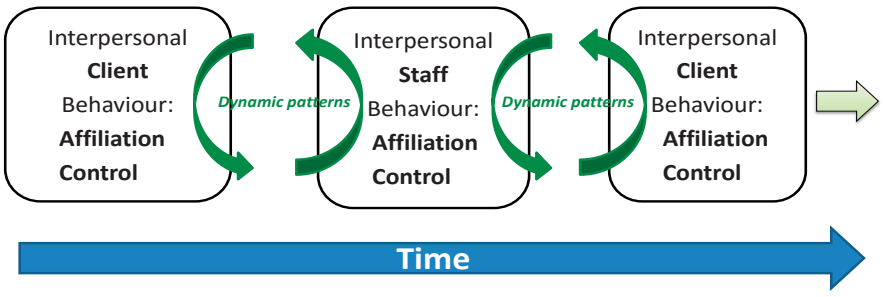

Figure 4. Dynamic interaction patterns in time

1.4 A FRAMEWORK FOR FUNCTIONAL ANALYSIS OF STAFF INTERPERSONAL BEHAVIOUR

When staff members supporting people with intellectual disabilities are confronted with challenging behaviour, they may feel the need to be supported as well as empowered in their difficult task. That is the reason for offering them training, coaching, and team consultation (Embregts, 2002; Farrell, Shafiei, & Salmon, 2010; Van Oorsouw, Embregts, & Bosman, 2013; Zijlmans, Embregts, Gerits, Bosman, & Derksen, 2015). To maximize the effect of such staff training or consultation on both staff behaviour and outcomes for people with intellectual disabilities and challenging behaviour, a functional analysis of staff behaviour is required (Grey, Hastings, & McClean 2007; Hastings, 2005). This will be done by reviewing empirical research on staff behaviour based on relevant frameworks.

According to recent research reviews on support staff working with people with intellectual disabilities and challenging behaviour, there has been a shift in focus from more observable staff behaviour to emotional and cognitive variables, staff psychological resources and even organizational factors (Grey, et al., 2007; Hastings, 2005; Van Oorsouw et al., 2013). This is in line with multilevel dynamic models, in which behaviour is considered to be the result of an interplay between the biopsychological self-system (e.g., cognitive, emotional, and self-regulation factors) and several contexts (e.g., work, culture) (Ford, 1987; Sameroff, 2010).

As the central theme of this thesis is staff interpersonal behaviour in their relationships with people with intellectual disabilities and challenging behaviour, a framework for a functional analysis with respect to staff interpersonal behaviour has been developed, which I will elucidate in the next paragraphs (see *Figure 5*).

The first aspect of this framework, as has been explained in the previous paragraph, is interpersonal behaviour and concerns at least one interaction partner. Therefore, one of the first factors to be included in a framework for staff interpersonal behaviour is not only the challenging behaviour of the person with an intellectual disability, but particularly his interpersonal behaviour. The interpersonal behaviour of the person with an intellectual disability and challenging behaviour is also operationalised by both orthogonal dimensions of affiliation and control. Since the two partners affect one another reciprocally over the course of time, their bidirectional interpersonal behaviours also need to be studied within a dynamic systems approach.

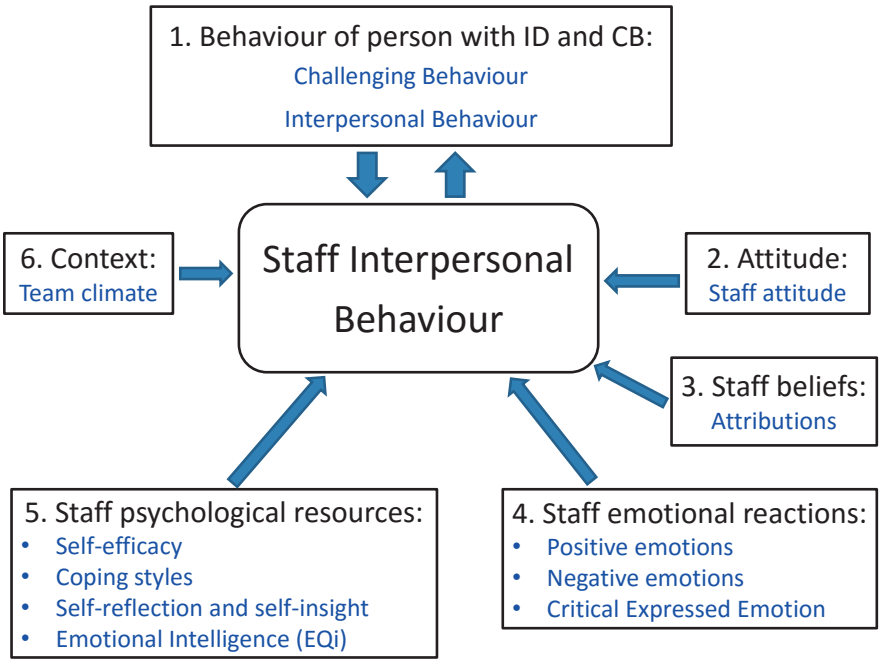

Figure 5. Framework for a functional analysis of staff interpersonal behaviour.

Research reveals that negative attitudes, the second aspect, cause difficulties in integrating people with intellectual disabilities into society, limit their access to health care, and may be responsible for poor care (Palad, Barquia, Domingo, Flores, Padilla, & Ramel, 2016; Rose, 2011). Also in a synthesis of qualitative studies on experiences of persons with intellectual disabilities and challenging behaviour, an impersonal attitude of support staff, being rude, 'not bothered', authoritarian, and bad-tempered was regarded as a trigger for challenging behaviour (Griffith, et al., 2013). These kinds of staff attitudes might therefore affect staff interpersonal behaviour when staff are confronted with challenging behaviour.

As a third aspect of this framework, Hastings and Remington (1994) explained the importance of attributions as a form of rules or verbal formulations, governing staff behaviour. Attributions are staff's internal self-generated beliefs on the cause of challenging behaviour and they may have more impact on staff behaviour than externally supplied beliefs, for example the causes a clinical psychologist offers for explaining challenging behaviour. Because the evidence regarding the influence of these attributions on staff behaviour is still inconclusive, including staff attributions within a functional analysis is recommended (Cudré-Mauroux, 2010; Lambrechts, Kuppens, & Maes, 2009; Willner & Smith, 2008).

Fourth, it has also been demonstrated that challenging behaviour can affect staff's emotional reactions and Expressed Emotion, but research has been limited (Jones &

Hastings, 2003; Van Humbeeck et al., 2003; Zijlmans, Embregts, Bosman, & Willems, 2012). Studying emotional reactions has therefore been suggested as one of the priorities for future research, also incorporating positive emotions as a predictor of staff behaviour (Dagnan & Cairns, 2005; Hastings, 2005; Lambrechts, et al., 2009).

Fifth, the influence of psychological resources, such as self-efficacy and coping styles on staff dealing with challenging behaviour has been explored (Cudré-Mauroux, 2011; Hastings & Brown, 2002a; 2002b). Based on integrative psychological models of personality there are, however, other governing functions that are considered to be essential for planning behaviour, especially a person's needs, goals, and self-regulatory functions (e.g., self-reflection and self-insight; Ford, 1987; Read et al., 2010; Sheldon, 2009). Focusing on relationships or interactions, emotional self-regulation and emotional intelligence (EQi) have been proven to be effective in handling emotions and increasing task-oriented coping (Harnett & Dawe, 2012; Zijlmans et al., 2015). In treatment, other personal staff aspects such as sensitive responsiveness, mentalizing, and attachment styles have been shown important for a working alliance and quality of caregiving (Degnan, Seymour-Hyde, Harris, & Berry, 2016; Dekker-van der Sande & Sterkenburg, 2015; Schuengel, Kef, Damen, & Worm, 2010).

As a sixth and final category, several contextual staff factors have been suggested for future research, such as team climate (e.g., team vision and participative safety), culture of the organization, impact of job demands, role conflicts, autonomous decision making, and staffing ratio (Buljac-Samardžić, 2012; De Schipper, Riksen-Walraven, & Geurts, 2006; Gorman, 2014; Rose, Ahuja, & Jones, 2006; Thompson & Rose, 2011; Van Bogaert, Timmermans, Weeks, Van Heusden, Wouters, & Franck, 2014).

To able to conduct an attainable research project, it was necessary to determine which of these arrays of psychological and contextual factors were best included. As this thesis aims at providing knowledge and insights to be used in training, coaching, and team consultation, we decided to include factors that are regarded important for such change processes. In research and literature on successful learning and change processes of health care professionals, self-efficacy, self-reflection and self-insight, coping style, and team functioning are considered essential for such processes, and were therefore included in this research (De Haan, 2003; Grant, 2001; Grol & Wensing, 2006; Schwarzer, 2008; Van Praag-van Asperen & Van Praag, 2000). It is also stressed that support staff must have the opportunity to construct their own subjective meanings for these topics, such as, by using self-reports or by reflecting on video recordings of their actual behaviour and that of the person with an intellectual disability (Frenk et al., 2010; Ruijters, 2006).

The factors presented in *Figure 5* have all been incorporated within the studies conducted in the course of this thesis, and will be studied by using staff self-reports because staff subjective verbal descriptions partially shape their interpersonal behaviour (Hastings, 2010).

1.5 PRESENT THESIS: AIM, RESEARCH QUESTIONS AND OUTLINE

With respect to staff supporting people with intellectual disabilities and challenging behaviour, this thesis focuses on their relationships, studying staff interpersonal behaviour and interactions. The central aim of this thesis is rather practical, providing insights into staff interpersonal behaviour and interactions that can be used in staff training, coaching, and team consultation, to empower support staff in the challenging role of care.

This thesis is based on the six steps of the Intervention Mapping protocol. It started in the current chapter with the description of the potential and focus of interventions regarding relationships and interactions (Bartholomew, Parcel, & Kok, 1998). To articulate the main objectives and content of a training, coaching, and consultation program, an adequate measurement of staff interactive behaviour is needed, and several factors and dynamic processes relating to staff interpersonal behaviour will be explored and tested. Therefore, the following three research questions are posed within five studies.

First of all, how can staff interactive behaviour towards people with intellectual disabilities and challenging behaviour be measured? Chapters 2 and 3 describe the construction, replication, and validation of a self-report instrument for support staff, measuring staff interactive behaviour towards people with intellectual disabilities and challenging behaviour. In Chapter 2, the development and evaluation of the Staff-Client Interactive Behaviour Inventory (SCIBI) is described as well as the relations between staff interpersonal behaviours and intrapersonal factors. Chapter 3 addresses an additional psychometric evaluation of the SCIBI by conducting a replication study and a validation study.

Second, which factors in support staff and people with intellectual disabilities and challenging behaviour influence staff interpersonal behaviour towards these people? Chapters 4 and 5 consider the influence of a large number of factors on staff interpersonal behaviour, as presented in the framework of a functional analysis (*Figure 5*). In Chapter 4, the emphasis is on the influence of challenging behaviour, staff attitude and emotional intelligence on staff interpersonal behaviour. Chapter 5 tests the unique influence of seven more factors on staff interpersonal behaviour in a large study, using multilevel multiple regression analysis. These factors are interpersonal behaviour of the person with an intellectual disability and challenging behaviour, staff emotions, attributions, self-efficacy, self-reflection, coping styles, and team climate.

Third, what are the dynamic patterns in interactions between support staff and a person with an intellectual disability and challenging behaviour? Chapter 6 is an observational study focusing on dynamic patterns, in both form and time, in interactions between staff members and a person with intellectual disability and challenging behaviour.

Finally, the general discussion in Chapter 7 summarizes the main findings of these studies, reflecting on their theoretical and practical relevance. Based on these findings, a first outline of a program for training, coaching, and team consultation is presented, and implications for clinical practice and future research are described.

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Chapter 2

The relation between intrapersonal and interpersonal staff behaviour towards clients with ID and challenging behaviour: A validation study of the Staff-Client Interactive Behaviour Inventory

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ABSTRACT

Interpersonal staff behaviour is one of the instigating factors associated with challenging behaviour in clients with ID. There are several studies focusing on the influence of intrapersonal staff characteristics – such as beliefs, attributions and emotional reactions – on staff behaviour. Little is known, however, about interpersonal staff behaviour itself. This study describes the development and validation of the Staff-Client Interactive Behaviour Inventory (SCIBI), measuring both intrapersonal and interpersonal staff behaviour in response to challenging behaviour in clients with ID.

A total of 292 staff members, employed in residential and community services, completed the SCIBI for 34 clients with ID and challenging behaviour.

Confirmatory factor analysis of a seven-factor model – with assertive control, hostile, friendly and support-seeking interpersonal behaviour; proactive thinking, self-reflection, and critical expressed emotion as reliable factors – showed an exact fit to the data, indicating construct validity and reliability of the SCIBI. A series of multilevel regression analyses showed higher age of the client to be negatively associated with assertive control. Job experience, level of education, type and sex of staff predicted interpersonal behaviour. Also, intrapersonal staff behaviour, including critical expressed emotion, proactive thinking and self-reflection, predicted interpersonal behaviour.

The SCIBI can be used to identify staff intrapersonal and interpersonal behaviour towards clients with ID and challenging behaviour. Results obtained with the SCIBI can provide new directions for individual client treatment plans and staff training programs.

2.1 INTRODUCTION

People with intellectual disabilities (ID) are at higher risk for behavioural problems and mental health problems than people without ID (Deb *et al.,* 2001). It is often suggested that deficits in the behaviour of disabled individuals are due to a failure of the social environment to support the appropriate behaviours. Research has even shown that staff behaviour can be counterproductive and sometimes encourages and fosters, for example, challenging behaviours (Hastings, 1996). As in multi-dimensional models (Griffiths *et al.* 1997; Willems, 2007), the instigating conditions for the occurrence of behaviour problems should thus be understood in terms of not only personal and internal (i.e., medical, psychological and psychiatric) client conditions, but also interpersonal and external conditions.

Staff members may be considered as the key agents in the behavioural interventions for people with ID and challenging behaviour (Felce *et al.* 2000). In keeping with the preceding, the AAIDD (American Association on Intellectual and Developmental Disabilities) introduced a guideline that calls for the provision of supportive counselling (e.g., friendly relationship, affirming, giving advice) in addition to applied behavioural analyses, management of the environment and client/family education for the treatment of clients with IDs (Rush & Frances, 2000). Examination of the impact interpersonal staff behaviour could have on the behaviour of clients is therefore critical for both assessment and therapeutic purposes.

Although interpersonal staff behaviour is considered a vital component in the provision of care, our knowledge about measuring interpersonal skills of staff working with clients with ID remains limited. Reliable and well validated instruments to measure interpersonal behaviour of parents are available though. In models of parental care, there is widespread consensus regarding two underlying dimensions of parenting behaviour, namely control and discipline (i.e., high vs. low) and support and warmth (i.e., high vs. low) (Maccoby & Martin, 1983; Reitz *et al.* 2006). More general, in several interpersonal models of personality, two orthogonal dimensions of personality have consistently been corroborated: (1) dominance/control/power and (2) affiliation. Leary (1957) was one of the first to introduce a complete interpersonal diagnostic system for the assessment of personality or the so-called Interpersonal Circle (ICL), which entails a control dimension (i.e., dominance-submission) and an affiliation dimension (i.e., love-hate). Wiggins later constructed a more carefully documented and clearly validated version of the ICL, the so-called Interpersonal Adjective Scale-Revised (IAS-R; Wiggins *et al.* 1988). Benjamin (1996) described in her Structural Analysis of Social Behavior (SASB) three orthogonal dimensions of personality: (1) an interpersonal focus involving control versus emancipation or dominance versus autonomy giving; (2) the affiliation dimension involving love versus hate or friendliness versus hostility; and (3) the enmeshment-differentiation dimension involving submission versus separation/independence.

Overall, control, submission, friendliness and hostility appear to be the four basic factors to describe interpersonal behaviour.

In addition to these critical factors of interpersonal staff behaviour, Hastings (2005) points at the relation between severe client behaviour problems and staff emotional reactions. In response to challenging behaviour, staff members in the field of ID can experience such emotional reactions as sadness, despair, anger or disgust (e.g., Bromley & Emerson, 1995). These emotional responses tend to increase or decrease, depending on the nature of the attribution and staff willingness to help a client (Noone *et al.* 2006). Within the literature regarding staff behaviour, the term expressed emotions (EE) has become common to refer to the emotional climate of a relationship. Staff can be categorized as high or low on EE based upon measures of criticism, hostility and emotional overinvolvement. Staff members working in health-care settings have been shown to display relatively high levels of EE (Moore *et al.* 1992). Investigators in the field of ID found evidence for undesirable effects of high levels of EE in staff on the quality of relationship (e.g., Van Humbeeck *et al.* 2003), but there are no studies focusing on the association of EE as an intrapersonal characteristic with interpersonal staff behaviour (Hastings & Brown, 2002).

Next, when confronted with such intense emotions, the ability to reflect upon one's feelings and attributions can foster a stable sense of self, and thereby help staff to avoid entry into power struggles with clients (Morasky, 2006) and countertransference (i.e., projection of emotions onto clients) (Norcross, 2002). Also, Jackson *et al.* (2007) found that emotional insight and being more reflective as intrapersonal characteristics were important for enhancing personal resilience when confronted with adversities as bullying and violence.

Finally, exploring staff coping strategies for these emotional reactions, Mitchell and Hastings (2001) found that staff often used adaptive coping strategies as planning and active coping when confronted with challenging behaviour. Especially proactive thinking (Kirby *et al.* 2002) has been significantly associated with positive job performance, and it therefore should be considered an important intrapersonal characteristic of staff who have to deal with challenging behaviour in clients with ID.

The first aim of this study was to develop and evaluate an instrument to measure staff-client interactive behaviour, focusing on both interpersonal behaviour based on Leary and Benjamin in terms of (a) control, (b) submission, (c) friendliness, and (d) hostility and on intrapersonal behaviour, including expressed emotion, self-reflection and proactive coping. The inventory was completed by staff working with individuals with IDs and challenging behaviour living in a residential or community facility. Secondly, we examined relations between intrapersonal and interpersonal staff behaviours, accounting for several background variables of clients and staff (i.e., sex, age, ID-level, diagnosis, setting, level of education, type of job and years of current job experience).

2.2 METHOD

2.2.1 Participants and procedure

A total of 292 staff employed in 12 facilities (34 teams) for individuals with IDs participated in the present study, which was carried out in the Netherlands in 2004-2008.

Of the 292 staff members 78% was female and 22% was male. The mean age was 36 years with a range of 21 to 57 (*SD* = 9 years). In addition to high school, 81% of the staff had a three-year professional training in the domain of nursing, social work or occupational therapy, which is standard in the Netherlands for direct care staff; 19% had a college-degree in nursing, teaching or social science. Three-fourth of the participants (74%) was employed as direct care staff, and one-fourth (26%) as occupational therapy staff. The mean length of experience with care in the current facility was 9 years, with a range of 1 to 34 years (*SD* = 7 years).

Staff data on the present Staff-Client Interactive Behaviour Inventory (SCIBI, a translation of a Dutch instrument) were analyzed with respect to 34 clients ranging from mild to profound ID and challenging behaviour, of which 16 clients with mild ID and 18 with lower ID levels (12 with moderate ID, 5 with severe ID and 1 with profound ID). In 30 cases intelligence was measured by Wechsler Intelligent Scale for Children or Wechsler Adult Intelligence Scale and in 4 cases with Dutch equivalents of the Vineland Adaptive Behaviour Scales or the Bayley Scales of Infant Development, 2nd edition. In all these cases, the first author was consulted as a member of the Multi-Disciplinary Centre for Dual Disabilities, a specialized interdisciplinary team in the south of the Netherlands. Staff as well as their associated psychologists and physicians consult this team when there are serious concerns about the diagnosis and treatment of clients with severe behaviour or psychiatric problems. After interdisciplinary assessment, 18 clients were diagnosed with an autism spectrum disorder, 6 clients with personality disorders and 10 with other disorders (i.e., schizophrenia, mood disorder, reactive attachment disorder, and adjustment disorder). Twelve of the clients were male and 22 of the clients were female. The clients had a mean age of 36 years with a range of 14 to 70 years (*SD* = 15 years). A total of 26 clients were living in residential care and 8 clients in community care. The SCIBI was completed by different numbers of staff members, ranging from 3 to 20 for a particular client.

2.2.2 Instrument

Staff members were asked to complete the pilot-version of the SCIBI, which was a 72 items self-report questionnaire using a five-point Likert Scale, ranging from *completely inapplicable (1)* to *completely applicable (5).* This pilot-version of the SCIBI was based on relevant literature and opinions of experts (i.e., 18 staff members and team managers).

Staff behaviour addressed by the SCIBI includes randomly distributed questions on (a) control (n=17), (b) hostility (n=15), (c) friendliness (n=14), and (d) submission (n=9), as well as the following intrapersonal staff behaviours: (e) proactive thinking, (n=4), (f) self-reflection (n=5) and (g) expressed emotion (n=8).

2.2.3 Statistical analysis

The results are reported in three sections. In the first section, construct validity and internal consistency reliability of the SCIBI were examined by means of confirmatory factor analysis, using Mplus (Muthén & Muthén, 1998), and the computation of Cronbach's alpha, respectively. A multi-factor model was specified in which each indicator (item) loaded on only one factor, allowing items to correlate in case of similar wordings (e.g. "I impose strict demands upon this client" and "I impose my will irrespective of what he may think ").Both fit-indices (CFI, TLI, and RMSEA) and the model Chi-Square, also designated as the generalized likelihood ratio, were used to evaluate model fit (Kline, 2005). The following fit index cut-off values are indicative of good model fit: CFI > .95, TLI > .95, and RMSEA < .06, whereas a non-significant Chi-Square indicates exact model fit (Hu & Bentler, 1999; Kline, 2005). A modification index, giving the expected drop in Chi-Square if a parameter in question is freely estimated, was used to improve model fit. We thus identified parameters that could improve model fit by freeing those parameters. Examples of such parameters were items loading on more than one factor or the wrong factor. Instead of freeing those parameters, we removed them. Further improvement of model fit was achieved by removing items that did not load significantly on their respective factors.

The second section includes a preliminary analysis, where we examined associations among continuous client and staff background variables and the SCIBI scales by computing simple Pearson correlations coefficients.

In the third section, multi-level analyses were conducted, using MLwiN (Rasbash et al., 2000), in order to examine relations between intrapersonal staff behaviour and interpersonal staff behaviour, controlling for client and staff background variables. Traditional analyses, such as ordinary regression analysis, would only account for the individual staff member as the unit of analysis, thereby ignoring the fact that individual staff members (level 1) are nested within clients (level 2). It should be noted that ignoring the multi-level structure of the data would produce standard errors that are too small, which may generate spurious results (Hox, 2002). Multilevel analysis, however, allows the simultaneous examination of how individual and group level variables are related to individual level outcomes, accounting for the non-independence of observations within groups (Goldstein, 1995).

A stepwise procedure was followed in analyzing the data. In the first step, a null-model, which is a random intercept-only model containing an outcome variable and no explanatory variables, was fitted to the data as a baseline. In the next step the

explanatory variables were entered in order to test whether the explanatory model would make a significant improvement compared to the null model. Improvement of model fit was tested by the difference in deviance, which has a chi-square distribution and can be used to test whether the more elaborate explanatory model fits significantly better than the null model. Finally, we examined whether random slope models, allowing the regression coefficients for staff and client explanatory variables to vary randomly across staff and clients, provided a better fit to the data, and tested for same and cross-level interactions between explanatory variables.

2.3 RESULTS

2.3.1 Construct validity and internal consistency reliability

In order to establish construct validity, a confirmatory factor analysis was performed on all items of the SCIBI. After removing 42 items that did not fulfil the specified criteria, a seven-factor solution showed an exact fit to the data: X^2 (375) = 412.48, p = 0.09 (ns.). The fit-indexes were excellent: RMSEA = 0.02, CFI = 0.99, and TLI = 0.98 (Hu & Bentler, 1999). All items loaded highly (over 0.50) and exclusively on their corresponding factors (see Table 1). In order to appropriately describe and interpret the seven-factor solution, we slightly renamed the seven factors found in the literature into assertive control (7 items), hostility (4 items), friendliness (5 items), support-seeking (3 items), proactive thinking (3 items), self-reflection (3 items) and critical expressed emotion (5 items). Table 1 presents the factor solution, with Cronbach's alpha for all scales, and an overview of all 30 remaining SCIBI items with their corresponding factor loadings and their random item numbers. The alpha values were satisfactory, ranging from 0.68 (support-seeking) to 0.89 (proactive thinking).

Table 1. The 30 SCIBI items and their factor loadings

Factor 1: Item no.:	**Assertive Control interpersonal behaviour**	Cronbach's α = .84 factor loadings
1	I handle my rules in a strict manner	.65
9	I go my own way despite critique from this client	.53
11	I impose strict demands upon this client	.61
13	I impose my will irrespective of what he may think	.59
20	I act correctively towards this client	.80
22	I act prohibitively towards him	.76
25	I take the lead when I am with this client	.54

Factor 2:	**Hostile interpersonal behaviour**	Cronbach's α = .72
Item no.:		factor loadings
8	I protest with this client when I do not agree with him	.51
14	I state my opinion directly to him	.54
23	I let him see my anger	.74
26	I grumble at this client	.78
Factor 3:	**Friendly interpersonal behaviour**	Cronbach's α = .82
Item no.:		factor loadings
2	I value this client	.57
4	I like to communicate with him	.70
7	I like doing something with this client	.79
17	I can work well with this client	.66
26	I often feel nice with this client	.82
Factor 4:	**Support-seeking interpersonal behaviour**	Cronbach's α = .68
Item no.:		factor loadings
10	I can handle everything better when this client supports me	.77
15	I need encouragement from him	.57
19	I like to be backed up by him	.63
Factor 5:	**Proactive thinking (intrapersonal behaviour)**	Cronbach's α = .89
Item no.:		factor loadings
21	In working with this client, I think about WHAT I am going to do.	.77
27	In working with this client, I think about HOW I am going to do things	.91
30	In working with this client, I think about WHY I am going to do things in such a manner	.87
Factor 6:	**Self-reflection (intrapersonal behaviour)**	Cronbach's α = .70
Item no.:		factor loadings
3	In working with this client, I think about what I myself want to attain	.60
24	In working with this client, I think about what I would like to receive in return from him	.52
29	In working with this client, I think about how I feel	.79
Factor 7:	**Critical Expressed Emotion (intrapersonal behaviour)**	Cronbach's α = .75
Item no.:		factor loadings
5	In working with this client, I have the tendency to deliver a long "sermon"	.61
6	In working with this client, I have the tendency to work hard in order not to have to think about anything	.69
12	In working with this client, I have the tendency to sometimes reject a reasonable proposal	.51
16	In working with this client, I have the tendency to act directly without knowing where I really want to go	.71
18	In working with this client, I have the tendency to approach him cynically	.58

Table 2. Means, standard deviations, and correlations between continuous background characteristics of clients and staff, and interpersonal and intrapersonal staff behaviour factors

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11
Client and staff characteristics													
1. Client Age	39.59	14.73	1.00										
2. Level of intellectual disability	1.76	0.83	.10	1.00									
3. Age of staff	36.33	8.79	.27*	-.18	1.00								
4. Years of job experience in current facility	9.08	6.74	.23*	-.03	.57*	1.00							
Interpersonal behaviour (SCIBI)													
5. Assertive Control	3.16	0.80	-.15	.25*	-.16	.05	1.00						
6. Hostile	2.83	0.88	-.01	.04	-.13	.07	.57*	1.00					
7. Friendly	3.79	0.70	.10	-.04	.07	.20	.01	.14	1.00				
8. Support-seeking	1.46	0.64	.06	.05	-.010	-.02	.06	.17	.03	1.00			
Intrapersonal behaviour (SCIBI)													
9. Proactive thinking	3.86	0.96	.16	.06	-.13	-.15	.21*	.06	.06	.11	1.00		
10. Self-reflection	2.75	1.01	.00	.11	-.14	-.10	.22*	.13	-.04	.29*	.45*	1.00	
11. Critical Expressed Emotion	1.51	0.55	.05	-.07	-.08	.04	.11	.29*	-.22*	.27*	-.13	.12	1.00

n =292 staff members; *n*= 34 clients; * *P* < .001 (two-tailed)
SCIBI, Staff-Client Interactive Behaviour Inventory

2.3.2 Preliminary analyses

Associations among continuous background variables of clients (age, ID level), staff (age, job experience in current facility) and the seven SCIBI dimensions are presented in Table 2. Only effects at $p < .001$ were considered significant in order to avoid chance capitalization due to multiple testing. Only one significant association was found between continuous background variables and interpersonal staff behaviour and none with intrapersonal staff behaviour. Staff reported a higher level of assertive controlling behaviour towards clients with lower ID-levels ($r = .25$). Only one of the correlations between the four interpersonal behaviours - namely, between hostility and assertive control - proved to be significant ($r = .57$).

Half of the correlations among intrapersonal and interpersonal staff behaviour proved to be significant. More self-reflection was strongly related to higher levels of proactive thinking ($r = .45$), while proactive thinking proved to be positively and moderately associated with assertive control ($r = .21$). Increased self-reflection was moderately correlated with both more assertive control ($r = .22$) and support-seeking interpersonal behaviour ($r = .29$) towards clients. Finally, we found more critical expressed emotion to be moderately associated with more hostile ($r = .29$) and less friendly behaviour (r = -.22) towards clients, and higher levels of support-seeking ($r = .27$).

2.3.2 Multilevel Regression Analyses

In order to account for the nested structure of the data, associations between intrapersonal staff behaviour (proactive thinking, self-reflection, and critical expressed emotion) and interpersonal staff behaviour (assertive control, hostility, friendliness, and support-seeking) were tested in four consecutive multilevel regression analyses. The variance components, the standardized regression coefficients (beta's) and Chi-Square statistics for improvement of model fit of the explanatory models are presented in Table 3. As shown, all explanatory models resulted in a significant improvement of model fit compared to the null model. Random slope models, however, did not provide a better fit to the data, and no significant same or cross-level interactions were found.

Assertive Control

It can be derived from Table 3 that 58% [100 * (.384) / (.384 + .278)] of the variance in assertive control could be attributed to differences between staff members, and 42% [100 * (.278) / (.384 + .278)] to differences between clients. The explanatory model gave a significantly better fit than the null model - χ^2 (13, $n = 292$) = 41.06, $P < .001$ - accounting for 26% of the variance in assertive control. The proportion of explained variance was 5% [100 * (.384 - .354) / (.384 + .278)] at the staff level and 21% [100 * (.278 - .136) / (.384 + .278)] at the client level. Staff who rated themselves higher in

proactive thinking (*b* = .18) and care staff instead of occupational therapy staff (*b* = .14) showed increased levels of assertive control, while higher age of the clients proved to be associated with less assertive control (*b* = -.26). Finally, a positive association between more severe ID and higher levels of assertive control just failed to reach significance (*b* = .21). This relation may be regarded as a trend.

Table 3. Multilevel regression models for assertive control behaviour, hostile behaviour, friendly behaviour, and support-seeking behaviour (standardized regression coefficients, variance components, and chi-square statistics to test improvement of model fit)

Predictors	Staff Interpersonal Behaviour			
	Assertive control	Hostile	Friendly	Support-seeking
Staff level (beta's)				
Female	.08‡	.10	.04	-.14*
Age	-.02	-.11	-.10	-.13
Years of job experience in current facility	.09	.07	.26***	.07
Level of education (1 = 3-year study, 2 = 4-year study)	-.07	-.14**	.00	-.08
Care staff	.14*	.10	.04	-.06
Proactive thinking	.18**	.11	.07	.04
Self-reflection	.08	.07	-.04	.23**
Critical Expressed Emotion	.10	.23***	-.21***	.23***
Client level (beta's)				
Sex (1 = male; 2 = female)	.02	.06	.08	-.03
Age	-.26*	-.05	.08	.06
Level of intellectual disability (1 = mild ID to 4 = profound ID)	.21†	-.03	-.15	.05
ASD (1 = no; 2 = yes)	.10	.09	.15	-.06
Setting (1 = residential; 2 community)	.07	-.00	.03	.04
Variance components intercept only or null model				
Staff level	.384	.573	.419	.372
Client level	.278	.210	.080	.037
Variance components explained by predictors				
Staff level	.354	.518	.383	.326
Client level	.136	.115	.046	.010
Improvement in model fit due to predictors:				
X^2 (d.f. = 13)	41.06***	41.12***	34.84***	51.16***

n = 292 Staff, *n* = 34 Clients; † *P* < .10 * *P* < .05, ** *P* < .01, *** *P* <.001.

‡ standardized regression coefficients.

ASD, Autism Spectrum Disorder

Hostile behaviour

A total of 73% [100 * (.573) / (.573 + .210)] of the variance in hostile behaviour could be attributed to differences between staff members, and 27% [100 * (.210) / (.573 + .210)] to differences between clients. The explanatory model resulted in a significant improvement of model fit - χ^2 (13, n = 292) = 41.12, P < .001 -- accounting for 19% of the variance in hostile behaviour, which was distributed as follows: 7% [100 * (.573 - .518) / (.573 + .210)] at the staff level, and 12% [100 * (.210 - .115) / (.573 + .210)] at the client level. Although a substantial part of the explained variance in hostile behaviour was distributed at the client level, none of the single client level explanatory variables proved to be significantly related to hostile behaviour. At the staff level, however, more critical expressed emotion (b = .23) was significantly related to more hostile behaviour, whereas higher-level vocational education (b = -.14) was associated with less hostile behaviour.

Friendly behaviour

Table 3 shows that 84% [100 * (.419) / (.419 + .080)] of the variance in friendly behaviour could be attributed to differences between staff members, and 16% [100 * (.080) / (.419 + 0.080)] to differences between clients. The model fit of the explanatory model was significantly better than that of the null model: - χ^2 (13, n = 292) = 34.84, P < .001. The explanatory model accounted for 14% of the variance in friendly behaviour, which was distributed as follows: 7% [100 * (.419 - .383) / (.419 + .080)] at the staff level and 7% [100 * (.080 - .046) / (.419 + .080)] at the client level. Although the explained variance was equally distributed across the staff and client level, no single client characteristic proved to be significant. Staff with more job experience reported more friendly behaviour (b = .26), and staff with higher critical expressed emotion reported less friendly behaviour (b = -.21).

Support-seeking behaviour

It can be derived from Table 3 that 91% [100 * (.372) / (.372 + .037)] of the variance in support-seeking behaviour could be attributed to differences between staff members, and 9% [100 * (.073) / (.372 + .037)] to differences between clients. Again, the explanatory model generated a highly significant improvement over the null model - χ^2 (13, n = 292) = 51.16, P < .001 – accounting for 18% of the variance in support-seeking behaviour. The proportion of explained variance was 11% [100 * (.372 - .326) / (.372 + .037)] at the staff level and 7% [100 * (.037 - .010) / (.372 + .037)] at the client level. No single client explanatory variable contributed significantly to the prediction of support-seeking behaviour. At the staff level, however, critical expressed emotion (b = .23) and self-reflection (b = .23) were both positively associated with support-seeking behaviour. Finally, female staff showed less support-seeking behaviour than male staff did (b = -.14).

2.4 DISCUSSION

In the present study, the validity of the Staff-Client Interactive Behaviour Inventory (SCIBI) was examined in a sample of clients with severe behaviour or psychiatric problems. Support for construct validity was found in a confirmatory factor analysis of seven reliable factors, including assertive control, hostile behaviour, friendly behaviour, support-seeking behaviour, proactive thinking, self-reflection and critical expressed emotion. Staff hostile behaviour proved to be strongly associated with assertive control. As Shechtman and Horowitz have demonstrated (2006), people who are frustrated in their attempt to exert sufficient control over other people's behaviour, can experience a disproportionate amount of hostility. This means that, when control motives are frustrated, as can be expected when staff are confronted with challenging behaviour, the negative pole of the affiliation dimension (i.e., hostility) can manifest itself. A second strong correlation was found between two intrapersonal staff characteristics, that is, self-reflection and proactive thinking. Self-reflection and proactive thinking can be intertwined, since both are aspects of emotional intelligence (Gerits *et al.* 2004) and concern adequate ways of coping with challenging behaviour, one more self- and emotion-focused and the other more client- and task-focused (Zeidner & Endler, 1996).

Although most of the differences in interpersonal staff behaviour could be ascribed to staff characteristics, a considerable amount of variance was still attributable to client factors, ranging from 9% to 42%. First, our results show that staff members tend to behave in a more assertive controlling way towards clients who are younger. This may be explained by the fact that adolescents and young adults with challenging behaviour need relatively more control and support because of their lack of decision-making capacities. In line with this explanation, there was also a trend suggesting that staff members use more assertive controlling behaviour in response to clients with lower ID levels.

Differences in interpersonal staff behaviours were attributed to staff characteristics for a large 58-91%. Firstly, more job experience was associated with increased friendly behaviour towards clients with challenging behaviour. This is in line with Knotter *et al.* (2008), who found that staff members with more job experience were more supportive, comforting and positive reinforcing towards clients. Secondly, the higher the staff educational level, the lower their hostile behaviour, which can be considered as an argument for implementing further training and coaching programs directed at staff dealing with challenging behaviour in clients with ID. Thirdly, care staff as opposed to occupational therapy staff used a more assertive controlling style towards clients in employment settings. A plausible explanation might be that clients tend to profit from the structuring features of the work itself in these settings. Finally, female staff showed significantly less support-seeking behaviour towards clients with challenging behaviour compared to male staff. The items that represent support-seeking in the SCIBI are focused on the support and encouragement the worker needs, thereby reflecting a

strong focus on him- or herself. This finding is consistent with results from a study by Gerits *et al.* (2004), who found that male staff scored significantly higher on intrapersonal emotional intelligence (i.e., assertiveness and self-regard), which is in line with support-seeking, whereas female staff scored higher on interpersonal emotional intelligence (i.e., empathy, interpersonal relationship, social responsibility), which is comparable with support-giving.

An important finding of our study was that intrapersonal staff behaviour proved to be associated with interpersonal staff behaviour. In particular critical expressed emotion (EE) was strongly associated with hostile and low friendly behaviour. Critical EE concerns criticism, being unreasonable or cynical, and it is therefore conceptually connected with hostility and low friendliness. Next, critical EE correlates with support-seeking behaviour. It is understandable that staff having a tendency to show negative emotional reactions send interpersonal signals for back-up and support in contact with their clients. This is in line with Hastings and Brown (2002), who found that higher self-efficacy– which can be seen as the opposite of support-seeking - predicted less negative emotional reactions.

Increased self-reflection proved to be associated with more support-seeking behaviour. It is likely that staff members who show high levels of self-reflection are skilful in using an important principle of change, namely, complementarity. Increases in complementary support-seeking staff behaviour may evoke more assertive behaviour in clients, thereby changing challenging behaviour, such as aggressive and oppositional behaviour, into adaptive behaviour. The positive association between support-seeking behaviour and self-reflection is in line with results from a study by Horowitz *et al.* (2006), showing that interpersonal behaviour is motivated by a relatively strong goal orientation, while these underlying goals or motives are not necessarily open to inspection. In case of staff acting in a support-seeking manner in response to challenging behaviour, while the opposite - exerting control – might be expected, it is likely that they will start reflecting upon their feelings, motives and expectations for their unconventional behaviour. Such conscious reflection can also lead to proactive thinking with regard to one's interpersonal behaviour in the future, which might explain the strong association between self-reflection and proactive thinking.

Finally, proactive thinking of staff was associated with assertive control as well as with educational level. It is plausible that thinking ahead in case of dealing with challenging behaviour helps staff to think of more guidance and directing interventions in their attempts to take control over challenging behaviour. Also, this finding can be considered as a powerful therapeutic tool which can be further enhanced by more training, because proactive thinking is likely to be more helpful than just restrict oneself to reacting upon challenging behaviour.

Although it is encouraging to see that comparable instruments for the assessment of caregiver-child interaction (de Schipper, 2007) and the assessment of the psychotherapeutic relationship (e.g., WAI, BLRI) encompass mostly the same factors

and behavioural dimensions, the SCIBI must be further validated by paying attention to discriminant, convergent and predictive validity. Because the SCIBI is a self-report measure of staff behaviour, it is imperative that scores on the SCIBI be compared with observations of staff behaviour. In future studies of interpersonal staff behaviour, it is also essential to incorporate more personal characteristics of clients, like type of challenging behaviour and client interpersonal behaviour, to examine effects on the various interpersonal staff behaviours. This inventory is a translation of a Dutch scale and therefore it is important that for use in an English setting, the psychometrics must be further examined to ensure that the translation has not affected the underlying factor structure.

In proposing a practical and research framework, Hastings (2005) argues that challenging behaviour of clients can be more fully understood when variables affecting staff behaviour are identified, focusing on their behaviour, their emotional reactions and their beliefs and attitudes towards challenging behaviour. As suggested in the introduction, the SCIBI can be used to assess some of these interpersonal and intrapersonal staff behaviours, examining the influence of staff beliefs, psychological resources, such as self-efficacy and coping style, and social support in teams.

Besides identifying aspects of interpersonal behaviour of staff members that are related to the occurrence of challenging behaviour, one can also use the SCIBI to identify the specific interpersonal behaviours that work best with individual clients. Moreover, with a focus on the differences between the ideal profile and an ideographic staff profile, coaching goals can be set. In consulting practice and in training programs, a profile of the four interpersonal staff behaviours makes it possible to implement some powerful principles of change from interpersonal and systems-oriented therapy, e.g. symmetry and complementarity. In staff training, it is advisable to use video and verbal feedback, which has been proven to be an effective staff intervention (Embregts, 2002; Van Oorsouw *et al,.* 2009). Furthermore, our study shows the need for reducing critical EE, stimulating more self-reflection and enhancing proactive thinking related to interpersonal staff behaviour. Cognitive-behavioural training and emotional intelligence training (Embregts & Gerits, 2007) are some possible intervention strategies for this. For purposes of team discussion and feedback, the SCIBI might also be completed by colleagues of a staff member (i.e., other-report) for comparison with self-report, thus leading to more open communication in a team on one's behaviour towards a particular client.

Given that the SCIBI only takes about 5-10 min to administer, it certainly merits a place in the multidimensional assessment of challenging client behaviour. Other instruments can be used to assess such staff characteristics as coping style, stress, emotional intelligence and personality factors. The SCIBI can be used to assess the interpersonal characteristics of staff working in various contexts.

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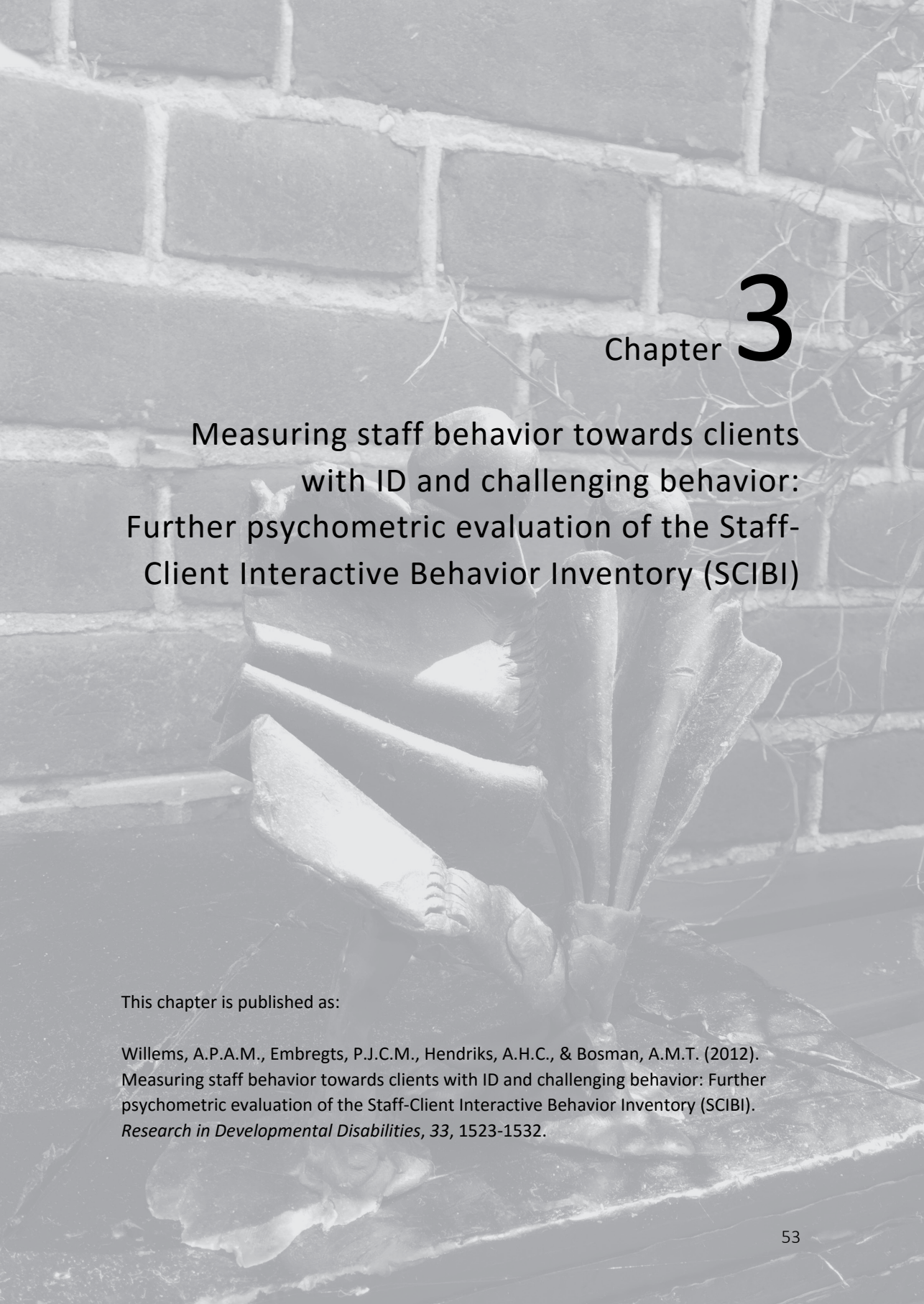

Chapter 3

Measuring staff behavior towards clients with ID and challenging behavior: Further psychometric evaluation of the Staff-Client Interactive Behavior Inventory (SCIBI)

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ABSTRACT

Recently, the Staff-Client Interactive Behavior Inventory (*SCIBI*) was developed, measuring both interpersonal and intrapersonal staff behavior in response to challenging behavior in clients with ID. The aim of the two studies presented here was first to confirm the factor structure and internal consistency of the *SCIBI* and second to demonstrate its convergent validity.

In the first study, a total of 265 support staff members, employed in residential and community services, completed the *SCIBI* for 62 clients with ID and challenging behavior. In the second study, 158 staff members completed the SCIBI for 158 clients, as well as the *SASB-Intrex*, the *NIAS* and the Bar-On Emotional Quotient Inventory (*EQI*).

Replication of a confirmatory factor analysis resulted in a consistent seven-factor solution of the *SCIBI* with high levels of internal consistency. Also, mostly good convergent validity with the *SASB-Intrex* and sufficient to good convergent validity with the *NIAS* and *EQI* were found, except for the self-reflective intrapersonal staff behavior scale.

By replicating and extending earlier results on the *SCIBI*, it proves to be a reliable and sufficient valid measure of interpersonal and intrapersonal behavior of staff working with people with intellectual disabilities.

3.1 INTRODUCTION

People with intellectual disabilities (ID) are at higher risk for developing behavior and mental health problems compared to people without ID (Deb, Matthews, Holt, & Bouras, 2001). Unfortunately, these challenging behavior problems are not only instigated by medical, psychological and psychiatric client conditions, but these problems are also known to be strengthened and maintained by behavior of support staff (Hastings & Remington, 1994). At the same time, staff members are the key agents in behavioral interventions for people with ID, including reducing challenging behavior (Felce, Lowe, Beecham, & Hallam, 2000). Most research with respect to staff interventions was based on the principles of applied behavioral analysis (Emerson, 2001) and focused on certain types of staff behavior, like helping behavior (Willner & Smith, 2008). More recently, research is also focusing on the influence of staff psychological or intrapersonal factors – such as beliefs, attributions and emotional reactions – on staff behavioral interventions in general (Hastings, 2005; Van Oorsouw, Embregts, Bosman, & Jahoda, submitted; Rose, 2011; Wanless & Jahoda, 2002).

Motivated by these studies with respect to staff behavior, Willems, Embregts, Stams, and Moonen (2010) focused on both interpersonal and intrapersonal staff behavior, based on a large research tradition on interpersonal models (Benjamin, 1996, 2003; Leary, 1957; Schaeffer, 1965) instead of focusing only on helping behavior, for which inconsistent results have been reported (Zijlmans, Embregts, Bosman, & Willems, submitted). Willems and colleagues constructed the Staff-Client Interactive Behavior Inventory (*SCIBI*) as an instrument to measure four interpersonal behavior factors (assertive control, hostile, friendly, and support-seeking behavior) and three intrapersonal factors (proactive thinking, self-reflection, and critical expressed emotion). They stated that the *SCIBI* might be used for assessment purposes, by identifying interpersonal staff behaviors which are related to the occurrence of challenging behavior of an individual client. One can also use this instrument for therapeutic purposes, by focusing on the specific interpersonal staff behaviors that work best with an individual client. Currently, the *SCIBI* has a central place in staff interaction feedback sessions and a staff interaction training program, implementing some powerful principles of change from interpersonal and systems-oriented therapy, e.g. symmetry, complementarity and antithesis. The *SCIBI* is predominantly based on several interpersonal models of personality (Benjamin, 1996; Leary, 1957; Wiggins, Trapnell, & Phillips, 1988), with two robust orthogonal dimensions, namely, a control dimension (i.e. dominance-submission) and an affiliation dimension (i.e. love-hate). Willems et al. found almost equivalent factors with assertive control and support-seeking interpersonal behavior for the control dimension and friendly and hostile interpersonal behavior for the affiliation dimension.

In line with Hastings' findings (2005) that staff emotional reactions are related to challenging behavior, Willems et al. (2010) included the factor expressed emotions as

one of the intrapersonal factors of staff behavior. Noone and Hastings (2009) have demonstrated in their research on emotional acceptance and mindfulness that not only the emotional reactions themselves prove to be important, but also how staff is dealing with such emotions appears to be essential. Jackson, Firtko, and Edenborough (2007) showed that this kind of emotional insight and being more reflective was important for enhancing personal resilience, which motivated Willems et al. to include (emotional) self-reflection as a second intrapersonal factor. Finally, Mitchell and Hastings (2001) found that staff often use adaptive coping strategies, such as planning and active coping when confronted with challenging behavior. Therefore, Willems et al. considered proactive thinking to be a third important intrapersonal characteristic of staff who have to deal with challenging behavior in clients with ID. In their study, they found support for excellent construct validity of the *SCIBI* and good internal consistency as a measure of reliability (ranging from 0.68 to 0.89). Willems et al. recommend further validation studies on the *SCIBI* by paying attention to convergent, discriminant, and predictive validity. This is in line with several methodological criteria that can be used in order to evaluate the psychometric properties of a self-report instrument, including reliability, confirmatory factor analysis, and several forms of construct validity (Robinson, Shaver, & Wrightsman, 1991).

Therefore, the goal of the first study was to confirm the underlying factor structure of the SCIBI and to evaluate its internal consistency for staff working with individuals with ID and challenging behavior living in a residential or community facility. In the second study, the aim was to demonstrate further validity, by determining convergent validity of the *SCIBI*, comparing the *SCIBI* with existing instruments that measure interpersonal and intrapersonal behavior in general.

3.2 METHOD

3.2.1 Study 1

Participants

In the first study, carried out in the Netherlands in 2008-2010, a total of 265 direct care staff members participated, employed in ten facilities for individuals with IDs. Most of the 265 staff members were female (Table 1). In addition to high school, 67% of the staff had a three-year professional training in the domain of nursing or social work, which is standard in the Netherlands for direct support staff; 28% had a college-degree in nursing, teaching or social science.

Procedure

Data on most of the direct care staff (n = 185) were collected from staff working with clients with challenging behavior for whom the first author was consulted as a member

of the Multi-Disciplinary Centre for Dual Disabilities, a specialized interdisciplinary team in the south of the Netherlands. Staff as well as their associated psychologists and physicians consult this team in case there are serious concerns about the diagnosis and treatment of clients with severe behavior and psychiatric problems. The remaining 80 participants were staff members who completed the *SCIBI* as part of an effect study on a training program for staff working with mild ID clients and behavior or psychiatric problems, supervised by the second author. In this first study, the Staff-Client Interactive Behavior Inventory (*SCIBI*, a translation of a Dutch instrument) for each particular client was completed by different numbers of staff members, ranging from 1 to 12. Staff data on the *SCIBI* were analyzed with respect to 62 clients ranging from mild to severe ID and severe behavior or psychiatric problems, of which about two-thirds were diagnosed with a mild ID and one-third with lower ID levels. Almost one-third of the clients were female.

Table 1. Descriptive characteristics of support staff and clients

	Study 1	Study 2
Support staff	*n* = 265	*n* = 158
Female (%)	77.7 (*n* = 206)	78.5 (*n* = 124)
Age (years)		
M	34.6	35.6
SD	10.6	9.9
Training level (%)		
High school	5 (*n* = 13)	5.7 (*n* = 9)
Professional training	66.8 (*n* = 177)	51.3 (*n* = 81)
College degree	28.3 (*n* = 75)	43 (*n* = 68)
Type of job (%)		
Direct care staff	100 (*n* = 265)	81 (*n* = 128)
Occupational therapy staff		19 (*n* = 30)
Job experience (years)		
M	9.9	12.6
SD	8.7	9.8
Range	.2-42	1-41
Clients	*n* = 62	*n* = 158
Female (%)	27.4 (*n* = 17)	45.6 (*n* = 72)
Age (years)		
M	30.8	33.5
SD	15.8	14.6
Range	8-64	3-72
ID level (%)		(2 missing)
Mild	67.7 (*n* = 42)	41.7 (*n* = 65)
Moderate	17.7 (*n* = 11)	31.4 (*n* = 49)
Severe/profound	14.5 (*n* = 9)	26.9 (*n* = 42)

Instrument

In this study, staff members were asked to complete the Staff-Client Interactive Behavior Inventory (*SCIBI)*, which is a 30 items self-report questionnaire using a five-point Likert Scale, ranging from *completely inapplicable (1)* to *completely applicable (5).* The development and construct validity of this instrument is described in Willems et al. (2010). Staff behavior towards an individual client addressed by the *SCIBI* includes randomly distributed questions on four interpersonal staff behaviors: (a) assertive control (*n* = 7), (b) hostile interpersonal behavior (*n* = 4), (c) friendly interpersonal behavior (*n* = 5), and (d) support-seeking interpersonal behavior (*n* = 3), as well as the following intrapersonal staff behaviors: (e) proactive thinking, (*n* = 3), (f) self-reflection (*n* = 3) and (g) critical expressed emotion (*n* = 5). Cronbach's alpha values of the *SCIBI* scales in that study were satisfactory, ranging from .68 (support-seeking) to .89 (proactive thinking). Also, all *SCIBI*-items loaded highly (over .50) and exclusively on their corresponding factors (Table 2).

Statistical analysis

In Study 1, a confirmatory factor analysis was employed on the *SCIBI*, using Mplus version 6.1 (Muthén & Muthén, 1998-2010). Fit-indices (CFI, TLI, and RMSEA) and the model Chi-square were used to evaluate model fit (Kline, 2005). The following fit index cut-off values are indicative of good model fit: CFI > .95, TLI > .95, and RMSEA < .05, whereas a non-significant Chi-Square indicates exact model fit (Hu & Bentler, 1999; Kline, 2005). Conventional goodness of fit criteria in confirmatory factor analysis, however, may be too restrictive (Marsh, Hau, & Wen, 2004). The cause of this is that in CFA cross loadings are constrained to zero whereas in EFA small cross loadings are allowed and estimated. According to Marsh et al. it is almost impossible to get acceptable fit (e.g. CFI > .90, RMSEA < .05). Because the items of Study 1 can be very skew and have a restricted range (1-5), the measurement level of the scores on the items are more ordered categorical (ordinal) than interval. To estimate the parameters of the factor model we used the Weighted Least Squares estimator with Mean and Variance adjusted Chi-square statistic (WLSMV), an estimator specially developed for ordered categorical variables (Muthén & Muthén, 1998-2010).

Reliability for the *SCIBI* in Study 1 was determined by calculating omega's. Within the framework of structural equation modeling (SEM) McDonald (1999) proposed a reliability index ω based on true score variances and error variances of the k indicators of a latent variable. This measure is also known as Jöreskog rho (Jöreskog, 1971). The index is not only suited for latent variables based on indicators of interval or ratio measurement level but also for binary or ordered categorical indicators (Bentler, 2009). Schweizer (2011) proposes to use this measure within SEM.

3.2.2 Study 2

Participants

In the second study, also carried out in the Netherlands in 2010, a total of 158 staff members participated, employed in nine facilities for individuals with IDs. Most of the 158 staff members were female and in addition to high school, there was a rather high percentage (43%) with a college-degree in nursing, teaching, or social science (Table 1). Most of the participants were employed as direct care staff, but also 19% as occupational therapy staff.

Procedure

Participants for this study were recruited through a quota sample in nine facilities representative for staff in the Netherlands working with ID clients with challenging behavior, regarding staff gender, age, training level, type of job, and years of experience. Of the 235 questionnaires sent to these nine facilities, 165 questionnaires were returned, resulting in a response rate of 70% (range between facilities 38% - 100%). To make sure that the data were independent, all staff completed the *SCIBI* for only one client, resulting in data on 165 clients. Data on seven staff members were excluded because the protocol of one of the instruments recommends filtering the data for inconsistency and positive or negative impression scores, resulting in 158 valid questionnaires. Furthermore, we succeeded almost perfectly in the purpose to include similar numbers of male and female clients (preferred quota 50%-50%), with a full range of ID-level (preferred quota 50% diagnosed with mild ID, 25% with moderate ID and 25% with severe/profound ID). To be able to generalize the results regarding a full range of challenging behavior, we included not only data on clients with predominantly externalizing challenging behavior (74%), but also on clients with predominantly internalizing challenging behavior (26%). Challenging behavior was defined as behavior of such intensity, frequency, or duration that the physical safety of the person or others is placed in serious jeopardy or behavior which is likely to seriously limit of deny access to the use of ordinary community facilities (Emerson, 2001).

Instruments

In the second study, in addition to the SCIBI, staff also completed three other instruments: the Structural Analysis of Social Behavior Intrex *(SASB-Intrex*), the Nederlandse Interpersoonlijke Adjectieven Schalen *(NIAS)* and the Bar-On Emotional Quotient Inventory (*EQI)*. First, the *SASB-Intrex* (medium form) by Benjamin (1995), which we translated in Dutch, comparing it with a preliminary translation in Flemish (M. Desmet and R. Inslegers, personal communication, January 7th, 2010). Because we were only interested in how staff describe themselves towards an individual client, we only used the 32 interpersonal items of the Intrex (form B He/Present) on how a staff member describes

him- or herself towards a significant other person (i.e., the client), measuring sixteen interpersonal factors on the affiliation and the control dimensions. Also, different from the original instruction, we asked staff to rate themselves at their average daily behavior towards the client instead of how they behave at their best or their worst. The *SASB-Intrex* medium form has demonstrated high split half reliability (α = .82), high test-retest reliability (r = .84) and good content, construct, predictive, and concurrent validity with measures on personality traits, interpersonal circle and prediction of therapy outcome (Benjamin, Rothweiler, & Critchfield, 2006). As a preliminary test of the structural integrity of our Dutch translation of the *SASB-Intrex* in this sample of care staff, we conducted a confirmatory factor analysis (Mplus), presented in the results.

In the second study staff also completed the Nederlandse Interpersoonlijke Adjectieven Schalen *(NIAS*-short form, Rouckhout, & Schacht, 2000, 2008), which is a Dutch alternative for the Interpersonal Adjectives Scales-revised *(IAS-R*, Wiggins, Trapnell, & Phillips, 1988). The *NIAS* measures eight factors of the interpersonal circumplex, consisting of two orthogonal dimensions dominance-submissiveness (control-dimension) and love-hate (affiliation dimension). It has displayed good internal consistency (alpha's ranging from .77 to .92), and good convergent construct validity with empathy and personality traits as extraversion and agreeableness (Rouckhout & Schacht, 2000, 2008).

Third, the Dutch version of the Bar-On Emotional Quotient Inventory (Bar-On, 1997), developed by Derksen, Jeuken, and Klein Herenbrink (1998), was administered to measure emotional intelligence. This 133-item inventory consists of 15 factors on the domains of Intrapersonal Abilities, Interpersonal Skills, Adaptability, Stress-Management, and General Mood. Its internal consistency is good (ranging from .69 to .86) and the average test-retest reliability coefficients after 1 and 4 months have been found to be .85 and .75, respectively. The construct validity of the *EQI* scales has been examined in 16 countries, and it taps a broad range of related emotional constructs (Derksen et al., 1998).

Statistical analysis

Reliability for the Dutch translation of the *SASB-Intrex* in Study 2 was determined by calculating omega's, conducting the same analysis as reported on in Study 1.

After a preliminary analysis on the normal distribution of the data, further analyses of Study 2 were focused on validity, by determining convergent validity of the *SCIBI* with the *SASB-Intrex*, because the *SCIBI* and the *SASB-Intrex* both measure interpersonal behavior with respect to an individual. Also, the convergent validity of the *SCIBI* with the *NIAS* and *EQI* is determined, because respectively, these instruments measure interpersonal behavior in general and emotional intelligence in general. First, the 165 *EQI* protocols were validated by filtering, as suggested by Gerits, Derksen, and Verbruggen (2004), for consistency (Inconsistency Index > 12), positive impression (Positive Impression Score > 130), and negative impression (Negative Impression Score > 130). The final sample

consisted of 158 valid *EQI* protocols (95,8%). The *SCIBI*-variables in this second study were ordinal and not normally distributed, so for *n* = 158 non-parametric Spearman's correlation analyses were performed and these correlations were Bonferroni corrected because multiple correlations were calculated (Curtin & Schulz, 1998).

3.3 RESULTS

The results are reported in five sections, in which the first section is on Study 1 and the remaining four sections are on Study 2.

3.3.1 Study 1: Confirmation of factor structure of the SCIBI and internal consistency reliability

In order to establish construct validity, a confirmatory factor analysis was performed on all items of the *SCIBI* in Study 1 with *n* = 265 staff members, using Mplus. The seven-factor solution did not show an exact fit to the data: χ^2 (384) = 607.52, *p* = .001, but the fit-indices were good: RMSEA = .047, CFI = .92 and TLI = .90. The results are presented in Table 2, which shows that reliability coefficients (omega's) were mostly sufficient to (very) good and item analyses revealed that all items contributed highly to the internal consistency. Most reliability indices of this study even proved to be higher than Cronbach's alpha's and factor loadings from an earlier study on *n* = 292 staff members (Willems et al., 2010) (Table 2).

Table 2. All 30 SCIBI-items, omega's, and factor loadings

		Study 1 Factor loadings	2010-study[a] Factor loadings
Factor 1 Item no.	**Assertive Control interpersonal behavior**	Omega ω = .85	Cronbach's α = .84
1	I handle my rules in a strict manner	.76	.65
9	I go my own way despite critique from this client	.53	.53
11	I impose strict demands upon this client	.71	.61
13	I impose my will irrespective of what he may think	.69	.59
20	I act correctively towards this client	.75	.80
22	I act prohibitively towards him	.73	.76
25	I take the lead when I am with this client	.50	.54
Factor 2 Item no.	**Hostile interpersonal behavior**	Omega ω = .75	Cronbach's α = .72
8	I protest with this client when I do not agree with him	.56	.51
14	I state my opinion directly to him	.47	.54
23	I let him see my anger	.82	.74
26	I grumble at this client	.75	.78

		Study 1 Factor loadings	2010-study[a] Factor loadings
Factor 3	**Friendly interpersonal behavior**	Omega ω = .91	Cronbach's α = .82
Item no.			
2	I value this client	.70	.57
4	I like to communicate with him	.80	.70
7	I like doing something with this client	.87	.79
17	I can work well with this client	.83	.66
26	I often feel nice with this client	.89	.82
Factor 4	**Support-seeking interpersonal behavior**	Omega ω = .78	Cronbach's α = .68
Item no.			
10	I can handle everything better when this client supports me	.77	.77
15	I need encouragement from him	.70	.57
19	I like to be backed up by him	.76	.63
Factor 5	**Proactive thinking (intrapersonal behavior)**	Omega ω = .89	Cronbach's α = .89
Item no.			
21	In working with this client, I think about WHAT I am going to do.	.78	.77
27	In working with this client, I think about HOW I am going to do things	.96	.91
30	In working with this client, I think about WHY I am going to do things in such a manner	.83	.87
Factor 6	**Self-reflection (intrapersonal behavior)**	Omega ω = .64	Cronbach's α = .70
Item no.			
3	In working with this client, I think about what I myself want to attain	.46	.60
24	In working with this client, I think about what I would like to receive in return from him	.84	.52
29	In working with this client, I think about how I feel	.52	.79
Factor 7	**Critical Expressed Emotion (intrapersonal behavior)**	Omega ω = .76	Cronbach's α = .75
Item no.			
5	In working with this client, I have the tendency to deliver a long "sermon"	.63	.61
6	In working with this client, I have the tendency to work hard in order not to have to think about anything	.67	.69
12	In working with this client, I have the tendency to sometimes reject a reasonable proposal	.61	.51
16	In working with this client, I have the tendency to act directly without knowing where I really want to go	.55	.71
18	In working with this client, I have the tendency to approach him cynically	.64	.58

[a] From Willems et al. (2010), p. 44. Copyright 2009 Wiley-Blackwell Publishing Company.

3.3.2 Study 2: Preliminary analysis

In Study 2 with *n* = 158, most of the seven *SCIBI*-factors were significantly non-normal (Kolmogorov-Smirnov test), except Hostility *D*(158) = .07, *p* > .05, therefore only non-parametric Spearman's correlation analyses were performed.

3.3.3 Study 2: Descriptives and reliability of the Dutch translation of the SASB-Intrex

Because this is the first time the *SASB-Intrex* has been translated for a Dutch setting, Table 3 presents the means (minimum of 0 and maximum of 100) and standard deviations for all 16 scales, based on the data from 158 support staff in Study 2. These means of staff average daily behavior are compared with an American sample (*n* = 98) of psychotherapy patients rating their interpersonal behavior towards a significant other at their best as well as at their worst, because no other means were available (Benjamin, 2000). Staff rated their interpersonal behavior as moderately low as American patients at their worst on Freeing-Forgetting, Affirming-Understanding, Loving-Approaching, Disclosing-Expressing, Joyfully connecting, and Trusting-Relying behavior. Means which were comparable with American best ratings were found for Belittling-Blaming, Attacking-Rejecting, Ignoring-Neglecting, Sulking-Scurrying, Protesting-Recoiling, and Walling-off-Distancing behavior and they were very low, as can be expected in support staff. Most remarkable were the high ratings for Watching-Controlling and Nurturing-Protecting behavior.

This translation was used for a very different group respondents, being support staff professionally working with clients with ID and challenging behavior, rather than psychotherapy patients rating their behavior towards a significant other, as in the original SASB-Intrex. As a preliminary test of the structural integrity of this translation in this sample of care staff, the reliability indices are presented in Table 3, with omega's for all 16 scales, which resulted in only two very low or negative omega's on Affirming-Understanding and Attacking-Rejecting behavior. Therefore we consider the reliability of 14 of these 16 scales as sufficient and we decided to use the data concerning these 14 scales.

Table 3. All 16 SASB-Intrex-subscales, means, means of American sample best/worst, and omega's of Dutch SASB-Intrex-translation.

		Sample, *n* = 158 means (SD)	American sample, *n* = 98 best means (SD)	American sample, *n* = 98 worst means (SD)	Omega's *ω*, Dutch translation
Scale 1	Freeing-Forgetting	42.03 (22.00)	72.94 (23.85)	58.47 (26.8)	.53
Scale 2	Affirming-Understanding	64.03 (19.19)	84.08 (12.15)	54.11 (23.47)	.25
Scale 3	Loving-Approaching	57.18 (27.23)	82.05 (18.2)	49.42 (27.37)	.80
Scale 4	Nurturing-Protecting	75.41 (18.10)	77.98 (18.07)	49.01 (26.63)	.69
Scale 5	Watching-Controlling	65.28 (21.68)	20.91 (20.67)	25.78 (24.04)	.72
Scale 6	Belittling-Blaming	11.20 (15.72)	8.82 (12.95)	22.38 (22.57)	.51
Scale 7	Attacking-Rejecting	2.18 (5.90)	3.77 (8.91)	12.29 (21.03)	-.84
Scale 8	Ignoring-Neglecting	9.18 (15.08)	8.31 (16.03)	24.25 (27.36)	.48
Scale 9	Asserting-Separating	51.30 (26.61)	65.75 (22.29)	62.21 (23.84)	.73
Scale 10	Disclosing-Expressing	51.39 (25.22)	81.1 (17.02)	54.1 (27.43)	.70
Scale 11	Joyfully connecting	57.75 (23.51)	85.86 (17.57)	51.25 (30.63)	.85
Scale 12	Trusting-Relying	53.01 (21.27)	76.68 (18.63)	49.53 (26.64)	.65
Scale 13	Deferring-Submitting	26.74 (18.08)	25.56 (24.13)	25.26 (23.68)	.54
Scale 14	Sulking-Scurrying	6.65 (11.36)	19.84 (20.91)	28.54 (21.54)	.71
Scale 15	Protesting-Recoiling	4.40 (10.82)	7.55 (14.87)	22.85 (28.17)	.75
Scale 16	Walling-off-Distancing	18.39 (16.03)	17.44 (19.22)	43.62 (25.99)	.50

Note. Factors and items are all from "*SASB Intrex Users Model*." by L.S. Benjamin (2000).Copyright 2000 by University of Utah. Translated with permission of the author.

Table 4. Correlations between SCIBI-interpersonal factors and SASB-Intrex and NIAS

SCIBI-interpersonal	Assertive Control	Hostile	Friendly	Support-seeking
SASB-Intrex				
Freeing-Forgetting	-.18	.06	-.00	.12
Loving-Approaching	.05	.05	.32**	.12
Nurturing-Protecting	.05	.01	.46**	.05
Watching-Controlling	.51**	.35**	.27*	.01
Belittling-Blaming	.42**	.48**	.02	.19
Ignoring-Neglecting	.21	.27*	-.25*	.20
Asserting-Separating	.19	.17	.07	.05
Disclosing-Expressing	.11	.27*	.32**	-.00
Joyfully connecting	.16	.14	.70**	.06
Trusting-Relying	.21	.20	.49**	.17
Deferring-Submitting	-.18	-.12	.07	.15
Sulking-Scurrying	.14	.15	-.26*	.36**
Protesting-Recoiling	.06	.06	-.41**	.14
Walling-off-Distancing	.02	.03	-.42**	.16

SCIBI-interpersonal	Assertive Control	Hostile	Friendly	Support-seeking
NIAS				
PA-controlling	.31**	.26*	-.03	.18
BC-competitive	.26*	.29**	-.05	.19
DE-attacking	.25*	.27*	-.23*	.23*
FG-distrusting	.11	.07	-.19	.24*
HI-submissive	-.03	-.07	.07	.08
JK-docile	-.02	-.06	.20	.02
LM-friendly	-.05	-.06	.18	-.04
NO-extravert	.18	.14	.23*	-.08

Note. For the SASB-Intrex, Bonferroni corrected Spearman's rho (two-tailed) * $p < .004$, ** $p < .001$.
For the NIAS, * $p < .006$, ** $p < .001$.

3.3.4 Study 2: Convergent validity of the interpersonal factors of the SCIBI

The *SASB-Intrex* and the *NIAS* are exclusively interpersonal instruments, the first focusing on interpersonal behavior towards an individual and the second on interpersonal behavior in general. Therefore, only relationships between the four interpersonal *SCIBI*-factors and respectively the 14 *SASB-Intrex* and eight *NIAS* factors are presented in Table 4, by calculating Spearman's rho with Bonferroni-correction. To determine convergent validity for the four interpersonal *SCIBI*-factors based on these 14 interpersonal factors of the *SASB-Intrex*, we expected to find correlations between Assertive control and the Intrex-factors Watching-Controlling, Asserting-Separating and Belittling-Blaming behavior (positively) and with Deferring and Freeing behavior (negatively). Only on Control and Blame the correlations proved to be significant and high (Bonferroni corrected). Regarding Hostile, we expected correlations with Watching-Controlling, Belittling-Blaming, Ignoring-Neglecting and Disclosing-Expressing behavior (positively) and with Loving-Approaching and Joyfully connecting behavior (negatively). Four of these six correlations proved to be significant. With respect to Friendly, positive correlations were expected with Loving-Approaching, Nurturing-Protecting, Disclosing-Expressing, Joyfully connecting and Trusting-Relying behavior, and negative correlations with Belittling-Blaming, Ignoring-Neglecting , Sulking-Scurrying, Protesting-Recoiling and Walling-off-Distancing behavior. Almost all correlations were significant and several were high, except for Belittling-Blaming . Also, one unexpected positive correlation with Watching-Controlling was found. For Support-seeking, we only found one of the expected positive correlations with Sulking-Scurrying and not for Trusting-Relying behavior.

Concluding, because 16 of the 23 expected correlations were found to be significant, the four interpersonal *SCIBI*-factors demonstrated sufficient to good convergent validity, mostly and highest for Assertive Control, Hostile and Friendly interpersonal behavior.

Because the *NIAS* was completed as an instrument for interpersonal behavior towards ID-clients in general, we also determined convergent validity for the four interpersonal *SCIBI*-factors based on the eight interpersonal factors of the *NIAS* (Table 4). Three of the five expected correlations between Assertive control and controlling, competitive, attacking, extravert behavior and negatively with submissive behavior proved to be significant. Regarding Hostile, all expected correlations with controlling, competitive and attacking behavior were significant, but not the negatively expected correlation with friendly behavior. With respect to Friendly, only two expected correlations with extravert and attacking behavior (negatively) were significant, although those with docile, friendly and distrusting behavior were in the right direction. For Support-seeking, a significant correlation was found as expected with distrusting behavior, but also unexpected with attacking behavior, and no correlation was found with docile and submissive behavior.

Therefore, with regard to convergent validity of the four interpersonal *SCIBI*-factors, it can be concluded that 9 of the 17 expected correlations with the *NIAS* were found to be significant, thereby demonstrating sufficient convergent validity, mostly for the Assertive Control and Hostile factors.

3.3.5 Study 2: Convergent validity of the intrapersonal factors of the SCIBI

Because support staff completed also the *EQI* as an instrument for emotional intelligence, convergent validity can be determined for the three intrapersonal *SCIBI*-factors based on the five *EQI*-domains (Table 5). We expected correlations, calculating Spearman's rho with Bonferroni correction, between Proactive thinking and four of the *EQI*-domains, except General Mood *EQI*. Only the correlations between Interpersonal and Adaptation *EQI* proved to be significant. For Self-reflection, no expected correlations were found with Intrapersonal *EQI*. With regard to Critical Expressed Emotion, the negatively expected correlations with Intrapersonal *EQI*, Stress-management *EQI* and Adaptation *EQI* all proved to be significant. Therefore, it can be concluded that two of the three *SCIBI*-intrapersonal factors demonstrated sufficient convergent validity.

Table 5. Correlations between SCIBI-intrapersonal factors and EQI

SCIBI-intrapersonal	Proactive thinking	Self-reflection	Critical Expressed Emotion
Intrapersonal EQI	.08	-.10	-.24*
Interpersonal EQI	.28**	.12	-.21*
Stress-management EQI	.16	-.05	-.27*
Adaptation EQI	.22*	-.05	-.28**
General mood EQI	.17	.00	-.18

Note. For the EQI, Bonferroni corrected Spearman's rho (two-tailed) * $p < .01$, ** $p < .001$

3.4 DISCUSSION

In an earlier study, the *SCIBI* was developed and validated as a self-report instrument to assess interpersonal and intrapersonal behavior of support staff, and was considered to be useful for identifying staff behavior, which can strengthen or maintain challenging behavior of ID clients (Willems et al., 2010). In line with general methodological recommendations to conduct further validation studies on new instruments, the present research investigated the psychometric properties of the *SCIBI* by replicating that earlier confirmatory factor and reliability analysis and by further evaluating its convergent validity.

In the first study, the seven factor structure of the *SCIBI* was replicated and in addition, sufficient to good internal consistency was found for the *SCIBI*, resulting in higher reliability coefficients than in the earlier study (2010). The *SCIBI* therefore proves to be a reliable instrument with good content and construct validity to measure interpersonal and intrapersonal staff behavior towards clients with ID and challenging behavior.

In the second study, convergent validity analyses were conducted, comparing the *SCIBI* with the *SASB-Intrex*, the *NIAS* and the *EQI*, as these instruments are reliable and validated measures for interpersonal behavior and emotional intelligence. Because this was the first Dutch translation of the *SASB-Intrex* with 16 factors, a reliability analysis was conducted, resulting in nine good and five sufficient reliable factors. This can be considered as an encouraging result, because the *SASB-Intrex* usually has to be revised and retested in a different language for about five times (Benjamin, personal communication, December 28th, 2011). In our study respondents were support staff professionally working with clients with ID and challenging behavior, mostly externalizing behavior. Most remarkable were their very high ratings with respect to Watching-Controlling behavior, compared to psychotherapy patients rating their behavior towards a significant other. This is in line with Huitink, Embregts, Veerman, and Verhoeven (in press), who found that staff were more focused on 'behavior regulation' and 'teaching', rather than 'empowerment' and 'client-directed care', when confronted with externalizing challenging behavior like major conduct and hyperactivity-inattention problems.

Regarding validity with the *SASB-Intrex*, convergent validity was found for most of the interpersonal *SCIBI*-factors, but this was weak for the *SCIBI* support-seeking subscale. Close inspection of the items of this factor support-seeking reveal that these items are very different from the corresponding 'submission'-factor on the control dimension in the interpersonal SASB-model, which can explain the absence of expected high correlations with *SASB-Intrex* factors Submit, Trust, and Sulk.

Furthermore, sufficient support was found for convergent validity for the four interpersonal *SCIBI* factors with the *NIAS*. Correlations were somewhat lower compared to those with the *SASB-Intrex*, possibly because the *NIAS* measures interpersonal behavior towards ID clients in general and the *SCIBI* and *SASB-Intrex* both focus on an individual client with challenging behavior. Therefore it can be concluded that the

results of the second study supported sufficiently the convergent validity for the interpersonal factors of the *SCIBI*.

Also, convergent validity for two of the three intrapersonal factors of the *SCIBI* was demonstrated by significant correlations with several *EQI*-domains. Unexpectedly, the third intrapersonal SCIBI factor Self-reflection was not consistently related to Intrapersonal *EQI*. This may be due to the fact that the *SCIBI* items are all formulated on how one cognitively thinks about what one wants to attain and receive in return in a relation to a client, whereas Intrapersonal *EQI* is predominantly about emotional concepts regarding oneself, like self-regard, independence, self-actualization and emotional self-awareness (Bar-On, 1997).

In conclusion, the factor structure and good internal consistency of the *SCIBI* was replicated in this study and sufficient to good validity was found for almost all *SCIBI* factors and therefore, it can be a useful instrument within research. Nevertheless, this study on the *SCIBI* as a self-report measure was limited by the fact that no concurrent validity was determined with objective observations of interpersonal staff behavior. Also, no test-retest reliability was available and discriminant validity with measures on e.g. staff knowledge needs to be determined. Furthermore, no exact data were collected on staff and client race nor on types of challenging behavior, thereby limiting the possibility for comparing these results with research on several ethnic groups and specific types of challenging behaviour.

Recently, Hastings (2010) stressed the need to develop ways to measure dimensions of the relationships between support staff and ID clients. The *SCIBI* can be considered as such an instrument constricted to one of these relation partners, namely, support staff. Starting from the framework proposed by Hastings (2005), the *SCIBI* might be useful to measure the influences of client behavior, staff psychological resources, and organizational factors on interpersonal and intrapersonal staff behavior. Secondly, because the *SCIBI* is a self-report instrument, which investigates staff perceptions of their interpersonal and intrapersonal behavior, Rose (2011) also considers the *SCIBI* as a useful instrument to examine the mediating effects of this staff behavior on outcomes for clients. This is in line with the recommendation by Wanless and Jahoda (2002) who focused on the interpersonal cognitions to explain the dynamics of the relation between staff and client. Thirdly, the *SCIBI* may be useful in measuring effects of staff training and coaching on the job, in building respectful relationships (Embregts, 2011), thereby complementing the research on training effects on staff beliefs, emotions and skills.

Furthermore, because the fact the *SCIBI* only takes about 5-10 minutes to administer, it can be useful in daily practice of advising support staff on their treatment of challenging behavior. Based on the outcomes of the *SCIBI*, teams of support staff can reflect on differences between their interpersonal behavior and decide which interpersonal behavior profile actually is related to less challenging behavior. In this way, the *SCIBI* can directly help support staff to adjust their behavior to the interpersonal challenging behavior of ID clients.

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Chapter 4

The analysis of challenging relations: Influences on interactive behaviour of staff towards clients with intellectual disabilities

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ABSTRACT

Relationships between support staff and clients with ID are important for quality of care, especially when dealing with challenging behaviour. Building upon an interpersonal model, this study investigates the influence of client challenging behaviour, staff attitude and staff emotional intelligence on interactive behaviour of one of these relationship partners, being support staff.

A total of 158 support staff members completed a questionnaire on staff interactive behaviour for 158 clients with ID and challenging behaviour, as well as two questionnaires on staff interpersonal attitude and emotional intelligence.

Confronted with challenging behaviour as opposed to no challenging behaviour, staff reported less friendly, more assertive control and less support-seeking interpersonal behaviour. Also, staff used more proactive thinking and more self-reflection in dealing with challenging behaviour. Staff interpersonal attitude in general, mainly a harsh-dominant-resentful attitude, had a significant influence on most staff interactive behaviours towards an individual client with challenging behaviour. The influence of staff emotional intelligence, specifically intrapersonal abilities, on staff interactive behaviour towards an individual client with challenging behaviour was somewhat limited.

This research supports the necessity for training staff in general interpersonal attitudes towards clients as well as training in intrapersonal emotional intelligence, when confronted with challenging behaviour. Future research should focus more on the bidirectional dynamics of staff and client interactions.

4.1 INTRODUCTION

In research on quality of life for people with an intellectual disability (ID), the most frequently cited core domain from the client's perspective is interpersonal relationships (Schalock & Verdugo, 2002). Also, from the perspective of quality of care, it is a challenge to look "at ways of improving the quality of training programmes for care staff by moving away from current approaches that emphasize narrow instrumental competencies to strategies that develop essential expressive and relational aspects of care practice" (Jackson, 2011). This is in line with Hastings (2010), who pointed out that the existing research on staff behaviour is mainly problem oriented, focusing on beliefs, stress, burnout and negative emotional reactions of support staff when confronted with challenging behaviour, rather than measuring the relationship itself between support staff and persons with ID.

To encourage systematic investigation of relationships between staff and persons with ID, Hastings (2010) stresses the need for theory-building regarding relationships, using models like equity theory, which has been reviewed for the field of ID services by Disley, Hatton, and Dagnan (2009). From the perspective of equity theory, support staff are concerned with maintaining the balance between perceived inputs to their relationship with ID clients and perceived outcomes from that relationship. A theoretical framework which focuses on what actually happens in these staff-client relationships, can be found in so called interpersonal models, in which two robust orthogonal dimensions have been demonstrated: (1) dominance/control (dominance-submission) and (2) affiliation (love-hate) (Benjamin, 1996, 2003; Leary, 1957; Wiggins, Trapnell, & Philips, 1988). Consensus regarding at least two comparable underlying dimensions, namely control-discipline and support-warmth, is also demonstrated in family research on parental care (Maccoby & Martin, 1983; Reitz, Deković, & Meyer, 2006).

In an integrative theoretical framework on personality and social relationships, Back *et al.* (2011) stated that social interactions are made up by social behaviours and interpersonal perceptions and that these social behaviours of interaction partners can only be influenced via interpersonal perceptions. In focusing on staff as one of the interaction partners, it is therefore important to use staff perceptions of the relationships with their clients, because staff verbal descriptions in fact partially shape their behaviour (Hastings & Remington, 1994; Hastings, 2010).

Based on an interpersonal model and using staff perceptions, the Staff-Client Interactive Behaviour Inventory (*SCIBI*) was constructed (Willems, Embregts, Stams, & Moonen, 2010; for further validation see Willems, Embregts, Hendriks, & Bosman, 2012). The *SCIBI* is a self-report instrument for support staff, measuring perceptions of four interpersonal staff behaviour factors (assertive control, hostile, friendly, and support-seeking behaviour) and three intrapersonal staff behaviour factors (self-reflection, proactive thinking, and critical expressed emotion).

Acknowledging the importance of relationships in both quality of life and quality of care of ID clients, it is valuable to know what factors contribute to the interactive behaviour of support staff who deliver this care. First of all, in line with the emphasis on bidirectionality in relationships models (Kenny, 1994), it is important to look at factors on the part of the interaction partner of support staff, being ID clients. In an earlier study on the SCIBI (Willems *et al.,* 2010), there was only limited evidence for the influence of some general client characteristics, as sex, age, ID level and autism spectrum disorder, on staff interpersonal behaviour. Results of a recent study conducting the SCIBI, already showed that type of challenging behaviour, aimed at the environment or at the client himself, was significantly related to several interpersonal styles (Zijlmans, Embregts, Bosman, & Willems, 2012). Therefore, it is justified to focus on the impact of the client's behaviour rather than the client's characteristics, by investigating the influence of challenging as opposed to non-challenging client behaviour on staff interactive behaviour.

Secondly, besides the importance of client behaviour, there has been increasing research on the influence of staff factors on staff behaviour towards challenging behaviour of ID clients. However, most studies have been limited to the impact of staff beliefs and emotions on this staff behaviour (Hastings, 2005). Allen (1999) stated that not only beliefs and emotional states, but also attitudes of staff members must be considered as important setting conditions for staff interventions. Recently, Rose (2011) concluded that there is a growing body of evidence that suggests that staff psychological factors like staff attitudes, can influence quality of care and the efficacy of interventions for challenging behaviour. This is in line with the renewed interest in training staff attitudes in building respectful relationships and professional loving care (Embregts, 2011; Van Heijst, 2009). In their model for training staff-client interaction, based on a theoretical and research literature review, Farrell, Shafiei and Salmon (2010) indicated that staff should be trained in three domains, being the domains of environmental management (influence of the situation on interaction), knowledge about the client (the other person in interaction) and personal domain (influences of staff self). Regarding the personal domain, they propose that training should not only address staff interaction or communication skills, but also staff emotions, and staff values or attitudes. In recent research on staff values and attitudes (Rose, Kent, & Rose, 2011), the focus was on attitudes in general towards ID people, and significant correlations were found between attitude scores and emotional experiences. From a theoretical framework focusing on relationships, it is important to investigate the influence of staff interpersonal attitudes rather than general attitudes towards clients on staff interactive behaviour towards an individual client with challenging behaviour.

Thirdly, in his review on staff behaviour towards challenging behaviour of ID clients, one of Hastings (2005) suggestions for future research is to also study the influence of psychological resources, like coping strategies or self-efficacy, on staff emotional reactions and staff stress. In their study on staff coping with stress in working with

clients with severe behaviour problems, Gerits, Derksen, and Verbruggen (2004) showed that staff emotional intelligence (EQI) was significantly related to their style of coping with stress and burnout. The concept of emotional intelligence can be defined as an ability to perceive, use, understand, and regulate emotions (Salovey, Hsee, & Mayer, 1993), but also as a trait for dealing with environmental demands, encompassing several psychological components, such as intrapersonal and interpersonal abilities as well as adaptation and stress-management (Bar-On, 1997). Because staff negative emotional reactions and staff stress have an impact on staff behaviour (Hastings, 2005), it is interesting to explore the influence of emotional intelligence on staff interactive behaviour towards an individual client with challenging behaviour, which can be a very demanding and emotion-inducing situation.

Because of our interest in the influence of both client behaviour and staff attitude and emotional intelligence factors on staff behaviour, we will examine in this study the challenging relations that can exist between support staff and ID clients by answering the following two questions: (1) What is the influence of challenging behaviour as opposed to no challenging behaviour in ID clients on staff interactive behaviour? (2) Do interpersonal attitude and emotional intelligence of support staff predict interactive behaviour towards an individual client with challenging behaviour?

4.2 METHOD

4.2.1 Participants and setting

A total of 158 staff members employed in nine facilities for people with IDs participated in the present study, which was carried out in the Netherlands in 2010. Fifty-one percent of staff worked within the context of in-patient settings and 49% provided community-based support. Most of the 158 staff members were female and their mean age was 36 years (Table 1). Half of the staff members had a three-year professional training in the domain of nursing, social work or occupational therapy, which is the norm in the Netherlands for direct support staff. A rather high percentage of the remaining staff (43%) had a college-degree in nursing, teaching, or social science. Most of the participants were employed as direct care staff, but also 19% as occupational therapy staff.

4.2.2 Procedure

Participants in this study were recruited with help from the management and psychologists of the nine facilities by means of a quota sample. These quota were representative of staff in the Netherlands working with ID clients with challenging behaviour, with respect to staff gender, age, education level, type of job, and years of

experience. Of the 235 questionnaires send to these nine facilities, 165 were returned, resulting in a response rate of 70% (range between facilities 38% - 100%). This survey was anonymous, and written feedback on some of their results was offered. The *EQI* protocols of these 165 questionnaires were validated by excluding participants, as suggested by Gerits *et al.* (2004), who scored too high on inconsistency (Inconsistency Index > 12), positive impression (Positive Impression Score > 130), or negative impression (Negative Impression Score > 130). The final sample consisted of 158 valid protocols (95,8%) to be included in the analyses.

Table 1. Descriptive characteristics of support staff and clients

Support staff	*n* = 158
Female (%)	78.5 (*n* = 124)
Age (years)	
M	35.6
SD	9.9
Training level (%)	
High school	5.7 (*n* = 9)
Professional training	51.3 (*n* = 81)
College degree	43 (*n* = 68)
Type of job (%)	
Direct care staff	81 (*n* = 128)
Occupational therapy staff	19 (*n* = 30)
Job experience (years)	
M	12.6
SD	9.8
Range	1-41
Clients	*n* = 158
Female (%)	45.6 (*n* = 72)
Age (years)	
M	33.5
SD	14.6
Range	3-72
ID level (%)	(2 missing)
Mild	41.7 (*n* = 65)
Moderate	31.4 (*n* = 49)
Severe/profound	26.9 (*n* = 42)

To make sure that the data were independent, all staff completed the Staff-Client Interactive Behaviour Inventory (*SCIBI*) for only one client, resulting in data on 158 clients. Furthermore, we succeeded almost perfectly in the purpose to include similar numbers of male and female clients (preferred quota 50%-50%), with a full range of ID-level (preferred quota 50% diagnosed with mild ID, 25% with moderate ID, and 25% with severe/profound ID). To be able to generalize the results regarding a full range of challenging behaviour, we included not only data on clients with predominantly externalizing challenging behaviour (74%), but also on clients with predominantly internalizing challenging behaviour (26%).

Challenging behaviour was defined as behaviour of such intensity, frequency, or duration that the physical safety of the person or others is placed in serious jeopardy or behavior which is likely to seriously limit or deny access to the use of ordinary community facilities (Emerson, 2001). If staff also worked with ID clients without any challenging behaviour, they were asked to complete the *SCIBI* also for one of those clients, which resulted in *SCIBI*-data on 128 clients with ID and no challenging behaviour.

4.2.3 Instruments

First, support staff was asked to answer some general questions on staff and client characteristics, such as, sex, age, training level, type of job, job experience, ID level, and type of challenging behaviour.

Staff-Client Interactive Behaviour Inventory.

Next, staff members were asked to complete the Staff-Client Interactive Behaviour Inventory (*SCIBI*), to measure staff interpersonal (and intrapersonal) behaviour towards an individual client with ID and challenging behaviour. The *SCIBI* is a 30 items self-report questionnaire using a five-point Likert Scale, ranging from *completely inapplicable (1)* to *completely applicable (5).* The development and construct validity of this instrument is described in Willems *et al.* (2010). Staff behaviour towards an individual client addressed by the *SCIBI* includes randomly distributed questions on four interpersonal staff behaviours: (a) assertive control (n = 7), (b) hostile interpersonal behaviour (n = 4), (c) friendly interpersonal behaviour (n = 5), and (d) support-seeking interpersonal behaviour (n = 3), as well as the following intrapersonal staff behaviours: (e) proactive thinking, (n = 3), (f) self-reflection (n = 3) and (g) critical expressed emotion (n = 5). Cronbach's alpha values of the *SCIBI* scales were satisfactory, ranging from .68 (support-seeking) tot .89 (proactive thinking). All *SCIBI*-items loaded highly (over .50) and exclusively on their corresponding factors. Also, in a recent study the factor structure of the *SCIBI* was confirmed and convergent validity proved to be satisfactory (Willems *et al.*, 2012).

Bar-On Emotional Quotient Inventory.

In addition to the *SCIBI*, staff also completed the Dutch version of the Bar-On Emotional Quotient Inventory (*EQI*; Bar-On, 1997), developed by Derksen, Jeuken, and Klein Herenbrink (1998), to measure staff emotional intelligence. This 133-item inventory consists of 15 factors on the domains of Intrapersonal Abilities, Interpersonal Skills, Adaptability, Stress-Management, and General Mood. Its internal consistency is satisfactory (alpha's ranging from .69 to .86) and the average test-retest reliability coefficients after 1 and 4 months have been found to be .85 and .75, respectively. The construct validity of the *EQI* scales has been examined in 16 countries, and it taps a broad range of related emotional constructs (Derksen *et al.* 1998).

Nederlandse Interpersoonlijke Adjectieven Schalen.

Staff also completed the Nederlandse Interpersoonlijke Adjectieven Schalen (*NIAS*-short form, Rouckhout & Schacht, 2000, 2008), which is a Dutch alternative for the Interpersonal Adjectives Scales-revised (*IAS-R*, Wiggins, Trapnell, & Phillips, 1988) to measure staff interpersonal attitude. The *NIAS* has eight factors with 119 items, based on an interpersonal model, consisting of the two orthogonal dimensions dominance-submissiveness (control-dimension) and love-hate (affiliation-dimension). It has displayed good to excellent internal consistency (alpha's ranging from .77 to .92), good construct validity, and good convergent validity with empathy and personality traits as extraversion and agreeableness (Rouckhout & Schacht, 2000, 2008).

4.2.4 Statistical analysis

First, the data were tested for normal distribution using Kolmogorov-Smirnov tests. The majority of the variables on the *SCIBI* and *NIAS* were not normally distributed, but on the *EQI* they were. Therefore, only non-parametric tests were used in the majority of analyses.

The influence of ID clients with challenging behaviour as opposed to clients without challenging behaviour on staff interactive behaviour was examined by means of the Wilcoxon signed-ranks test calculating the effect size *r*. Using the same staff participants in this repeated measures design, enhances the relative power to detect any systematic variance caused by client behaviour by reducing the error variance, controlling for several staff and organizational factors.

Hierarchical multiple regression analyses were conducted, in order to obtain insight into the influence of both staff interpersonal attitude and staff emotional intelligence on individual staff interactive behaviour, while controlling for staff characteristics. Most of the assumptions for conducting regression analysis proved to be met, except for multicollinearity in the *NIAS*-subscales as predictors. Therefore, we performed a factor analysis on the *NIAS*-subscales (principal components analysis, with both orthogonal

and oblique rotation), which yielded three higher-order factors. These factors are most appropriately described by their corresponding names, harsh-dominant-resentful attitude, friendly-understanding-confident attitude, and passive-docile attitude.

4.3 RESULTS

4.3.1 The influence of challenging behaviour in clients on staff interactive behaviour

In order to explore the influence of challenging behaviour as opposed to no challenging behaviour in ID clients on staff interactive behaviour Wilcoxon signed-ranks tests were conducted on 128 support staff who completed the *SCIBI* for both a person with ID and challenging behaviour as well as for a person without challenging behaviour (see Table 2). Also, the effect size *r* was calculated for each interactive behaviour factor. In using the same staff members, we had the opportunity to control for several staff and organizational factors, like staff age, sex, job experience, training level, personality, interpersonal attitude, emotional intelligence, and facility or team factors. For support staff working with people with ID and challenging behaviour compared to people with ID and without challenging behaviour, there were significantly higher scores on assertive control interpersonal behaviour (almost medium effect size), on proactive thinking (small to medium effect size), and on self-reflection (small effect size). Next, there were significantly lower scores on friendly interpersonal behaviour (medium to large effect size) and on support-seeking interpersonal behaviour (small effect size). There were no significant differences on hostile interpersonal behaviour and critical expressed emotion.

Table 2. Differences in interactive behaviour towards clients with challenging behaviour (CB) versus clients without challenging behaviour (n = 128)

	CB	Without CB	z-score	*p*	Effect size r
Assertive control	3.13 (2.57-3.57)[†]	2.85 (2.29-3.29)	-4.64[‡]	.000	-.29
Hostile	2.76 (2.25-3.25)	2.89 (2.31-3.50)	-1.64[§]	.102	-.10
Friendly	3.84 (3.20-4.40)	4.34 (4.00-4.80)	-6.88[§]	.000	-.43
Support-seeking	1.85 (1.00-2.33)	2.07 (1.33-2.67)	-2.59[§]	.009	-.16
Proactive thinking	4.17 (3.67-4.33)	3.84 (3.33-4.33)	-3.76[‡]	.000	-.24
Self-reflection	3.13(2.67-3.67)	2.98 (2.33-3.67)	-2.43[‡]	.015	-.15
Critical EE	1.72 (1.20-2.00)	1.66 (1.20-2.00)	-1.11[‡]	.269	-.07

[†] Mean (and interquartile range)
[‡] Based on positive ranks (scores for clients with CB are higher than for clients without CB)
[§] Based on negative ranks (scores for clients with CB are lower than for clients without CB)

Table 3. Results of hierarchical regression analyses

	Interpersonal behaviour assessed by the SCIBI								Intrapersonal behaviour assessed by the SCIBI					
	Assertive Control		Hostile		Friendly		Support-seeking		Proactive thinking		Self-reflection		Critical Expressed Emotion	
	ΔR^2	$\beta^{\dagger}$	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
Model 1 Staff characteristics	.05		.03		.09*		.01		.02		.01		.05	
Gender (female)		-.08		.01		-.17*		.03		.05		-.02		-.01
Care vs. Occup. staff		.22**		.21*		.20*		-.06		-.02		.05		-.06
Age		-.12		.11		-.18		.06		.03		-.06		.19
Level education		.08		.02		-.07		-.06		.12		.04		-.16*
Work experience		-.03		-.12		.17		-.01		.07		.01		-.24
Model 2 Attitude	.11**		.11***		.07*		.06*		.07*		.05		.27***	
Harsh-dominant-resentful		.34***		.43***		-.09		.22*		.03		.10		.48***
Friendly-understanding-confident		.15		-.01		.20*		-.07		.20*		.12		-.26**
Passive-docile		-.05		-.10		-.05		.10		-.07		.10		.12
Model 3 EQ	.06*		.04		.02		.01		.07*		.03		.03	
Intra-personal		-.27*		-.23		-.07		-.12		-.27*		-.19		.01
Inter-personal		-.12		.05		-.03		.08		.19		.18		.11
Stress management		.20		.06		-.08		-.05		.13		.03		-.15
Adaptation		.12		.18		.17		.05		.18		-.01		-.01
General mood		.06		.09		.14		-.06		.01		-.02		-.06
Total R^2	.22*		.18**		.18**		.08		.16*		.09		.35***	

* $p < .05$. ** $p < .01$. *** $p < .001$.

† All betas were taken from the SPSS-output of Model 3 to be able to compare their relative contribution as unique predictors.

SCIBI, Staff-Client Interactive Behaviour Inventory.

4.3.2 The influence of interpersonal attitude and emotional intelligence on interactive behaviour

In order to investigate the influence of staff interpersonal attitude and emotional intelligence on staff interactive behaviour, seven hierarchical ordinary least squares regression analyses (blockwise entry) were conducted, one for each interpersonal and intrapersonal staff behaviour style (being the seven dependent variables). In checking assumptions for multiple regression analysis, we found that the external variables, being staff characteristics, were correlated with interpersonal attitude as well with emotional intelligence. Therefore, we wanted to control for staff characteristics in our analysis by including them in all seven regression analyses in Model 1 (see Table 3). Model 2 also includes the higher-order interpersonal attitude variables, being harsh-dominant-resentful attitude, friendly-understanding-confident attitude, and passive-docile attitude. Model 3 further consists of the emotional intelligence factors: intrapersonal abilities, interpersonal skills, stress-management, adaptation, and general mood. All variables were entered simultaneously into the model to explore the independent contribution of each variable to the prediction of interpersonal and intrapersonal staff behaviour.

Examining the main results on staff interactive behaviour towards ID clients with challenging behaviour, all independent variables together significantly explained 22% of assertive control staff behaviour, 18% of hostile staff behaviour, 18% of friendly staff behaviour, 16% of staff proactive thinking, and 35% of staff critical expressed emotion.

Also, in controlling for staff characteristics in Model 1, these staff characteristics had almost no significant influence on staff behaviour, only for friendly staff behaviour, R^2 = .09, $F(5, 155) = 2.84$, $p = .018$. In addition, occupational staff reported higher levels of friendly behaviour towards challenging clients (β = .20), whereas female staff reported lower levels of friendly behaviour (β = -.17).

Furthermore, as expected, interpersonal attitude (Model 2) attributed significant and highest to staff interactive behaviour, compared to the influence of emotional intelligence and staff characteristics. Regarding staff interpersonal behaviours, interpersonal attitude contributed 11% to the explained variance for assertive control, 11% to the explained variance for hostile behaviour, and 6% to the explained variance for support-seeking behaviour. In addition, harsh-dominant-resentful attitude towards clients in general proved not only to be a significant predictor of higher assertive control towards a challenging client (β = .34), but also of higher hostile behaviour (β = .43), and of higher support-seeking behaviour (β = .22). Interpersonal attitude also explained 7% of the variance for friendly behaviour, and in addition, staff with a friendly-understanding-confident attitude reported higher levels of friendly behaviour towards challenging clients (β = .20). Regarding staff intrapersonal behaviour, interpersonal attitude explained 7% variance for proactive thinking, especially because staff with a friendly-understanding-confident attitude reported higher levels of proactive thinking (β

= .20). Also, interpersonal attitude contributed 27% to the explained variance for critical expressed emotion, and harsh-dominant-resentful attitude proved to be a significant predictor of higher critical expressed emotion towards challenging clients (β = .48), as opposed to having a friendly-understanding-confident attitude, which predicted lower critical expressed emotion (β = -.26).

The influence of emotional intelligence (EQ in Model 3) on staff interactive behaviour towards ID clients with challenging behaviour was rather limited and added only a significant extra amount of explained variance on two staff interactive behaviours. EQ yielded 6% additional explained variance on assertive control, with higher intrapersonal EQ being related to lower assertive control (β = -.27). Emotional intelligence added 7% explained variance on proactive thinking, in which staff, who reported a higher intrapersonal EQ, also reported lower proactive thinking when working with challenging clients (β = -.27).

4.4 DISCUSSION

The aim of the present study was to investigate the influence of client behaviour and of staff interpersonal attitude and emotional intelligence on staff interactive behaviour. In line with the suggestions of Hastings (2010), we focused on the relationship between support staff and persons with ID by asking support staff for their perceptions on their own interactive behaviour. In order to measure staff interactive behaviour, the *SCIBI* was used (Willems *et al.,* 2010; Willems *et al.,* 2012), based upon a robust two-dimensional theoretical framework on interpersonal behaviour and incorporating some intrapersonal staff factors.

Regarding the influence of client behaviour, we demonstrated that expressing challenging behaviour as opposed to no challenging behaviour had a considerable impact on interactive behaviour of the same staff member. The same staff members, when working with a challenging client, reported much less friendly, moderately more assertive control, and a little less support-seeking interpersonal behaviour. Also, they reported moderately more proactive thinking and a little more self-reflection in dealing with challenging behaviour. The results on assertive control are in line with Huitink, Embregts, Veerman, and Verhoeven (2011), who found a significant correlation between the severity of client behaviour problems and staff behaviour regulation, which included offering structure, instructions, and directions. These findings support a bidirectional model of staff-client relationships, in which [perceptions of] staff behaviour will be influenced by [perceptions of] client behaviour and vice versa, as suggested by Kenny (1994).

As for the influence of staff factors, the results of the present study showed that staff interactive behaviour towards clients with challenging behaviour was much more associated with staff interpersonal attitude towards clients in general than with staff

emotional intelligence. First of all, a higher harsh-dominant-resentful attitude towards clients in general predicted assertive control and hostile interpersonal behaviour towards an individual client with challenging behaviour. Also, a higher friendly-understanding-confident attitude, which in interpersonal theory is almost the opposite of the former attitude, contributed significantly to more friendly interpersonal behaviour toward clients with challenging behaviour. A plausible explanation for these findings might be that the instruments used for staff attitude and staff interactive behaviour are both predominantly based on interpersonal circumplex models. Secondly, both interpersonal attitudes were also significantly associated with respectively higher and lower critical expressed emotion, which can be expected from earlier findings (Willems *et al.,* 2010), where hostile and friendly behaviour proved to be correlated with respectively higher and lower critical expressed emotion. Thirdly, the higher the friendly-understanding-confident attitude of staff, the higher their proactive thinking. This is understandable, because in this study a friendly attitude is also significantly correlated to interpersonal EQ, and in this study as well as in an earlier study (Willems *et al.*, 2012) we found interpersonal EQ to be correlated to proactive thinking.

Regarding the influence of emotional intelligence on staff interactive behaviour, there was only a small, but significant influence of EQ on assertive control and on proactive thinking. In particular, higher intrapersonal abilities were a predictor for lower assertive control as well as for lower proactive thinking in working with a client with challenging behaviour. It is understandable that staff who have a high sense of self-awareness, self-regard, and independence are very much in balance with themselves and therefore do not feel the need to exert control, imposing their will and demands, when confronted with challenging behaviour. Also, when staff have high intrapersonal abilities, they feel confident in handling several challenging situations, without feeling the need to think ahead on what and how they are going to do things with a challenging client. These findings are in line with principles of acceptance and mindfulness-based interventions for staff; interventions that focus on enhancing awareness of psychological events instead of trying to be in control of challenging situations (Noone & Hastings, 2009, 2010).

Although most of the differences in staff interactive behaviour could be ascribed to their attitude and emotional intelligence, some general staff characteristics also predicted interpersonal staff behaviour. First, occupational therapy staff as opposed to care staff showed not only more assertive control behaviour and more hostile behaviour, but also more friendly behaviour towards clients with challenging behaviour. Secondly, female staff reported less friendly behaviour towards clients with challenging behaviour than male staff. Thirdly, the higher the staff educational level, the lower their critical expressed emotion. This is in line with Willems *et al*. (2010), who found that higher educational level resulted in lower hostile behaviour, which in turn was significantly correlated with (lower) criticall expressed emotion. Therefore, in trying to generalize these findings to settings with staff with considerably lower educational

levels, it can be hypothesized that staff in those settings would report higher levels of hostility and critical expressed emotion.

An important methodological limitation of this study is that all data were gathered by means of self-report questionnaires and that no observations of staff interactive behaviour were incorporated. This could be one of the reasons that the mean scores of less desirable behaviours like critical expressed emotion and support-seeking are low. Nevertheless, during team training by the first author using the SCIBI, team managers and psychologists mostly confirmed the self-reported behaviours of their staff. This study was also limited to the interactive behaviour of only one of the interaction partners, being support staff. Therefore, in studying challenging relations between staff and clients, it is essential in future research to take the actual interpersonal behaviour of both staff and clients, as well as the perceptions of the clients into account, in order to capture the dynamics of both interaction partners. A third limitation is that generalization to care systems regarding intellectual disabilities in other countries is limited, because the care staff in this study was relatively highly educated.

The findings in this study support the necessity for training staff in their basic attitudes on interpersonal behaviour towards clients in general, as stated by Farrell *et al.* (2010), and this training should mainly concentrate on reducing a harsh-dominant staff attitude and enhancing a friendly-understanding staff attitude. Although the influence of emotional intelligence on staff behaviour in this study was limited to the impact of intrapersonal EQ, this also should be included in staff training, as well as several other research findings, like the influence of client challenging behaviour, of staff negative emotional reactions, and of staff causal beliefs regarding controllability and stability of challenging behaviour (Hastings, 2005; Zijlmans *et al.*, 2012). However, in these kind of studies, a substantial part of the variance mostly still remains unexplained, as is the case in this study on the impact of staff interpersonal attitude and emotional intelligence. Therefore, training programmes which are predominantly based on outcomes of this kind of cross-sectional studies will probably produce only small or moderate effects on staff behaviour and even less effects on client behaviour. Another way to improve both outcome in research and effect in practice can be found in Hastings' plea for theoretically driven research on bidirectional relationships (2010). We find this kind of bidirectionality most essentially described in interpersonal circumplex-models, which began with Leary (1957) and Schaefer (1965), and have been perfected in the past 35 years by Benjamin (1974, 1996, 2003). One of its strengths for research purposes is the possibility to predict interpersonal behaviour of both interaction partners using principles like complementarity, similarity and antithesis. These predictive principles can also directly be applied in daily practice for explaining and changing interpersonal behaviour of both clients and support staff, respectively in behaviour intervention plans and in staff training and coaching programmes. Research based on this interpersonal model could be a means to a better understanding of the dynamics and daily variability of the challenging relationships between staff and clients.

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Chapter 5

Towards a framework in interaction training for staff working with clients with intellectual disabilities and challenging behaviour

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ABSTRACT

Training support staff in dealing with challenging behaviour in clients with intellectual disabilities (ID) is needed. The goal of this study is to determine which elements need to be incorporated in a training on staff interactions with these clients, building upon a framework and an interpersonal model. As in functional analysis, this study tests the influence of client interpersonal behaviour, three types of staff reactions to challenging behaviour, two types of staff psychological resources and staff team climate on four styles of staff interpersonal behaviour.

A total of 318 support staff members completed a questionnaire on staff interpersonal behaviour for 44 clients with ID and challenging behaviour, as well as seven questionnaires on client interpersonal behaviour, staff emotions, attributions, self-efficacy, self-reflection, coping-styles and team climate. The influence of these seven factors on four staff interpersonal behaviours was examined using multilevel multiple regression analysis.

Friendly-warm and dominant client interpersonal behaviour had a significant positive impact on friendly and assertive control staff behaviour, respectively. Also, there was a strong influence of staff negative and positive emotions, as well as their self-efficacy, on most of the staff interpersonal behaviours. Staff self-reflection, insight and avoidance-focused coping-style had an impact on some staff interpersonal behaviours. Staff team climate only predicted higher support-seeking staff behaviour.

In conducting a functional analysis of staff interpersonal behaviour, the results of this study can be used both as a framework in staff-client interaction training and in clinical practice for treating challenging behaviour. The emphasis in training and practice should not only be on the bidirectional dynamics of control and affiliation between staff and clients, but also - in order of importance - on the impact of staff emotions, self-efficacy, self-reflection and insight, coping style, team climate and attributions on staff interpersonal behaviour.

5.1 INTRODUCTION

Within the field of clients with intellectual disabilities (ID) and challenging behaviour (CB), there is sufficient proof that staff need training in order to support their clients adequately (Van Oorsouw, Embregts, Bosman, & Jahoda, 2009). Recent reviews categorized the content of such training in: (1) reducing CB, (2) managing CB, and (3) coping with CB (Cox, Dube, & Temple, 2015; Van Oorsouw, Embregts, & Bosman, 2013; Stoesz et al., 2014). Regarding the reduction of CB, most research was on the improvement of several staff skills, as in Active Support, Positive Behaviour Support, and more recently, solution-focused coaching (Roeden, Maaskant, Bannink, & Curfs, 2012). With respect to managing CB, the emphasis was on staff knowledge and beliefs about CB. The most studies regarding coping with CB were on dealing with staff emotions, stress and attitudes, with a growing interest in aspects like staff emotional intelligence (Zijlmans, Embregts, Bosman, & Willems, 2012).

Research on these topics is valuable and mostly based upon a bottom-up empirical stance, but "[..] for researchers to be aware that they are examining only a part of a larger whole consisting of multiple interacting dynamic systems", a top-down theoretical stance is also needed (Sameroff, 2010). Sameroff's multilevel dynamic systems model could be very useful in delineating a structural framework for behaviour, by making a distinction between a biopsychological self system and several contexts. Focusing on staff behaviour in the field of ID and CB, Hastings (2005) offered a first step towards such a framework in which several personal and contextual determinants are suggested regarding the effect of staff beliefs, emotional reactions, stress, psychological resources and working culture on staff behaviour.

Based upon a framework, we constructed a large-scale cross-sectional study on determinants of staff behaviour, because in conducting such a functional analysis (Grey, Hastings, & McClean, 2007), it is possible to identify the relative contribution of several determinants and thereby gather evidence for the essential ingredients to be incorporated in a comprehensive staff-training curriculum.

Regarding staff behaviour, we agree with Hastings (2005) that most research has been on staff actual behavioural responses to ID clients with CB (Huitink, Embregts, Veerman & Verhoeven, 2011; Wilderjans, Lambrechts, Maes & Ceulemans, 2014) and not so much on other dimensions of staff relationships with these clients, like warmth, conflict, and balance or equity (Hastings, 2010). One way to broaden this scope is the field of care ethics, where professional loving care (Embregts, 2011; Van Heijst, 2005) emphasizes aspects of high-quality interpersonal relationships between professional and client. Both in a review on challenges of ID care (Jackson, 2011) as well as in recent studies on professional loving care (Hermsen, Embregts, Hendriks, & Frielink, 2014) and the dialogical perspective (Hostyn, Daelman, Janssen, & Maes, 2010), it is recommended that staff training focuses on relational elements. Therefore, Willems, Embregts and colleagues (2010, 2014), independently from Hastings' plea for

theoretically driven research on bidirectional relationships (2010), started using interpersonal circumplex models in their research, as described by Leary (1957), Schaefer (1965) and Benjamin (1974, 1996, 2003). In these models, two robust orthogonal dimensions of control (dominance-submission) and affiliation (love/warm-hate/cold) have been demonstrated (Birtchnell, 2014). The strengths of these models are the premise of bidirectionality in relationships between staff and clients with ID and CB, and predicting interpersonal behaviour of both partners using principles of complementarity and similarity or reciprocity, which also Hinde (1995) in his structure for a science of relationships considers to be two important aspects of relationships.

In line with bidirectional circumplex models on staff-client relationships, it is particularly important to investigate the influence of interpersonal behaviour of the ID client with CB, especially how staff perceive this (Back et al., 2011), on staff interpersonal behaviour (Willems et al., 2014).

A second domain of interest consists of several types of staff reactions when confronted with CB, as proposed in Hastings' framework (2005). Especially, negative emotional reactions of staff have proven to be of some influence on staff behaviour (Hastings, 2005; Zijlmans et al, 2012), and Jones and Hastings (2003) suggested to include also positive emotional reactions. Another type of reactions consists of staff causal beliefs or attributions, being the locus of causality (cause is within the client or external), stability (cause is invariant or changeable), and control (whether the cause is controllable), which should be separated in a personal and an external controllability dimension (McAuley, Duncan & Russell, 1992). In addition to emotions and attributions, self-efficacy beliefs have proven to exert a pervasive influence on behaviour (Caprara, Vecchione, Barbarenelli, & Alessandri, 2013), and in staff, self-efficacy plays a significant role in dealing with CB (Cudré-Mauroux, 2011). In summary, exploring the influence of staff emotional reactions, attributions and self-efficacy on staff interpersonal behaviour when dealing with an individual ID client with CB is warranted.

Along with client interpersonal behaviour and staff reactions, Hastings (2005) and Rose (2011) propose to also take general psychological resources of staff into account as a third domain of interest. Referring to a comprehensive psychological model of Ford (1987), these can be found in the so-called governing functions of a person, being his goals or motives, his intelligence, and his self-regulation capacity (e.g., executive functions like self-reflection and coping). In this study, the focus will be on self-regulation and executive functions, because these are considered to be essential for planning behaviour, controlling cognitions, and handling emotional reactions (Hofmann, Schmeichel, & Baddeley, 2012; Lezak, 1982). As staff members are frequently required to adjust their own behaviour in working with ID clients with CB, self-reflection and insight are key factors in the self-regulatory process supporting change in staff behaviour (Grant, Franklin & Langford, 2002). Also, it is important to investigate staff coping strategies in handling staff emotional reactions and stress (Hastings & Brown, 2002b; Hatton, Brown, Caine & Emerson, 1995). Regarding staff psychological

resources, it is therefore interesting to investigate the influence of self-reflection, insight and coping strategies on staff interpersonal behaviour.

As a fourth domain, in line with Sameroff's (2010) and Hastings' (2005) plea to incorporate contextual factors, we include staff team climate, because the informal working culture of teams as key players in a long-term ID care setting is considered to be influential (Buljac-Samardžić, 2012; Hastings, 2005). Therefore, we are interested in how team climate of support staff influences their behaviour towards ID clients with CB.

Based upon this framework, and in order to determine which elements need to be incorporated in a staff training curriculum on interaction with ID clients with CB, in this study we will examine the following research question: do client interpersonal behaviour (control and affiliation), staff reactions to CB (emotions, attributions and self-efficacy), staff psychological resources (self-reflection, insight, and coping-style), and staff context (team climate), influence staff interpersonal behaviour (assertive control, hostile, friendly, and support-seeking) towards ID clients and CB, controlling for client characteristics (gender, age, level of ID, and type of CB) and staff characteristics (gender, age, and education level)?

5.2 METHOD

5.2.1 Participants and setting

A total of 318 support staff members employed in nine facilities for people with IDs, working in 44 teams, participated in the present study, which was carried out in the Netherlands in 2013-2014. Fifty-one percent of staff worked within the context of residential settings and 49% provided community-based support. Most of the 318 staff members were female, with a mean age of 36 years (Table 1). Half of the staff members had a senior three-year secondary vocational education in the domain of nursing, social work or occupational therapy. Regarding the 44 clients with ID and CB - one client per team -, we included almost as many mild ID clients as clients with lower ID, and somewhat more male than female clients. Ten clients were younger than 18 years. Most of these clients showed externalising behaviour in the clinical range (88.6%), and 47.7% of the clients also showed internalising behaviour in the clinical range.

Table 1. Descriptive characteristics of support staff and clients

Support staff	*n* = 318
Female (%)	76.4 (*n* = 243)
Age (years)	
M	36
SD	10.7
Range	19-63
Education level (%)	
General secondary education	6 (*n* = 19)
Senior secondary vocational education	52.8 (*n* = 168)
Higher professional education	41.2 (*n* = 131)
Job experience (years)	
M	12.2
SD	9.3
Range	1-45
Clients	*n* = 44
Male (%)	61.4 (*n* = 27)
Age (years)	
M	30.9
SD	15.8
Range	10-65
ID level (%)	
Mild	47.7 (*n* = 21)
Moderate	40.9 (*n* = 18)
Severe/profound	11.4 (*n* = 5)
Challenging behaviour†	
Internalising (clinical range)	59.1 (*n* = 26)
Externalising (clinical range)	88.6 (*n* = 39)
Both (clinical range)	47.7 (*n* = 21)

† all clients showed internalising and/or externalising behaviour in the clinical range

5.2.2 Procedure

The study was approved by the scientific and ethics committee from the largest participating organisation and all clients or their legal representatives signed a consent form. Management of the organisations gave permission for the participation of their staff members. Teams of support staff working with ID clients and CB were recruited with help from the management and psychologists of the nine facilities, only including teams having serious concerns about their working relationship with a specific client. In total, 46 teams participated, focusing on one particular client with ID and CB who was

chosen by the team. Of the 394 questionnaires send to these nine facilities, 339 were returned, resulting in a response rate of 86% (range between facilities 78% - 94%). We excluded two teams who worked solely in an occupational setting with their client, as well as 13 staff members with incomplete data, resulting in a final sample of 318 staff members in 44 teams. All questionnaires for their client were completed by different numbers of staff members in each team, ranging from 2 to 15 (*M* = 7.2, *SD* = 2.6). Because it took staff members 1,5 hours on average to complete all staff questionnaires, the first author rewarded each team by conducting workshops that offered practical suggestions for the treatment of their CB client.

5.2.3 Instruments

First, support staff answered some questions on staff characteristics, such as gender, age, training level, and job experience. Furthermore, data on client characteristics, such as age, gender, and ID level, were provided by the personal staff member of that client.

Type of Challenging behaviour

Adult/ Child Behavior Checklist

To determine whether clients had borderline or clinical levels of CB, only the personal staff member of the client rated the Adult or Child Behavior Checklist (*ABCL/CBCL*, Achenbach, 2009). Translations and published reports of *ABCL/CBCL* are available in many languages, also in Dutch (Achenbach, Verhulst, Baron, & Akkerhuis, 1987). The ABCL/CBCL has good to excellent reliability and validity outcomes (Achenbach & Rescorla, 2001, 2003) and has also been used in ID research (Matson, Belva, Hattier & Matson, 2012).

Staff interpersonal behaviour: Assertive Control, Hostile, Friendly, Support-seeking

Staff-Client Interactive Behaviour Inventory.

Next, all staff members completed the Staff-Client Interactive Behaviour Inventory (*SCIBI*), to measure staff interpersonal behaviour towards an individual client with ID and CB. The development, validity and mostly good Cronbach's alpha values of this instrument are described in Willems et al. (2010, 2012). The *SCIBI* includes 30 questions, using a five-point Likert Scale, and in this study only the outcomes on the four interpersonal staff behaviours were used: (a) assertive control, (b) hostile interpersonal behaviour, (c) friendly interpersonal behaviour, and (d) support-seeking interpersonal behaviour.

Domain 1: Client interpersonal behaviour: Control and Affiliation

Dutch Interpersonal Adjectives Scales [Nederlandse Interpersoonlijke Handelingen Schalen]

All staff members also completed the Nederlandse Interpersoonlijke Handelingen Schalen (*NIHS*-other form, Rouckhout & Schacht, version 3, 2008), to measure client interpersonal behaviour on a five-point Likert scale. The *NIHS* has 116 items, based on the above-mentioned interpersonal model, consisting of the two orthogonal dimensions dominance-submissiveness (control-dimension) and love-hate (affiliation-dimension). It has displayed good to excellent internal consistency (Cronbach's alpha's ranging from .77 to .92), good construct validity, and good convergent validity (Rouckhout & Schacht, 2000, 2008).

Domain 2: Staff reactions to the ID client with CB: Emotions, Attributions and Self-efficacy

Emotional Reactions to Challenging Behaviour Scale.

The Emotional Reactions to Challenging Behaviour scale (*ERCB*) in its newer version (Jones & Hastings, 2003) contains two negative emotional subscales with 15 four-point Likert items on fear/anxiety and depression/anger and two positive emotional subscales with eight items on confident/relaxed and cheerful/excited. The questionnaire was first translated into Dutch and checked by a native speaker. The internal consistency of the four subscales was good, ranging from .69 to .86 (Jones & Hastings, 2003; Mitchell & Hastings, 1998) and Cronbach's alpha's for the translated version in this study were higher than .80, showing good internal consistency (see Table 2).

Revised Causal Dimensions Scale-II.

To measure attributions, staff rated the Revised Causal Dimensions Scale-II (*CDS-II*, McAuley et al., 1992), adapted by Jones and Hastings (2003), being a state measure assessing individual perceptions of causes in particular situations. The *CDS-II* has 12 nine-point items, three for each of the four dimensions in attributions, being (a) locus of causality (within the client or external), (b) stability (invariant or changeable), (c) external controllability (others can regulate or have no control over it), and (d) personal controllability (client can regulate or has no power over it). The questionnaire was first translated into Dutch and checked by a native speaker. The original and adapted scales have good internal consistency (Cronbach's alpha's ranging from .65 to .92) and adequate construct validity (Jones & Hastings, 2003; McCauley et al., 1992). Cronbach's alpha's for the translated version in this study were between .64 to .74, showing acceptable internal consistency, except for the dimension stability (see Table 2).

Difficult Behaviour Self-Efficacy Scale.

Furthermore, staff self-efficacy in relation to CB was measured using the Difficult Behaviour Self-Efficacy Scale (*DBSES,* Hastings & Brown, 2002a). The *DBSES* consists of five seven-point Likert items: (1) feeling of confidence in dealing with his CB, (2) feeling of control in dealing with his CB, (3) satisfaction in the ways staff deals with his CB, (4) perception that staff has a positive impact on his CB and (5) a rating how difficult staff finds it to work with his CB (rated adversely in the total score). The questionnaire was first translated into Dutch and checked by a native speaker. This scale displayed an excellent level of internal consistency (Cronbach's alpha value of .94; Hastings & Brown, 2002a), and also a high Cronbach's alpha of 0.85 for the translated version in this study (see Table 2).

Domain 3: Staff psychological resources: Self-reflection, Insight and Coping styles

Self-Reflection and Insight Scale.

Staff also completed the Self-Reflection and Insight Scale (*SRIS*; Grant, Franklin & Langford, 2002), consisting of 20 five-point Likert items, which measures self-reflection, consisting of both engagement in reflection and need for reflection, and insight. The questionnaire was first translated into Dutch and checked by a native speaker. Cronbach's alpha values for internal consistency were good, ranging from .71 to .91 in several studies, and construct validity was adequate (Grant et al., 2002; Roberts & Stark, 2008). Cronbach's alpha's were .92 and .72 for the translated version in this study (see Table 2).

Coping Inventory for Stressful Situations.

Staff coping styles were measured by completing the Coping Inventory for Stressful Situations (*CISS*; Endler & Parker, 1999) in a Dutch version (De Ridder & van Heck, 2004). It consists of 48 items using a five-point Likert scale, with three subscales: (a) task-focused coping, (b) emotion-focused coping, and (c) avoidance-focused coping. It has displayed good to excellent internal consistency (Cronbach's alpha's ranging from .70 to .90), acceptable test-retest reliability and good construct validity (de Ridder, & van Heck, 2004).

Domain 4: Staff context: Team climate

Dutch Team Climate Inventory

Staff completed the Dutch Team Climate Inventory (*dTCI*, Ouwens et al., 2008), which is a Dutch translation of the *TCI* constructed by Anderson and West (1994). The *dTCI* measures team climate as a whole and consists of 38 five-point Likert items with five subscales, being (a) vision, (b) interaction and information sharing, (c) support for

innovation, (d) task orientation, and (e) participation safety. Anderson and West (1998) provided adequate evidence for the factor structure, reliability and predictive validity of the *TCI*, and also in the Dutch version internal consistency of the five subscales was very good, ranging from .83 to .93.

Table 2. Descriptive statistics and reliability of the instruments in this study

	Mean (possible range)	SD	Min - Max	Cronbach's α
Staff interpersonal behaviour SCIBI				
Assertive control	3.03 (1-5)	0.72	1 - 4.7	.81
Hostile	2.82 (1-5)	0.76	1 - 5	.63
Friendly	3.77 (1-5)	0.74	1.4 - 5	.86
Support-seeking	1.70 (1-5)	0.71	1 - 4.3	.67
Domain 1. Client interpersonal behaviour NIHS				
Control	.26 (-9.7 - 9.7)	1.8	-4.2 - 7.1	.89
Affiliation	2.11 (-9.7 - 9.7)	2.11	-5.3 - 6.8	.90
Domain 2. Staff reactions to CB				
Emotional reactions ERCB				
Positive emotions	3.24 (0-6)	1.17	0 - 6	.84
Negative emotions	.91 (0-6)	0.61	0 - 3.8	.82
Attributions CDS-II				
Stability	5.06 (1-9)	1.36	1.3 - 8.7	.28
Locus inside	6.32 (1-9)	1.47	1.3 - 9	.74
External controllability	5.45 (1-9)	1.40	1.7 - 8.7	.64
Personal controllability	3.95 (1-9)	1.60	1.0 - 9	.71
Self-efficacy DBSES	5.04 (1-7)	0.93	1.8 - 6.6	.85
Domain 3. Staff psychological resources				
Self-reflection and Insight SRIS				
Self-reflection	3.71 (1-5)	0.59	1.7 - 5	.92
Insight	3.80 (1-5)	0.42	1.9 - 4.9	.72
Coping styles CISS				
Task-focused coping	3.75 (1-5)	0.38	2.6 - 4.9	.80
Emotion-focused coping	2.18 (1-5)	0.55	1.1 - 3.9	.88
Avoidance-focused coping	2.93 (1-5)	0.62	1.3 - 4.8	.86
Domain 4. Staff context				
Team climate dTCI	17.83 (5-25)	2.17	9.2 - 24.9	.93

SCIBI, Staff-Client Interactive Behaviour Inventory; NIHS, Nederlandse Interpersoonlijke Handelingen Schalen; CB, challenging behaviour; ERCB, Emotional Reactions to Challenging Behaviour; CDS-II, Causal Dimensions Scale-II; DBSES, Difficult Behaviour Self-Efficacy Scale; SRIS, Self-Reflection and Insight Scale; CISS. Coping Style Inventory for Stressful Situations; dTCI, Dutch Team Climate Inventory

5.3 STATISTICAL ANALYSIS

The data are hierarchical, staff members are nested within clients, which necessitates a multilevel analysis (Hox, 2002; Snijders & Bosker, 2012), using MLwiN 2.23 (Rasbash et al., 2000). Level 1 were the staff members (*n* = 318), level 2 were the clients (*n* = 44).

In earlier studies (Willems et al., 2010, 2014), the influence of several client and staff characteristics on staff interpersonal behaviour was demonstrated. Therefore, the complete set of independent variables was entered into one full model, including client and staff characteristics, in order to assess their unique influence on staff interpersonal behaviour (Snijders & Bosker, 2012).

Four consecutive multilevel regression analyses were conducted on the dependent variables of staff interpersonal behaviour. There were fourteen independent variables that can be grouped (cf. Table 2) in four clusters or domains, in line with the framework presented in the Introduction: Client interpersonal behaviour, Staff reactions to CB, Staff psychological resources and Staff context. All variables (dependent and independent) that had an interval measurement level were standardized. The following categorical variables were coded by dummies: (a) gender of client; female, (b) ID level of client; moderate and mild, (c) internalising CB; borderline and clinical, (d) externalising CB; borderline and clinical, (e) total CB; borderline and clinical, (f) gender of support staff; female, and (g) education level of support staff; senior secondary vocational education and higher professional education.

The effects of client and staff characteristics, being dummies, were analysed in comparison with the following case, as intercept referring to: a male client, with severe/profound ID level, with normal internalising, externalising or total CB, for a male staff member with general secondary education and scoring the mean on all other variables, except the dependent variable.

In order to test whether a full model with all these independent variables would make a significant improvement in model fit and to assess its amount of explained variance, it was compared to a null model with no independent variables, using chi-squared statistics (Snijders & Bosker, 2012).

5.4 RESULTS

5.4.1 Preliminary analysis

To check the reliability of all subscales, all Cronbach's alpha's in this study are presented in Table 2, as well as the means, standard deviations and range of the data. The reliability of almost all subscales was sufficient (.6 < alpha < .7) to good (alpha >.7), except for the dimension stability in attributions, which was therefore excluded in subsequent analyses.

5.4.2 The influence of client and staff characteristics on staff interpersonal behaviour

In order to report the results on the unique influence of the fourteen independent variables on staff interpersonal behaviour, it is necessary to first discuss the influence of client and staff characteristics (see Table 3), as several of these have been shown to be important (Willems et al., 2010, 2014).

Regarding client characteristics, age of ID clients with CB has a negative (β = -.11, p = .04) impact on levels of friendly behaviour. Second, staff reported lower friendly behaviour in working with a moderate (β = -.30, p = .01) and mild (β = -.46, p = .03) ID level client with CB as opposed to a severe or profound ID level client and they reported higher hostile behaviour in working with a mild ID level clients when compared to a severe of profound ID level client (β = .73, p = .04). Third, only internalising CB of clients had a significant influence on staff behaviour. When clients showed borderline levels of internalising CB as opposed to normal levels of internalising CB, staff reported higher levels of hostile behaviour (β = .70, p = .02), but also higher levels of friendly behaviour (β = .40, p = .03). Staff also reported much more friendly behaviour (β = .40, p = .009) when the level of internalising CB was clinical then when the level of internalising CB was normal, and in that case, staff also reported lower assertive control behaviour (β = -.67, p = .01)

Regarding staff characteristics, only staff gender had a very significant influence on staff behaviour, namely that female staff reported lower support-seeking behaviour towards clients with CB compared to male staff (β = -.35, p = .005).

Domain 1: The influence of client interpersonal behaviour on staff interpersonal behaviour

Table 3 shows that client interpersonal control behaviour (being more dominant) was associated with higher staff assertive control behaviour (β = .13, p = .04), and that client interpersonal affiliation behaviour (being more warm and friendly) was very strongly associated with higher friendly staff behaviour (β = .33, p =.001). Both findings were in line with our hypotheses from the bidirectional mechanisms in interpersonal models, albeit the expected association between higher client affiliation and lower staff hostile behaviour was not confirmed.

Table 3. Multilevel regression models for staff assertive control behaviour, hostile behaviour, friendly behaviour, and support-seeking behaviour

	Staff interpersonal behaviour							
	Assertive control		Hostile		Friendly		Support-seeking	
	effect *B*/se	*p*-value	effect *B*/se	*p*-value	effect *B*/se	*p*-value	effect *B*/se	*p*-value
Intercept	1.13/.61	.06	1.28/.59	.04	-1.07/.36	.006	0.90/.44	.049
Client characteristics								
Gender: female	.29/.18	.13	.09/.18	.60	.15/.11	.17	.01/.13	.91
Age	.001/.09	.99	.12/.08	.16	-.11/.05*	.04	.04/.06	.52
ID-level								
Moderate-severe	.003/.33	.99	.45/.32	.16	-.30/.11**	.009	.31/.22	.16
Mild-severe	.12/.35	.74	.73/.33*	.04	-.46/.20*	.03	.25/.23	.30
Type CB								
Internalising								
Borderline-normal	.10/.30	.76	.70/.29*	.02	.40/.18*	.03	-.09/.21	.68
Clinical-normal	-.67/.25*	.01	-.34/.24	.16	.40/.14**	.009	-.001/.17	.99
Externalising								
Borderline-normal	-.15/.86	.86	-.88/.82	.29	.35/.47	.45	-.50/.54	.36
Clinical-normal	-.10/.82	.90	-.66/.78	.40	.55/.45	.23	-.63/.52	.24
Total								
Borderline-normal	-.69/.61	.26	-.98/.58	.10	.59/.32	.07	-.43/.36	.24
Clinical-normal	-.51/.52	.33	-.93/.50	.07	.30/.28	.29	-.18/.31	.57
Staff characteristics								
Gender: female	-.11/.12	.37	-.05/.12	.70	.04/.09	.64	-.35/.13**	.005
Education level								
Senior vocational-general	-.30/.20	.14	-.20/.21	.33	.21/.16	.20	-.05/.22	.81
Higher professional-general	-.16/.21	.46	-.08/.22	.72	.23/.17	.18	-.08/.23	.71

	Staff interpersonal behaviour							
	Assertive control		Hostile		Friendly		Support-seeking	
	effect *β*/se	*p*-value	effect *β*/se	*p*-value	effect *β*/se	*p*-value	effect *β*/se	*p*-value
Domain 1. Client interpersonal behaviour								
Control	.13/.07*	.04	.12/.07	.07	-.06/.05	.25	.01/.07	.91
Affiliation	.01/.07	.91	.04/.07	.54	.33/.06***	.0000	-.04/.07	.61
Domain 2. Staff reactions to CB								
Emotional reactions								
Positive emotions	.05/.06	.41	.06/.06	.37	.16/.05**	.001	.06/.07	.35
Negative emotions	.19/.06**	.002	.14/.06*	.03	-.05/.05	.34	.29/.06***	.0000
Attributions								
Locus inside	.04/.05	.49	-.04/.05	.47	-.02/.04	.68	-.07/.05	.22
External controllability	.09/.05	.08	.001/.05	.99	.08/.04*	.046	.05/.06	.34
Personal controllability	-.03/.05	.52	-.02/.05	.70	-.03/.04	.45	-.02/.05	.72
Self-efficacy	.17/.07*	.01	.16/.07*	.02	.17/.06**	.003	.11/.08	.15
Domain 3. Staff psychological resources								
Self-reflection and Insight								
Self-reflection	-.11/.06*	.04	-.17/.05**	.001	-.03/.05	.53	-.06/.06	.30
Insight	-.12/.05*	.03	.11/.06	.05	-.08/.04	.07	-.12/.06*	.04
Coping styles								
Task-focused	-.03/.06	.54	.01/.06	.85	.02/.05	.71	.03/.06	.67
Emotion-focused	.07/.06	.21	.08/.06	.18	.03/.05	.56	.15/.06*	.01
Avoidance-focused	.03/.05	.60	.06/.05	.22	.13/.04**	.002	.11/.05*	.046

	Staff interpersonal behaviour							
	Assertive control		Hostile		Friendly		Support-seeking	
	effect *β*/se	*p*-value	effect *β*/se	*p*-value	effect *β*/se	*p*-value	effect *β*/se	*p*-value
Domain 4. Staff context								
Team climate	.07/.05	.21	.03/.06	.56	.08/.04	.06	.16/.05**	.003
Random effects								
Intercept level 2 (Client)	.172		.144		.022		.004	
Intercept level 1 (Staff)	.594		.641		.413		.761	
Fit in null model, intercept	839.27		852.76		841.03		900.92	
Fit in full model, all predictors (IGSLS Deviance)	785.05 (*n* = 318)		802.46 (*n* = 318)		635.39 (*n* = 318)		817.2 (*n* = 318)	
χ^2 (d.f. = 27)	54.21**		50.3**		205.64*****		83.71*****	
Full model total explained variance	**.23**		**.22**		**.56**		**.24**	

*P <.05, **P <.01, ***P <.001, *****P <.0000

ID, intellectual disability; CB, challenging behaviour

Domain 2: The influence of staff reactions to challenging behaviour on staff interpersonal behaviour

Regarding staff reactions to CB, first their emotional reactions had a very strong influence on their interpersonal behaviour, especially their negative emotions (anxiety, fear, depression, anger), which predicted strongly higher assertive control behaviour (β = .19, p = .002), higher hostile behaviour (β = .14, p =.03), and very strongly higher support-seeking behaviour (β = .29, p = .0000), which were all in line with our hypotheses. Also in line with our hypothesis, staff positive emotions (confident, relaxed, cheerful, excited) was strongly associated with higher friendly behaviour (β = .16, p = .001), but the expected association with lower hostile behaviour was not confirmed.

Second, regarding staff attributions or beliefs on the cause of CB, only one of the three expected associations was confirmed, namely that staff having an attribution of external controllability, being the belief that others can regulate the CB of this client, reported higher levels of friendly staff behaviour (β = .08, p = .05). The expected association between locus of the cause for CB inside the client and lower hostile behaviour and between personal controllability (the belief that the client himself can regulate his CB) and higher hostile behaviour was not found.

Third, staff perceived self-efficacy in relation to the CB of their specific client strongly predicted much higher friendly behaviour in staff (β = .17, p = .003), as well as higher assertive control behaviour in staff (β = .17, p = .01), which was in line with our hypotheses. Note, however, that there was also an unexpected effect of self-efficacy on higher hostile staff behaviour (β = .16, p = .02).

Domain 3: The influence of staff psychological resources on staff interpersonal behaviour

In Table 3, the most important predictor of the two general psychological resources is that of self-reflection and insight of staff members. Higher self-reflection of staff predicted lower assertive control (β = -.11, p = .04), and much lower hostile behaviour (β = -.17, p = .001), which was in line with our hypotheses, whereas the hypothesis that it also would predict higher friendly behaviour was not confirmed. Insight in one's own thoughts, feelings and mind predicted lower assertive control (β = -.12, p = .03), and lower support-seeking behaviour (β = -.12, p = .04), as expected.

Three of the five hypothesized associations between coping styles and interpersonal behaviour were confirmed, being that an avoidance-focused coping style both strongly predicts higher friendly behaviour (β = .13, p = .002) and higher support-seeking behaviour (β = .11, p = .05). Also, an emotion-focused coping style leads to higher support-seeking behaviour (β = .15, p =.01). The expected association between task-focused coping style and higher assertive control and between emotion-focused coping style and higher hostile behaviour was not found.

Domain 4: The influence of staff context on staff interpersonal behaviour

In studying the influence of a staff context factor, being the climate of the team in which staff members work together, the expected influence of a better team climate on higher friendly behaviour could not be confirmed. Instead, a better team climate strongly predicted higher support-seeking behaviour (β = .16, p = .003).

Examining the main results on staff interpersonal behaviour towards clients with ID and CB, all independent variables together significantly explained 23% of assertive control staff behaviour, 22% of hostile staff behaviour, 56% of friendly staff behaviour and 24% of support-seeking staff behaviour. Overall, two-third of the hypotheses (16 of 24) were confirmed in this study.

5.5 Discussion

In order to contribute to a framework for a training in staff interacting with ID clients with CB, the aim of the present large-scale cross-sectional study was to test the effect of several key determinants in the domains of client behaviour, staff reactions, staff psychological resources, and staff context on staff interpersonal behaviour. The main findings will be summarised in order of their importance and discussed for their training and clinical implications.

First of all, in line with one of Hastings' research questions (2005), experiencing negative emotions had a very high impact on almost all staff interpersonal behaviours, leading to much more support-seeking, much more assertive control, and more hostile behaviour. This supports the need for incorporating emotion-regulation techniques in both training and supervision of support staff (Gross, 1998; Tierney, Quinlan, & Hastings, 2007; Van Oorsouw, Embregts, Bosman, & Jahoda, 2014). The strong influence of positive emotions on friendly interpersonal behaviour is particularly supported by positive psychology and the broaden-and-build theory (Fredrickson, 2001). In order to create more friendly relationships between staff and clients with CB, it is therefore useful to train staff in the effective approach of expressing at least three times as many positive than negative emotions (Fredrickson, 2013).

Second, friendly and warm interpersonal behaviour of clients with CB was very strongly associated with friendly interpersonal behaviour of support staff, which is in accordance with the principle of symmetry from interpersonal models (Benjamin, 1996; Leary, 1957). Also, higher dominance of clients predicted higher assertive control of staff. Because circular bidirectionality is at the very heart of these models, support staff should be taught that even clients with CB react in a friendly way when treated with friendliness or professional loving care (Embregts, Hermsen, & Taminiau, 2015). Also, staff could be trained to give a therapeutic complementary interpersonal reaction, for instance in acting less dominant which stimulates the client to react with less dominance too (Benjamin, 2003).

Third, self-efficacy of staff had a very positive impact on friendly behaviour, but also moderately on assertive control and on hostile behaviour. As self-efficacy is in essence feeling competent and knowing one's strenghts, which is a core element of self-determination theory and positive psychology (Ryan & Deci, 2000; Seligman, 2011), staff can be supported in the search for their strenghts by using instruments from these theories, like VIA Signature Strengths (Peterson & Seligman, 2004) or Realise2 (Centre for Applied Positive Psychology, 2010).

Fourth, this study showed that the most influential psychological resource of staff is their self-reflection and self-insight, in lowering their assertive control behaviour and in reducing hostile and support-seeking behaviour. However, a very high amount of self-reflection can take the form of rumination and dysfunctional self-absorption (Grant et al., 2002). Training staff to create insight in their emotional intelligence and mindfulness-based workshops have been proven to lead to positive effects on staff coping styles and emotions (Zijlmans, Embregts, Gerits, Bosman, & Derksen, 2015) and on staff behaviour, respectively (Singh et al., 2011).

Fifth, staff avoidance-focused coping style had a strongly significant positive impact on friendly behaviour, possibly because staff who seek distraction or company of others are using an externalising-extravert stress-reducing style (Beutler, Harwood, Kimpara, Verdirame, & Blau, 2011) and are therefore being able to behave more friendly towards a client with CB. But avoidance-focused coping and emotion-focused coping - using anxious, angry, and fantasy strategies - also predicted more support-seeking behaviour. This is in line with research proving that both coping strategies induced more emotional exhaustion in staff (Devereux, Hastings, & Noone, 2009; Mitchell & Hastings, 2001), leading to seeking support from the client with CB. In training and coaching, staff should therefore be stimulated to explore how avoidance-focused coping could be especially helpful for them in behaving friendly towards clients with CB.

Sixth, a better team climate unexpectedly brought about much more support-seeking behaviour towards a client with CB, which, in a further analysis, correlated mostly with sub-factors of team interaction and searching for innovation. It can therefore be hypothesized that it is actually the higher amount of support-seeking behaviour that leads to more team interaction. Consequently, it is important to create a positive team-vision rather than just enhancing team interaction, because team-vision proved to be correlated with higher friendly behaviour.

Seventh, in this study no evidence was found for a direct effect of a personal controllability attribution on interpersonal behaviour. This finding contributes to the discussion on Weiner's attribution theory (Grey, Hastings, & McClean, 2007; Weiner, 1995; Willner & Smith, 2008; Zijlmans et al., 2012), which states that internal or personal controllability has an effect on emotions, leading to less helping behaviour. As a supplementary view on this theory, the external controllability attribution had a significant and unique positive effect on friendly behaviour, besides that of positive emotions. Therefore, in promoting friendly behaviour during training and in clinical

practice, it might be more important to focus on increasing attributions of external controllability than on decreasing attributions of personal controllability.

Eight, some static characteristics of clients also had a substantial impact on staff interpersonal behaviour. Staff reported less friendly and more hostile interpersonal behaviour towards a client with mild ID and more friendly interpersonal behaviour and lower assertive control behaviour towards a client with high internalising CB. The reasons and the adequacy for these findings should therefore be addressed in training and clinical practice.

Ninth and last, replicating the findings of Willems et al. (2010), female care staff reported much less support-seeking behaviour than male care staff, possibly because female staff scored higher on interpersonal emotional intelligence, which is comparable to giving support, whereas male staff scored higher on intrapersonal emotional intelligence, defending their rights and focusing on self-esteem, therefore seeking support from the client (Gerits, Derksen, & Verbruggen, 2004). Consequently, male staff should be coached to increase insight on the influence of their intrapersonal intelligence on their behaviour, since insight had a lowering effect on support-seeking behaviour.

As a first limitation to this study, all data were gathered using self-report questionnaires instead of objective observations, and therefore, it is impossible to state the effects of these determinants on actual staff behaviour towards clients. As some proof of concurrent validity of these self-reports, the first author conducted a workshop session for all 44 participating teams, their team manager and psychologist, and the teams highly recognized their results in daily practice. Second, in this study we specifically included teams with serious concerns about their working relationship with one client. Therefore, the results and the subsequent suggestions for training and clinical practice should not be generalized to all clients with CB.

In earlier studies on determinants of staff interpersonal behaviour, percentages explained variance were 18% on average for the four staff interpersonal behaviours (Willems et al., 2010; Willems et al., 2014). While including considerable more determinants, these were only somewhat higher in this study, ranging between 22% and 24%, except for the 56% explained variance of friendly staff behaviour. A partial explanation for this could be that hostile behaviour of staff, compared to friendly behaviour of staff, has a lower reliability (Cronbach's alpha 0.63, see Table 2) and is therefore more variable across staff members. This may have reduced the effectiveness of the multilevel models to find all predictors we expected to find. Regarding staff support-seeking behaviour, there was not only a somewhat lower reliability, but also a skewness with a mean relatively close to its minimum. This suggests a restricted range of support-seeking behaviour that can reduce associations in multilevel modeling. Instead of even more elaborate cross-sectional studies on interpersonal behaviour, two remarkable topics, which emerged from clinical practice and the team workshops, could offer new directions for research. First, there turned out to be quite some differences in

the profile and consistency between teams regarding the impact of their reactions, resources and team climate on their interpersonal behaviour, which is in line with the study of Knotter and colleagues (2013) on the influence of team-level variables. Second, the discussions in the workshops illustrated the theory that an individual relationship between a staff member and a client with CB must not be seen as a fixed entity from a linear perspective, but rather as a dynamic system from a reciprocal perspective (Hinde, 1995; Jahoda et al., 2009; Molenaar, 2004). This necessitates the use of other forms of analysis, suitable for detecting reciprocal interaction patterns, as in time series analyses. Both team consistency as well as interaction dynamics in staff-client dyads constitute interesting subjects for future research, which, as suggested by Grey and colleagues (2007), is needed to customize training for a team as a whole and for coaching-on-the job of an individual staff member.

The findings in this study can also be directly applied in clinical practice of behaviour intervention, by choosing the most significant determinants for the specific interpersonal staff behaviour towards an individual client with CB one wants to change. In reducing staff assertive control behaviour in dealing with CB, supervising or coaching can best start with lowering staff negative emotions through self-reflection and self-insight and by supporting staff not to react with the same control behaviour as the client shows. When higher assertive control behaviour is needed, it can be helpful to increase staff self-efficacy by identifying and reinforcing their strenghts. In order to reduce hostility in staff, it is rather important to support high levels of self-reflection on their negative emotions, for instance through using emotion-regulation techniques. Staff can also be encouraged to discuss one of the findings in this study, to what extent the internalizing CB and mild ID level of their client makes them react in a more hostile manner. In cases where more friendly staff behaviour is needed, a coach can concentrate best on the power of symmetry in which friendly staff behaviour leads to friendly client behaviour. Expressing positive emotions, enhancing one's feeling of self-efficacy and using an avoidance-focused coping style through looking for distraction can all be helpful in increasing friendliness in staff towards CB clients. Because it is often considered inadequate for staff to behave in a support-seeking way (that is needing encouragement from a client with CB), it is advisable to support staff to create more self-insight regarding their negative emotions and how their emotion- and avoidance-focused coping styles tend to maintain their level of support-seeking behaviour.

In this study a framework was tested, based on Hastings (2005) and Sameroff (2010), which consisted of a large number of determinants of staff interpersonal behaviour. Several significant and unique effects were found, particularly regarding staff friendly behaviour. In training staff interactions with clients with ID who show CB, the emphasis should not only be on the bidirectional dynamics of control and affiliation between staff and clients, but also - in order of importance - on the impact of staff emotions, self-efficacy, self-reflection and insight, coping style, team climate and attributions on staff interpersonal behaviour.

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Chapter 6

Dynamic patterns of three staff members interacting with a client with an intellectual disability and challenging behaviour: Suggestions for coaching

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ABSTRACT

In relationships between staff members and clients with intellectual disabilities (ID) and challenging behaviour (CB) it is important to study their bidirectional dynamic interactions, based on interpersonal models of Leary and Benjamin.

Three staff members were recorded on video during a daily bathing session with the same client with ID and CB, which were analysed using Cross Recurrence Quantification Analysis (CRQA).

CRQA analyses demonstrated different synchronisation levels of the three dyads with respect to affiliation and control. The dyads also differed in who (staff or client) was leading or following regarding affiliation and control. Furthermore, the nature of the staff-client interaction on a short time scale looked different from that on a longer time scale.

In coaching staff members regarding dynamic interactions with a client, the emphasis should be on the balance between staff interpersonal active and reactive behaviour, applying principles of similarity and complementarity, and changing the amount and timing of taking the lead or following during interactions.

6.1 INTRODUCTION

In residential care as well as in scientific research, there is a growing concern for the quality of the interaction between staff members and clients with an intellectual disability and challenging behaviour (Embregts, 2011; Hastings, 2010; Jahoda *et al.,* 2008; Schuengel, Kef, Damen, & Worm, 2010; Van Oorsouw, Embregts, & Bosman, 2013). This development is in line with the knowledge that good-quality relationships between therapist and client contributes greatly to effective treatment (Beutler & Harwood, 2000; Budd & Hughes, 2009; Keijsers, Schaap, & Hoogduin, 2000; Norcross, 2011).

The majority of the literature on relationships between staff and clients with an intellectual disability either pertains to standards for staff behaviour in relationships, such as respect (Roeleveld, Embregts, Hendriks, & van den Bogaard, 2011), empathy or mentalizing (Dekker & Sterkenburg, 2015), professional loving care (Embregts, 2011), closeness (Roeden, Maaskant, Koomen, Candel, & Curfs, 2011), or it describes the staff-client relationship itself, using concepts like equity (Disley, Hatton, & Dagnan, 2012), mutual openness and joint confirmation (Hostyn, Daelman, Janssen, & Maes, 2010).

Descriptions of the quality of a relationship are mostly static in nature, that is, the relationship is characterised by for example, having a limited level of mutual openness or the staff member shows a great deal of empathy towards the client. These general evaluations are valuable, because they provide us with knowledge regarding important variables that affect the relationships between people as well as the development of clients who are care dependent. Note, however, that all relationships are in fact the result of bidirectional interactions between individuals (Hinde, 1995).

One of the most influential models describing this bidirectionality is Leary's *Interpersonal Circle* or *Circumplex* model (1957; see Freedman, Leary, Ossorio & Coffey, 1951). Leary's model describes two dimensions on orthogonal axes: affiliation (friendly vs. hostility) on the horizontal axis and control (dominance vs. submission) on the vertical axis. This two-dimensional model has been thoroughly validated as a system for measuring interpersonal behaviour (Acton & Revelle, 2002; Birtchnell, 2014; Wiggins 1982). The advantage of Leary's interpersonal model for human relationships is that it takes into account both verbal and nonverbal behaviour, it is not restricted to specific populations, settings or therapeutic schools and it has recently been used in research on interactions between staff and clients with an intellectual disability and challenging behaviour by Willems, Embregts and colleagues (2010, 2012, 2014, 2016).

Schaefer (1965), who focused on parental behaviour, proposed a similar horizontal affiliation axis as Leary did, but suggested a vertical control axis with autonomy giving as the opposite of dominance, rather than submission. Because professional relationships between staff and clients with an intellectual disability can often be compared with parent-like relationships, this proposal of Schaefer might also be valid for our study.

Benjamin (1974, 1994) accommodated these points of view in her Structural Analysis of Social Behaviour model (SASB model), by adding a third aspect to the interpersonal model, that of two different interpersonal foci, being *focus on Other* and *focus on Self*. Focus on Other refers to interpersonal behaviour that is directed towards the other person in an active and parent-like way. Focus on Self describes interpersonal behaviour with the emphasis on what is happening to oneself in a reactive and child-like way. For the affiliation axis, behaviours in the two foci are the same, both ranging from friendly to hostile (see Figure 1). For the control axis, the behaviours in the two foci are different, as has been validated by Lorr (1991). Within the focus on other, control ranges between dominance (high on control) to autonomy giving (low on control) and within the focus on self, control ranges between separation (high on control) to submission (low on control).

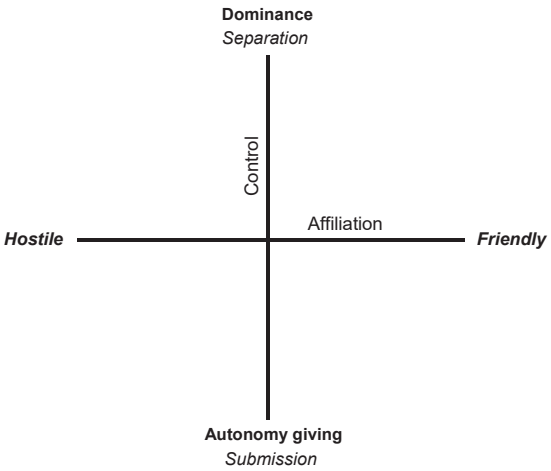

Figure 1. The SASB simplified cluster model (Benjamin, 1994; adjusted for this study). The poles of the two underlying axes appear at the end of the axes. Words in bold represent the focus on Other, words in italic represent the focus on Self. Words in bold and italic represent both foci.

The SASB model has been used in a multitude of studies on psychopathology and therapies, such as interpersonal patterns in therapeutic settings (Benjamin, Rothweiler, & Critchfield, 2006; Critchfield & Benjamin, 2010), on the influence of relationships clients engage in (Ruiz, Pincus, & Bedics, 1999), on staff who care for the elderly (France & Alpher, 1995), on the role of therapeutic relationship (Bedics, Atkins, Comtois, & Linehan, 2012), and in describing the residential care process between care staff and children (Van den Berg, 2000).

Although the value of the SASB model is well recognized, its present application is limited to a static assessment of interpersonal behaviour in human relationships. According to dynamic systems theory, all relationships, however, involve a series of interactions in which two partners affect one another reciprocally over the course of time toward semi-stable dynamic patterns (Fogel, Garvey, Hsu, & West-Stroming, 2006;

Lichtwarck-Aschoff, Kunnen, & van Geert, 2009; Van Geert, 1994). Only taking into account the global characterisation of a relationship ignores the complex interdependence between the interacting partners. After all, two people adjust their behaviour to each other, usually leading to recognizable patterns in their specific relationship (Heerey, 2015). These patterns emerge as a result of a synchronisation process between interacting partners that often uniquely characterise the relationship between the partners in the dyad (Lumsden, Miles, Richardson, Smith, & Macrae, 2012; Steenbeek & van Geert, 2007; Vallacher, Nowak, & Zochowski, 2005).

In the interaction between staff and clients with an intellectual disability and challenging behaviour, synchronisation patterns can explain why they evaluate their relationship as challenging. As an example, partners tend to experience good quality interactions in case of more synchronisation on friendly affiliation, named similarity within interpersonal models, whereas people tend to evaluate their relationship as less pleasant in case of high synchronisation on dominance, because in that case they are not acting complementary to each other (Benjamin, 1994; Bernieri & Rosenthal, 1991; Hinde, 1995; Reddish, Fischer, & Bulbulia, 2013; Stern, 1985; Wiltermuth & Heath, 2009). Another aspect of the interaction that provides information on its quality is whether one of the partners is leading the interactional processes, which may indicate who is dominating the relationship (Hove & Risen, 2009; Louwerse, Dale, Bard, & Jeuniaux, 2012; Reuzel, Embregts, Bosman, Cox, van Nieuwenhuijzen, & Jahoda, 2013a). Building on the SASB-model, synchronisation and leading/following are related to the axes affiliation and control respectively.

Coaching staff who care for people with an intellectual disability requires information regarding the nature of their natural interaction. In this study we will focus on two major aspects that characterises relationships. The level of synchronisation and the extent to which one of the partners is leading the interaction. One additional issue that may shed light on the interaction is not so much the nature, but the time span in which these processes occur. In other words, what happens in the short term and what happens in the long run during an interaction? People with an intellectual disability often respond more slowly than people without, due to slower social information processing, also leading to more challenging behaviour (Larkin, Jahoda, & MacMahon, 2013; Van Nieuwenhuijzen, Orobio de Castro, Wijnroks, Vermeer, & Matthys, 2004).

Recent techniques developed in the field of complex, nonlinear, dynamical systems allow for real-time dynamical analysis of the processes of interacting partners. A useful technique for our current purpose is Cross Recurrence Quantification Analysis or CRQA (e.g., Webber & Zbilut, 2005). Reuzel and colleagues (2013a, 2014) were the first to demonstrate the usefulness of this analysis for research concerning interactional patterns between staff and clients with an intellectual disability (details on CRQA are presented in the Method section).

In this study, we will investigate the dynamical patterns of three different staff members interacting with the same client during a support session of the client getting

ready in the morning. Clients in residential care often deal with a number of different caretakers. Although they are expected to carry out the same support and treatment plan for that client, the question remains whether they succeed. Micro-analyses of these sessions may shed light on similarities and differences between different staff-client dyadic sessions.

We aim at answering three questions. Do the dyads differ in synchronisation levels regarding affiliation and control? Do the dyads differ in who (staff or client) is leading or following regarding affiliation and control? Does the nature of the interaction on a short time-scale look different from that on a longer time scale?

6.2 METHOD

6.2.1 Participants and setting

The client is a fourteen-year-old girl with a moderate intellectual disability (intellectual age 4;6 years) and challenging behaviour, that is, aggressive behaviour towards staff (e.g., hitting, spitting, scolding) and extreme compulsive behaviour (e.g., skin picking, scratching). She also suffered from anxiety and mood problems, along with concentration and memory problems. Her support and treatment plan was predominantly based on a strict structure, attempts to stimulate her active engagement in daily bodily care and activities, and behavioural consequences in the form of verbal punishment. This approach had been helpful in earlier treatment stages, but staff members recently acknowledged several shortcomings, and experienced lots of conflicts with her on a daily basis. As the staff team was searching for more effective ways of treating and managing her challenging behaviour, the first author was asked to conduct a pilot study of an interaction training program with this team.

During the study, eight staff members were working with the client on a daily basis at a residential facility for people with intellectual disabilities. Three staff members (S1, S2, and S3) were asked to participate in this study, because each of them perceived their relationship with the client differently. Staff member S1 is male, aged 32 years, with seven years of working experience; he has worked for over a year with the client. Staff member S2 is female, aged 33, with 14 years working experience and she worked for over three years with the client. Both had a 3-year higher vocational education in social work. Staff member S3 is female, aged 50, with 20 years working experience and she worked for over three years with the client. She had a 4-year higher professional education as a pedagogue.

On three different occasions, the client was videotaped during her morning bathing sessions in which she was supported by one of the staff members. Permission for this study was obtained through informed consent of the legal guardians of the client, the

organization, and the staff members. This study was part of a training project of the first author on staff-client relationships within this organization in 2013.

6.2.2 Procedure

Video fragments. Before the training started, the three staff-client dyads were videotaped by the first author with a handheld camera during the bathing sessions of the client, within a time span of three weeks. This situation was chosen because staff reported that this was the most challenging situation for their interaction with the client. The situation includes waking the client, measuring her blood pressure, walking her to the bathroom, getting undressed, putting her on the toilet, showering or bathing, drying off and getting dressed. The three video fragments were 58 (S1), 34 (S2), and 41 (S3) minutes, respectively. To minimise the effect of a third person videotaping in this dynamic situation on both the client and staff, the first author was present with his camera videotaping at several daily situations two weeks before the recordings were made. Staff later on stated that the recordings were very naturalistic for both the client and their own behaviour.

Coding procedure. The SASB was originally developed to describe social interactions of participants without disorders, patients with personality disorders, parents, families and students. To apply the SASB categories to the interpersonal behaviour of the client, who has an intellectual disability, and the staff members, a master student, supervised by the first author, adjusted the coding scheme of the SASB. Affiliation behaviour was defined by combining SASB codes with elements of verbal text, body-posture, facial expression, sound, and locomotion (Velthausz, 2007). Control behaviour was defined by combining SASB-codes with the five levels of support from the Active Support model (De Vor, 2014; Jones *et al.,* 1999), being (1) asking/inviting, (2) (verbal) instruction giving, (3) impulse giving (physically), (4) physically showing what is expected, and (5) physically guiding/taking over (see Appendices A and B). As stated earlier, on control behaviour, a distinction was made between 'focus on other', describing the dimension dominance-autonomy giving, and 'focus on self', describing the dimension separation-submission. In line with the dimensional scaling of the SASB model, in this study a 7-points scale was used, which has been reduced to three categories.

A master student and the first author carried out a continuous coding procedure rather than partial interval coding. Before the actual coding process, both observers practiced and discussed the coding of several other video fragments in order to validate their observations together using the codes in Appendices A and B. In the next step, the master student coded the video fragments and the first author evaluated the codes of this observer by watching 30% of the video fragments and coding those himself. Interrater reliability for all three video fragments was conducted using Cohen's kappa, being .94.

The coding procedure of the video fragments for all three staff-client dyads consisted of the following chronological steps. First, each video fragment was watched

in its entirety. Then, although the camera was handheld, the interactions of the client and staff sometimes were *non-observable* and were scored accordingly. This occurred when 1) they were not standing close enough to each other, to get both on film at the same time, 2) only the back of the staff member or client could be filmed, or 3) one of them was blocking the view of the other person with his/her body.

Next, for the remaining observable moments, the interpersonal behaviour of the staff member was coded as regarding to the type of focus (*'self'* or *'other'*). In some cases, there was no interaction between the staff members and the client. This happened when the client or staff member was doing something else than interacting with one another. For example, the client was scratching her body or the staff member was focussed on some practical issues as setting the temperature of the shower. In these cases, focus was scored as *'no focus'*. As a consequence, no interpersonal behaviour could be scored, and the dimensions on affiliation and control also had to be scored as 'no affiliation/no control'. In all other circumstances, it was decided whether focus was on '*other*', being interpersonal staff behaviour directed towards the client in an active way, or focus on '*self*', namely interpersonal staff behaviour with the emphasis on reacting in oneself on behaviour of the client.

Subsequently, for those moments when there was a focus on other or a focus on self, affiliation was coded on a seven point Likert scale, also reduced to three categories (see Appendix A); similarly for the control dimension. Note that 'focus on other' moments were somewhat differently defined than 'focus on self' moments (see Appendix B). Finally, the client was observed and her interpersonal behaviour was coded as well, using the exact same procedure as for coding staff interpersonal behaviour.

In all cases, each time interpersonal behaviour changed, the code changed accordingly, which resulted in different periods of time for the three dimensions, focus, affiliation, and control. For instance, on a certain moment the focus of the staff member was on the other and this focus remained the same for 10 seconds. The affiliation behaviour also remained on affiliation -1 for these 10 seconds. Within these 10 seconds however, the control behaviour changed from control 2 in the first 4 seconds to control 1 in seconds 5-10.

Coding tool. The video fragments were coded using the computer program Noldus Observer XT 11.5 (Grieco, Loijens, Krips, Zimmerman, & Sprink, 2013). This program allows observers to make event logs for continuous observations, recording all occurrences of the behaviour of interest in milliseconds, seconds and minutes. For present purposes, focus, affiliation and control variables were coded on a dimensional scale with modifiers (-3 to +3). For example, the behaviour affiliation was scored, and then the modifier -2 was added, describing moderate hostile behaviour, which was then entered in the event log as 'affiliation -2' (see the 'score' column in Appendix A and B).

6.2.3 Data analysis

Descriptive analyses. The number of occurrences and the duration of each of the SASB-dimension will be presented for each of the dyads as well as the phase-space plots of the behaviour of each member in the three dyads. Phase-space plots reveal all possible states a system can visit. More dispersed phase spaces reveal more varied behaviour, whereas less densely visited phase spaces are an indication of more limited behaviour.

Categorical Recurrence Quantification Analysis is a technique that quantifies (joint) temporal patterns in categorical time series. Categorical Recurrence Quantification Analysis is a simplified form of RQA on continuous data, and can be applied to single time series (Auto-RQA, ARQA) or two different time series (Cross-RQA, CRQA). Here, CRQA was applied to assess whether behaviours in one time series (e.g. the behavioural categories of the client over time) recur in another time series (e.g. the staff member's behaviour over time), either at the same time or earlier or later in the time series. ARQA was applied to quantify the dynamics of each time series in the dyad separately.

A first visual inspection of the recurrent patterns involves inspecting a so called recurrence plot (RP). An example of a RP is shown in Figure 2b, based on a 25s sub-segment from the affiliation series of one client-staff dyad (shown in Figure 2a). In the example time series, it can be seen that the staff's behaviour was coded as positive for the first 14s. This behavioural state recurs in the client's time series five times in total (co-occurring between 1.1 and 1.4s, 5.2 and 7.1s, and 9.8 and 13s, and occurring later on between 16.3 and 19.7 and 20.2 and 20.6s, respectively). These recurrences are evident in the RP as horizontal block structures (0-14s on the Staff's x-axis, at the respective intervals at the client's y-axis). Non-recurring behaviours (e.g., staff is positive, client is neutral or negative) are left blank in the RP. For instance, between 17.3 and 19.8s, the staff member showed neutral behaviour, a state that does not recur in the client's behaviour. This can be seen as a white space in the RP (between 17.3 and 19.8 on the x-axis, over the entire length of the y-axis). Thus, the RP gives a visual impression of how the behavior of client and staff is mutually shaped as their interaction unfolds over time.

In addition to a visual inspection, several parameters can be quantified from a RP. A first measure is *Recurrence Rate* (RR), which is computed as the ratio of the number of recurrent points (the black regions in the RP) over the total number of possibly recurring points in the RP (i.e., length of the time series squared). RR thus indicates how often the behaviours in one time series (at any point in time) occur as well in the other time series (earlier, at the same time, or later). A second parameter, *Determinism*, is defined as the ratio of the number of recurrent points forming a diagonal pattern (e.g. a sequence of recurring behaviours) over the total number of recurrent points in the recurrence plot. Determinism thus informs about behaviours that continue to recur over time relative to isolated recurrences, indicating the persistence of that behaviour. A third measure, *Meanline*, is an index of the average duration of deterministic patterns, and thus indicates how long on average the dyad remains in a similar behavioural state over time.

Meanline provides information about the stability of mutual behaviour. Fourth, *Entropy* is computed as the Shannon entropy of the distribution of the different lengths of the deterministic segments. Entropy indicates the level of complexity of the sequence of mutual behaviour. For example, if 100 upward diagonal lines—ten each of ten different lengths—are observed, then returned value of entropy would be very low. A less predictable and uniform distribution of diagonal line lengths would give higher values.

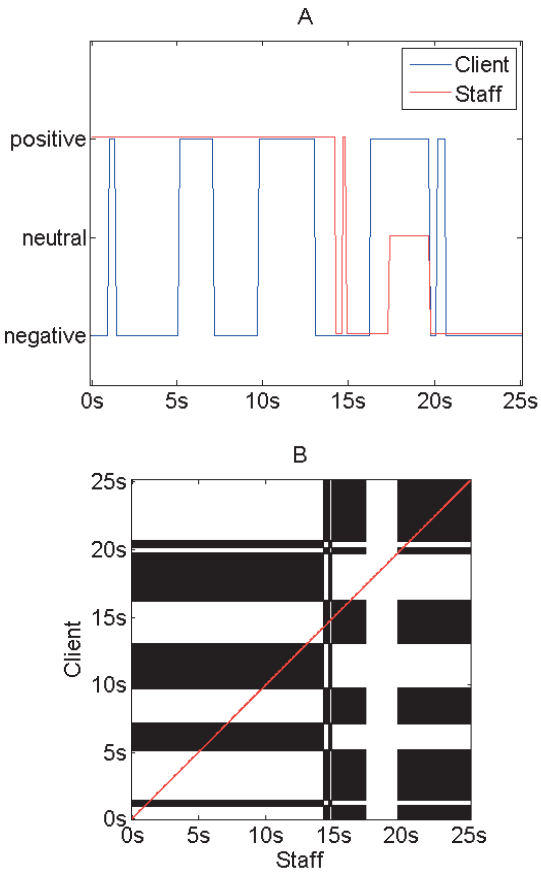

Figure 2. a) shows a 25s sub-segment of the data. The behaviour of the client fluctuates between negative and positive affiliation, whereas the staff member starts out with positive affiliation, then shows predominantly negative affiliation, with the switch near 14s. This can be seen in the RP shown in b) as a checkerboard-like pattern, the vertical white block near 17s aside (which indicates that the staff's neutral behaviour does not recur in the behaviour of the client at any point in time). For a more detailed dissection of the RP, see text.

An informative region in the RP is the Line-of-Synchrony (LOS), which is shown as a red diagonal line in Figure 2b. When recurrent points fall on the LOS, the client and staff show the same behaviour at the same time. Recurrent points that occur above or under the LOS, in turn, inform about temporal asynchronies. For instance, recurrent points that

occur above the LOS in Figure 2, indicate that the client shows the same behaviour as the staff member, but at a later point in time. Conversely, recurrent points below the LOS indicate that the client leads the staff member in the respective behavior. For instance, the staff member shows negative affiliation between 14.3 and 17.3s, following negative affiliation in the client (13.1-16.2s). This behavioural following can be seen in the RP as a block segment that lies below the LOS on average. Thus, the RP informs about who leads and who follows in an interaction (regardless of the content of the behaviour).

In addition, the leading-following profile can be examined at any time lag up to the boundaries of the length of the time series, to indicate by how much units of time one person leads or trails the other. This pattern of leading or following can be expressed in a so called lag profile (see, for instance, Figure 4). At lag 0, a lag profile shows the number of recurrent point on the LOS divided by the total number of points in the time series (which equals the length of the LOS). That is, a high RR value on the LOS indicates high synchronicity, whereas a smaller value indicates a lesser degree or no synchronicity at all. A lag profile also shows RRs for diagonals above the LOS (staff leads client, higher RR at negative lags) or below the LOS (client leads staff, higher RR at positive lags). This means that if higher recurrence rates occur at negative or positive lags one of the persons is leading the interaction. The respective time lag indicates by how much, and the difference between the RR (at that lag) relative to overall RR (i.e., confidence intervals based on shuffled baselines, shown as red -upper- and blue -lower- lines in Figure 4) indicates the extent of synchronicity.

6.3 RESULTS

6.3.1 Descriptive analyses

Table 1 presents an overview of the frequencies of occurrences and the duration of the SASB dimensions during the three sessions, revealing strong associations between the number of times a dimension occurs and the time these dimensions were present (staff's $r = 0.94$; client's $r = 0.84$). The affiliation dimension shows relatively strong negative values in Dyads 2 and 3 for both the client and staff members S2 and S3; their levels were more or less equal (around 40%). In Dyad 1 the level of negative affiliation was smaller for staff member S1 than for the client. With respect to the control dimension, it appeared that the staff member as well as the client in all dyads showed a preference for being high on the control dimension. Regarding focus, each staff member had more focus on other than on self, whereas the client had generally more focus on self than on other.

The phase-space plots in Figure 3 show that both the staff member and the client in Dyad 1 have more varied interpersonal behaviour than in Dyads 2 and 3. The interpersonal behaviour of S2 and S3 is less varied than that of S1, and the client clearly shows less varied behaviour in the interactions with S2 and S3.

Table 1. Frequency in percentages occurrences and duration in percentages of time of SASB dimensions during all three sessions

	Dyad 1				Dyad 2				Dyad 3			
	S1		Client		S2		Client		S3		Client	
	Freq.	Duration	Freq.	Duration	Freq.	Duration	Freq.	Duration	Freq.	Duration	Freq.	Duration
Affiliation												
Positive	12.7	11.5	12.8	7.4	8.0	9.0	3.0	0.8	7.0	7.1	5.2	3.1
Neutral	22.3	23.9	29.6	31.3	12.1	8.0	11.9	7.9	6.2	5.6	10.2	10.0
Negative	23.9	17.6	31.9	17.7	41.0	45.6	40.1	28.4	40.7	37.8	39.5	35.7
Non-O/I	41.2	47.1	25.7	43.6	38.9	37.4	45.0	63.0	46.1	49.5	45.1	51.2
Control												
High	30.5	24.5	39.0	28.5	50.7	52.8	37.3	25.8	45.7	47.8	32.1	32.7
Neutral	15.1	20.4	5.6	4.7	18.1	11.4	1.9	0.5	8.2	10.5	1.6	2.0
Low	13.3	14.1	30.4	27.5	4.5	2.4	20.6	12.2	6.4	4.7	26.5	30.2
Non-O/I	41.1	41.0	25.0	39.2	26.6	33.5	40.2	61.5	39.6	37.0	39.8	35.2
Focus												
Other	48.1	61.6	40.4	22.1	50.7	69.9	34.7	34.9	44.5	61.5	30.0	27.7
Self	25.8	10.6	41.5	47.0	23.6	13.4	40.5	46.4	22.8	13.1	42.6	54.1
Non-O/I	26.1	27.8	18.1	30.8	25.7	16.7	24.8	18.7	32.7	25.4	27.5	18.2

Note. Session duration of Dyad 1 was 58 minutes, of Dyad 2 was 34 minutes, and of Dyad 3 it was 41 minutes. Non-O/I means the percentage of behaviour that was non-observable or non-interpersonal.

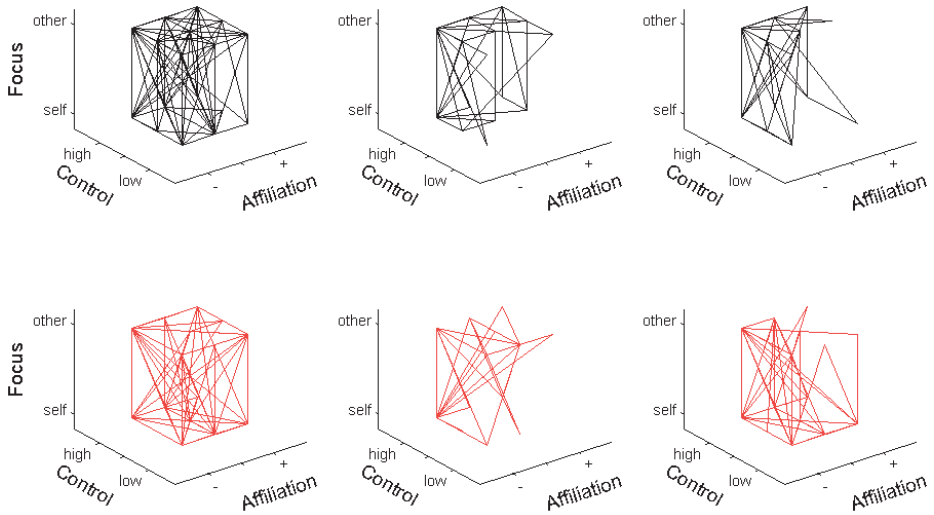

Figure 3. Phase-space plots in black are those of the staff members and the ones in red are of the client.

6.3.2 Difference in synchronisation between the three dyads

Auto and Cross Recurrence Quantification Analyses

Table 2 presents an overview of all ARQA and CRQA measures computed on the SASB dimensions Affiliation, Control with focus on Other, and Control with focus on Self.

Affiliation. Almost all four ARQA measures are higher in the three staff members than in those of the client. Higher RR levels in the staff members means more imitation of their own affiliation behaviour than in the client. Higher Determinism in the staff member indicates more persistent affiliation behaviour in the staff than in the client. Higher Meanline measures in staff members reveal more stable affiliation behaviour than the client. Higher Entropy levels in the staff members suggests more complex affiliation behaviour than that of the client. The fact that the levels of all CRQA measures are in between those of the staff member's and the client's ARQA indicates that staff and client have become synchronized with respect to affiliation. Their independent affiliation behaviours are closer to one another in the combined behaviour.

Control with focus on Other. All four ARQA measures are higher in the three staff members than in those of the client. Higher RR levels in the staff members means more imitation of their own control-with-focus-on-other behaviour than in the client. Higher Determinism in the staff member indicates less varied control-with-focus-on-other behaviour in the staff than in the client. Higher Meanline measures in staff members reveal higher stability in their control-with-focus-on-other behaviour than the client. Higher Entropy levels in the staff members suggests more complex control-with-focus-on-other behaviour than that of the client. The fact that the levels of all CRQA measures are in between those of the staff member's and the client's ARQA indicates that staff and client have become synchronized with respect to control-with-focus-on-other. Their independent control-with-focus-on-other behaviours are closer to one another in the combined behaviour.

Control with focus on Self. All four ARQA measures are lower in the three staff members than in those of the client. Lower RR levels in the staff members means less similarity of their own control-with-focus-on-other behaviour than in the client. Lower Determinism in the staff member indicates more varied control-with-focus-on-self behaviour in the staff than in the client. Lower Meanline measures in the staff members' behaviour reveals less stability in control-with-focus-on-self than that of the client. Lower Entropy levels in the staff members suggests less complex control-with-focus-on-self behaviour than that of the client. The fact that the levels of all CRQA measures are in between those of the staff member's and the client's ARQA indicates that staff and client have become synchronized with respect to control-with-focus-on-self. Their independent control-with-focus-on-self behaviours are closer to one another in the combined behaviour.

Table 2. Results from the Auto (ARQA) and Cross Recurrence Quantification (CRQA) Analyses on the SASB dimensions (Meanline in seconds)

	Dyad 1			Dyad 2			Dyad 3		
	ARQA S1	ARQA Client	CRQA	ARQA S2	ARQA Client	CRQA	ARQA S3	ARQA Client	CRQA
Affiliation									
RR	0.13	0.17	0.14	0.26	0.12	0.17	0.20	0.18	0.19
Determinism	0.89	0.86	0.87	0.94	0.89	0.91	0.90	0.79	0.84
Meanline	4.43	4.06	4.13	6.02	4.71	5.24	4.57	3.50	3.89
Entropy	2.90	2.72	2.75	3.47	3.04	3.25	3.01	2.36	2.64
Control Focus on Other									
RR	0.12	0.06	0.06	0.22	0.05	0.07	0.22	0.07	0.10
Determinism	0.86	0.78	0.80	0.91	0.89	0.90	0.83	0.80	0.81
Meanline	4.13	3.11	3.37	5.47	4.01	4.50	4.02	3.27	3.57
Entropy	2.72	2.06	2.29	3.33	2.69	2.92	2.71	2.21	2.43
Control Focus on Self									
RR	0.02	0.10	0.04	0.03	0.05	0.03	0.04	0.12	0.04
Determinism	0.62	0.88	0.74	0.77	0.87	0.80	0.55	0.84	0.71
Meanline	3.00	4.40	3.35	3.09	3.66	3.25	2.40	3.76	2.78
Entropy	1.80	2.93	2.22	2.06	2.43	2.18	1.20	2.55	1.73

In comparing these three SASB dimensions, all CRQA measures were highest in the combined Affiliation behaviour between staff and client.

In comparing the dyads on their CRQA synchronisation levels, in Dyad 1, staff and client had the lowest levels of similarity, persistence, stability, and complexity, regarding control-with-focus-on-other together. In Dyad 2, staff and client had the highest levels of persistence, stability, and complexity, regarding affiliation behaviour together and control-with-focus-on-other together. In Dyad 3, staff and client had the highest levels of similarity in all their interpersonal behaviours together, and they had the lowest levels of persistence, stability, and complexity, regarding affiliation behaviour together and control-with-focus-on-self behaviour together.

6.3.3 Difference in leading or following between the three dyads

Lag profile analyses of entire session

Figure 4 presents an overview of the lag profiles of the entire session, computed on the SASB dimensions Affiliation, Control with focus on Other, and Control with focus on Self, for all three dyads.

The profiles of the three dyads in Figure 4 show that there are many differences between the dyads on each of the three SASB-dimensions during the entire interaction session.

Affiliation. In Dyad 1, the staff member is predominantly leading their pattern in affiliation with some 41 minutes, meaning that the client reacts strongest in their friendly, neutral and hostile behaviour after 41 minutes. But there are also two smaller peaks in which the client is leading in affiliation, thus the staff member reacting after 33 minutes,

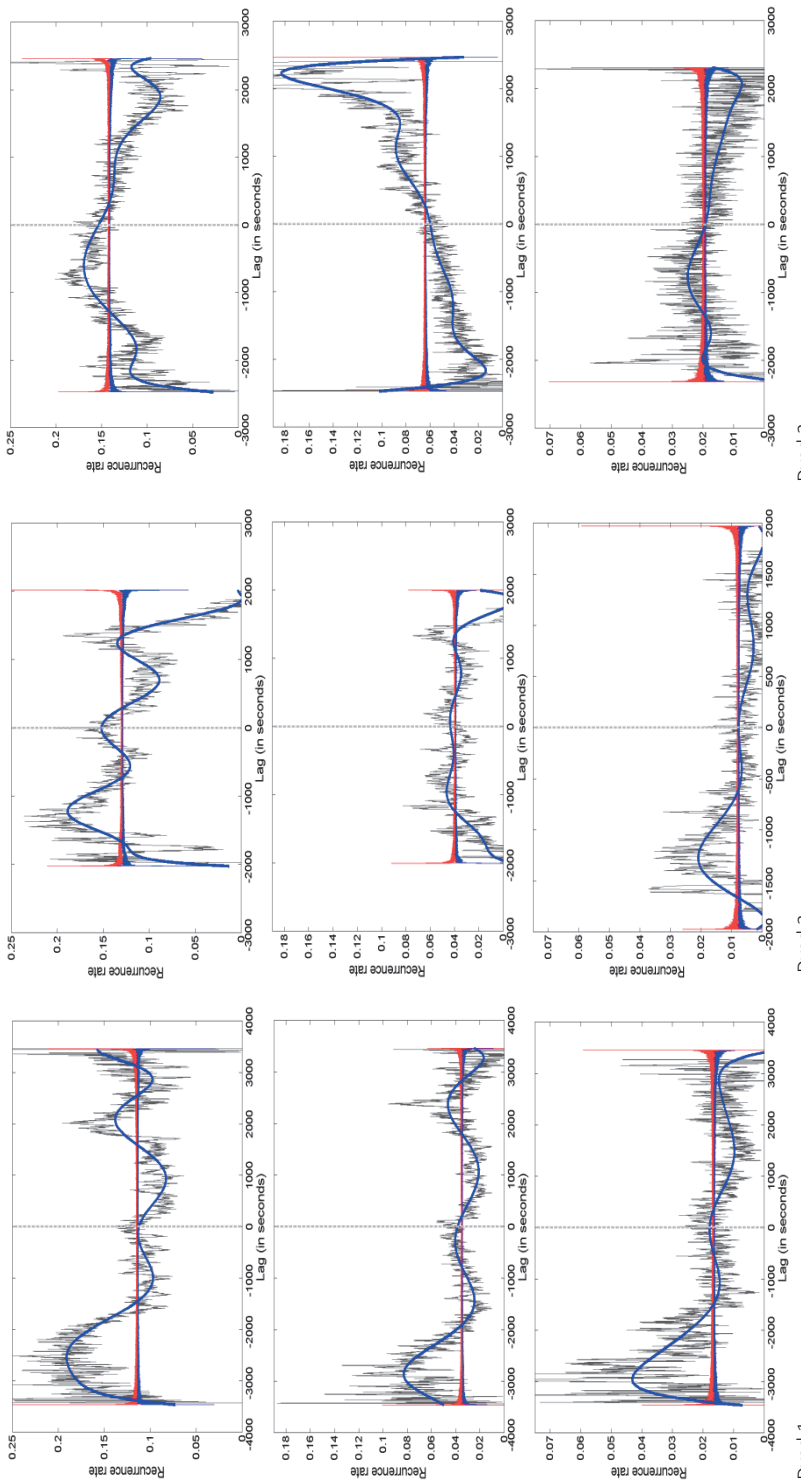

Figure 4. Lag profiles of the entire session of all three SASB-dimensions of all three dyads. The first row concerns Affiliation, the second row Control with focus on Other, and the third row Control with focus on Self. The first column is Dyad 1, the second Dyad 2, and the third Dyad 3. Red and blue horizontal lines represent upper and lower bounds of the 95% confidence intervals, based on shuffled time series submitted to the same analysis as the empirical data. The thick blue lines represent overfitted polynomials to better visualize the global leading-following patterns in the respective interactions.

respectively 55 minutes. In Dyad 2, the staff member is also mostly leading with some 22 minutes, but the staff member as well as the client are alternately leading within 5 minutes. In Dyad 3, the peak is much less prominent, with the staff member mostly being in the lead in their affiliation pattern within the first 20 minutes of their interaction, and the client also somewhat leading in this pattern within 3 minutes.

Control with focus on Other. In Dyad 1, the staff member is predominantly leading their pattern in control-with-focus-on-other with some 41 minutes and also with some 5 minutes. This means that the client reacts strongest in dominance, neutral control, or autonomy giving after 41 minutes, and slightly after 5 minutes. But there is also a smaller peak in which the client is leading with some 38 minutes, thus the staff member reacting stronger after 38 minutes. In Dyad 2, there are only very small peaks, in which mostly the client is leading in control-with-focus-on-other with some 4 and 21 minutes, thus the staff member reacting somewhat stronger after 4 minutes, respectively 21 minutes. The staff member is only leading here in some 15 minutes, meaning that the client reacts slightly stronger on this pattern after 15 minutes. In Dyad 3, there is only a peak in which the client is leading their pattern in control-with-focus-on-other, starting with 6 minutes and increasing until 37 minutes, meaning that the staff member reacts increasingly stronger in this pattern and strongest at some 37 minutes.

Control with focus on Self. In Dyad 1, the staff member is predominantly leading their pattern in control-with-focus-on-self with some 50 minutes, meaning that the client reacts strongest in separation, neutral control, or submission after 50 minutes. But within a time frame of 5 minutes, both the staff member as well as the client are alternately slightly leading. In Dyad 2, it is only the staff member who is leading in control-with-focus-on-self some 20 minutes, meaning that the client reacts strongest after 20 minutes.

In Dyad 3, the staff member is leading in control-with-focus-on-self some 13 minutes, meaning that the client reacts strongest in their pattern of separation, neutral control, or submission after 13 minutes.

Overall, in Dyads 1 and 2, it is the staff member who is leading most strongly all three interactional patterns on affiliation and control at some 20-40 minutes, whereas staff member S3 is only leading two patterns within the first 15 minutes. But within a time frame of some 5 minutes, for all dyads, the staff member and the client are alternating in their leading behaviour the three interactional patterns on affiliation and control, but in a much lesser degree.

6.3.4 Difference between longer-term versus short-term interactions

Lag profile analyses of 20 seconds

Figure 5 is comparable to Figure 4, but now presenting the lag profiles for the short-term synchronisation, zooming in on the interactional pattern within each 20 seconds during the entire session. These short-term profiles can thus be compared with the longer-term profiles in Figure 4.

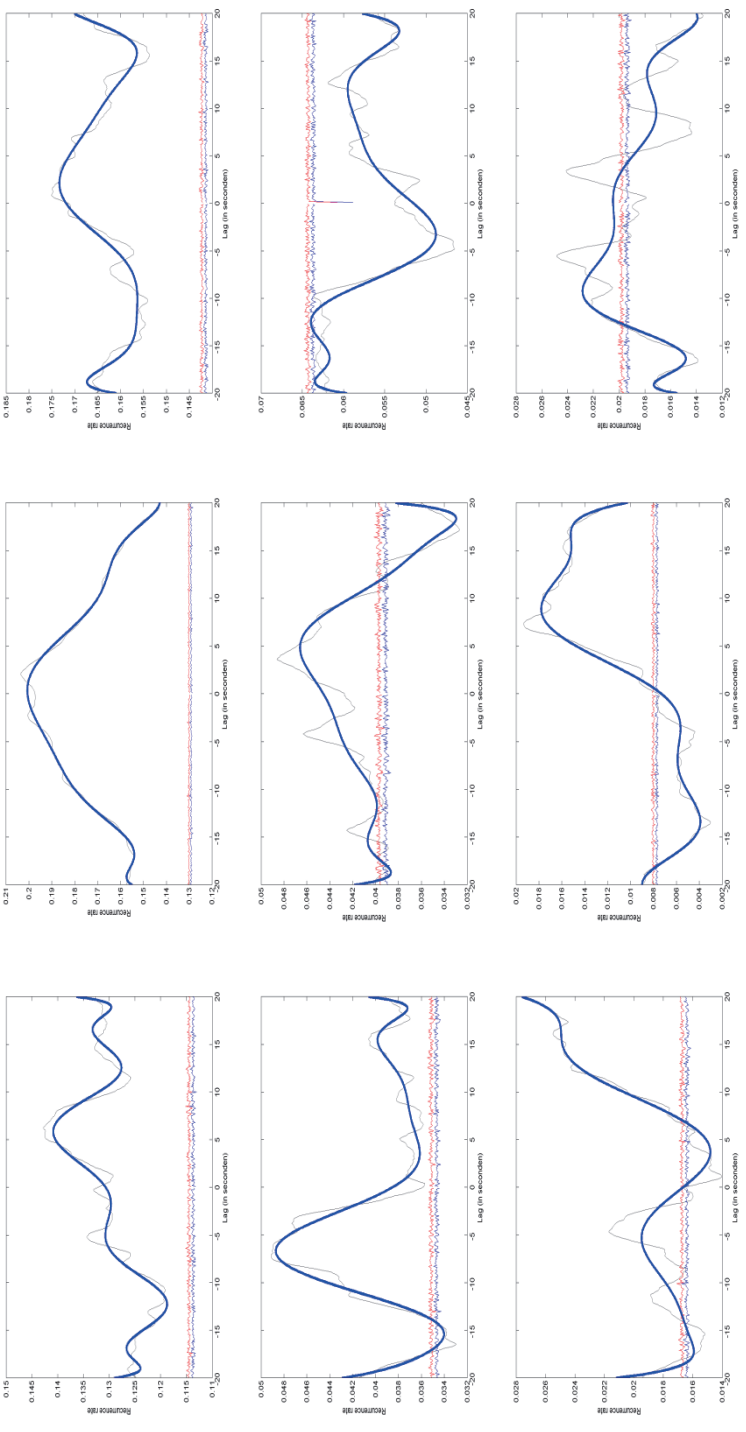

Figure 5. Lag profiles of 20 seconds of all three SASB-dimensions of all three dyads. The first row concerns Affiliation, the second row Control with focus on Other, and the third row Control with focus on Self. The first column is Dyad 1, the second Dyad 2, and the third Dyad 3.

For Dyad 1, in their short-term interactions, it is the client who is leading two of the three interactional patterns, being affiliation and control-with-focus-on-self, on 6, respectively 15 seconds. In the longer-term interactions, it was the staff member who was leading strongly all three interactional patterns.

For Dyad 2, in their short-term interactions, it is the client who is leading two of the three interactional patterns, being control-with-focus-on other and control-with-focus-on-self, on 5, respectively 9 seconds. In the longer-term interactions, it was the staff member who was leading more or less all three interactional patterns.

For Dyad 3, regarding the affiliation pattern, in their short-term interactions, it is the client who is leading that pattern on 2 seconds, in contrast with the staff member leading the longer-term affiliation pattern. As regards to the control-focus-with-other pattern, the lag profile was lower than the confidence intervals, meaning that there was no synchronisation between staff member and client on this pattern within 20 seconds. Regarding the control-with-self pattern, it is the staff member who is leading that pattern on 9 seconds, in contrast with the client leading strongly the longer-term affiliation pattern.

Overall, in six of the nine lag profiles of these staff-client interactions, the findings on which partner is leading a certain interactional pattern within a short-time frame of 20 seconds, is opposite to the findings of who is leading within a longer-term frame of the entire interaction session of 34 to 58 minutes.

6.4 DISCUSSION

In this study, the dynamical patterns of three different staff members interacting with the same ID client with CB were investigated, during an individual support session of respectively 58, 34, and 41 minutes. Based upon interpersonal models of Leary (1957) and Benjamin (1994), we rated both staff and client behaviour on three dimensions, being Affiliation (friendly, neutral, hostile), Control with focus on Other (dominance, neutral, autonomy giving), and Control with focus on Self (separation, neutral, submission). The findings of this study will be discussed in relation to their practical implications for coaching, supervision and team consultation of staff members dealing with ID clients with CB.

First of all, the descriptive statistics confirmed the challenges the staff members were faced with. Both the client as well as the staff members showed a great deal of negative affiliation behaviour, which according to the similarity principle of interpersonal models leads to conflicts (Benjamin, 1996; Hinde, 1995). In Dyad 1, this is probably somewhat compensated because both partners were also quite neutral in their affiliation behaviour, and they both varied more in their own interpersonal behaviour than the Dyads 2 and 3 did (see Figure 1).

The greatest differences between staff and client were on their percentages of Focus, with staff members showing almost twice as much active behaviour (focus-other) than reactive behaviour (focus-self) towards the client, whereas the amount of client's reactive behaviour (focus-self) was higher than her active behaviour (focus-other) towards the staff members. This active and parent-like focus of staff on the client may be considered adequate, as it is in line with the basic concept of sensitive responsiveness, empathy, or mentalizing for all supporting or counselling professions (Dekker-van der Sande et al., 2015). Nevertheless, in frameworks for understanding relationships, the relevance for self-presentation and disclosing oneself towards another person is also acknowledged, which in this study can be compared to the reactive focus on oneself as a staff member (Back et al., 2011; Hinde, 1995). Sensitivity for one's interpersonal actions towards a client as well as reflection on one's own interpersonal reactions can therefore be considered basic themes in staff coaching or supervision.

Second, in spite of the challenges and conflicts between these staff members and this client, CRQA analyses demonstrated that staff and client did become synchronized with respect to all interpersonal behaviours on the dimensions of affiliation and control. This means that over the course of time staff and client changed each other in a way that they arrive at semi-stable and recognizable patterns in their interaction behaviours, as stated in dynamic systems theory (Fogel et al., 2006). In answering our first research question, we indeed found a difference between synchronisation levels of the three staff-client dyads concerning staff-client affiliation and control behaviour, on attunement (i.e. similarity), persistence, stability and complexity. In case of variations in conflicts between staff members with the same client, these differences can be discussed within team consultation, in order to find explanations for these variations. Conflicts in Dyad 2 can be associated for example with more persistent and longer during interactions on dominant behaviour, whereas in Dyad 3 there seems to be a connection with low levels of less persistent and shorter interactions on friendly behaviour. Even more important is that staff learn to increase their levels of synchronisation with that client, especially that of attunement, because this improves the quality of the interaction patterns (Reuzel *et al.,* 2013a, 2013b, 2014). In interpersonal models like the Interpersonal Circle or SASB, two prominent principles, being similarity and complementarity, are considered essential for such attunement and have also been proven to be relevant in staff-client interactions as perceived by staff (Willems *et al*., 2016). Therefore, in coaching or supervision in case of CB, a staff member as in Dyad 2, for example could be encouraged to act and react friendly to evoke similar friendly behaviour in the client, rather than behaving negative or hostile, which mostly heightens hostile behaviour on part of the client (Benjamin, 2003).

Third, regarding our second research question, there were indeed several differences in who (staff or client) was leading or following regarding affiliation and control patterns. Most importantly, considering the entire session, it was mostly staff

who was leading strongly, and therefore seemed to take the most initiative in the evolution of almost all interaction patterns with this client. In other words, staff seem to dominate the relationship most of the time. This is understandable, because staff are expected to support the client in a proactive way, and as their roles are therefore not symmetric like in a partnership of equals, this asymmetry brings about an asymmetry in synchronisation (Louwerse, Dale, Bard, & Jeuniaux, 2012). In staff coaching or supervision, it may be empowering for them that even in the case of staff-client conflicts and CB of clients, staff themselves appear to have the greatest influence on the attunement processes in their relationship. The fact that staff and client reach the highest levels of attunement on the dimension of friendly-hostile behaviour expands our earlier finding of a rather high correlation between staff and client friendliness in a large cross-sectional study (Willems et al., 2016). This supports the application of the similarity principle in a therapeutic way, by stimulating staff to be as friendly as possible, thereby evoking friendliness in a client in the longer term (Benjamin, 2003).

Fourth, in answering our third research question, the nature of the staff-client interaction on a short time scale indeed looked different from that on the longer one. In the longer time scale of the entire interaction session, staff in this study was in the lead on all affiliation and control interactions for at least 15, and even 20-40 minutes, which means that the client was responding strongest with behaviour on the same dimensions after 15, or 20-40 minutes. We also found that within a time frame of 5 minutes, not only staff, but also the client alternately had a moderate initiative in their interaction patterns. Both in clinical assessment of antecedents for CB, as well as in staff coaching on effects of staff interpersonal behaviour, it is therefore important to realise that clients can react rather strongly on staff behaviour particularly after a longer period of time. Furthermore, at a medium-term time scale, not only clients, but staff too may react strongly on the other partner's affiliation and control behaviour. Another interesting finding was that on a short time scale of 20 seconds, the client was initiating the most affiliation and control interactions. Thus, in contrast to our longer-term findings, it was the staff member who was responding strongest within a time frame of several seconds. In coaching or supervising staff on consequents for CB, such short-term staff reactions have extensively been examined from the perspective of applied behaviour analysis, describing them as reinforcing behaviour based on contingency principles (Hastings et al., 2013).

In supporting our nomothetic and cross-sectional findings that staff report a mutual influence of staff and client interpersonal behaviours (Willems et al., 2016), in this idiographic study on actual interactions we found that staff and client indeed became attuned to each other in both affiliation and control behaviours, demonstrating the usefulness of RQA within time-series research, as first proved by Reuzel and colleagues (2013a, 2013b, 2014). Furthermore, this observational study also illustrated the relevance of studying longer staff-client interaction sessions than the usual fragments of about 1-15 minutes (Hostyn et al., 2010; Reuzel et al., 2013a; Van den Berg, 2000;

Wilderjans, Lambrechts, Maes & Ceulemans, 2014), which made it possible to compare the amount of leading and following on longer, medium, and very short time frames.

The findings of this study can be applied in coaching, supervision and team consultation of staff members dealing with ID clients with CB, to support them in exploring and finding their own solutions for their challenging relationship. First of all, staff may be assisted to reflect on their empathy or sensitive responsiveness towards a client, but also on their sensitivity for their own reactions, by simply looking at the balance between their interpersonal active and reactive behaviour, thereby enhancing their mentalizing competencies. Secondly, staff can be encouraged to use powerful interpersonal principles of similarity and complementarity in their search for more adequate attunement in their relationship with a client with CB. For example, by avoiding similarity on negative interpersonal behaviour or by proactively being friendly and thereby trying to evoke similar friendliness in the client. Acting more complementary by for example giving autonomy instead of being dominant to a dominant client, restores the balance of power between staff and client (Jahoda, et al., 2009). Thirdly, staff should be made aware that this power theme is not only relevant at the content level of interpersonal behaviour, but also at the process level of who is leading or dominating the interaction and who is following. Most remarkably, even within the same staff-client dyad, this leading and following can differ very greatly depending on a time frame of more than 30 minutes, a few minutes or several seconds. Staff can therefore be coached in finding out how changing their timing of taking the lead or following in several interpersonal behaviours may have a possible positive effect on client interpersonal behaviour.

In a training framework for improving staff interaction skills in dealing with CB, it has been suggested that staff reflect on and create self-insight in several aspects, as their emotions, self-efficacy, coping style, team climate and attributions (Willems *et al.*, 2016). However, to be effective in actually changing staff behaviour, it is clear that classroom or workshop training should be combined with coaching-on-the-job (Van Oorsouw et al., 2009). For staff treating CB, the use of interpersonal models focusing on the balance of active and reactive behaviours, applying principles of similarity and complementarity, and changing the amount and timing of taking the lead or following, appears useful for such coaching-on-the-job, supervision, and team consultation.

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APPENDICES

Appendix A

Range	Score	Posture	Expression	Sound	Locomotion	Text
Friendly range	3	Very open	Broad smile Loving glance	Very friendly tone Loving tone Very enthusiastic tone	Soothing Caress Give a big thumb up	Very positive comment Very grateful remark
	2	Open	Friendly smile Friendly glance	Cheerful tone Friendly warm tone	Give a thumb up Pat on the shoulder	Positive comment Grateful remark
	1	Somewhat open	A little smile Open glance	(Somewhat) friendly tone Relaxed tone	Helping Accepting help	Offering help Somewhat positive comment
Neutral	0	Neutral	No emotional expression (neutral)	Little intonation Affiliation not noticeable Objective	Practical	Objective remark
Hostile range	-1	Somewhat closed	Frowning Mouth down Strict glance	(Somewhat) unfriendly tone Hard voice Sharp voice	Somewhat brusque	Corrective comment/remark
	-2	Closed Somewhat threatening	Angry glance Angry mouth form	Loud voice	Threatening to hit Threatening to push Threatening to spit Grabbing	Grumbling Disapproving comment
	-3	Threatening Offensive	Angry face Aggressive glance	Yelling Very sharp tone	Hitting Pushing Biting Spitting Harsh grabbing	Offensive comment Cursing Scolding Mean comment

Appendix B

Focus	Range	Score	Support levels	Text
Other	Dominance range	3	Take over Physically leading	Demanding Commanding Settling Regulating
		2	Physical activation Visual activation Doing things together	Clear assignments
		1	Initiating for action Demonstrate	Asking Giving instructions
	Neutral	0	Not directed towards the other person	Communication of facts No command or question
	Autonomy giving range	-1	Careful approach of the other person	Asking to make a choice Inviting the other Asking for approval at the end of a command
		-2	Keep distance Assist from a distance	Asking an open question
		-3	Giving freedom Give space for action	No question No command
Self	Separation range	3	Ignoring the other Going own way	Talking about own ideas No text
		2	Actions for self Not reacting as asked for	Clear about own demands/wishes
		1	Resisting assistance	Asking for own thing Asking for own space
	Neutral	0	Not directed towards the other person	Communication of facts No submission or refusal
		-1	Waiting	Asking for explanation
	Submission range	-2	Acquiescence Yield Coming along	Accept after explanation
		-3	Cooperate Follow rules Complying	Agree

Chapter 7

General discussion

The value of the relationships between support staff and persons with intellectual disabilities and challenging behaviour is emphasized within the ethical care paradigm of professional loving care. Furthermore, the quality of these relationships is considered important by people with intellectual disabilities and their parents as well as by support staff and impacts on the quality of care. In addition, in both the assessment and treatment of challenging behaviour, the type of staff interpersonal behaviour towards and interaction patterns with a person with an intellectual disability and challenging behaviour are regarded as essential.

Therefore, the present thesis aimed at providing insights into support staff interpersonal behaviour and interactions with people with intellectual disabilities and challenging behaviour. Based on the six steps of the Intervention Mapping protocol, these insights will be used for developing a training, coaching, and team consultation program for support staff, as will be discussed in the section on implications for practice (Bartholomew, Parcel, & Kok, 1998). In order to formulate the objectives and content of such an intervention, five studies were conducted with a total of over 1000 different staff members. They supported almost 300, mostly adult, persons with all levels of intellectual disabilities and different kinds of challenging behaviour. First of all, in order to measure and evaluate staff's interpersonal behaviour, a self-report instrument for support staff members was developed based on interpersonal models. Second, to ascertain the topics that would be included in training, coaching and team consultation, studies on factors influencing staff interpersonal behaviour were conducted using questionnaires. Third, the dynamic interactions were studied within dyads of a support staff member and a person with an intellectual disability and challenging behaviour using observations, with the purpose of individualizing these training, coaching and consultation interventions. Reviewing these research findings, some concluding remarks will be made regarding mechanisms in staff interpersonal behaviour and interactions. The main findings of this thesis will be used to present an outline for training, coaching, and consultation, and to discuss implications for clinical practice and future research.

7.1 CONSTRUCTION, REPLICATION AND VALIDATION OF THE STAFF-CLIENT INTERACTIVE BEHAVIOUR INVENTORY (SCIBI)

There were several reasons for the development of a self-report instrument on the interpersonal behaviour of support staff for people with intellectual disabilities. First, because interactions between two people involve subjective perceptions and verbal descriptions that partially shape their overt behaviour, it is important to use staff self-report instruments as well as observations (Back et al, 2011; Hastings, 2010; Hastings & Remington, 1994; Hinde, 1995). Second, the existing observational methods are rather time-consuming, and classify staff interpersonal behaviour in terms of instruction, guidance, restraint, positive verbal attention, or non-verbal behaviour (Felce, Bowley,

Baxter, Jones, Lowe, & Emerson, 2000; Golden & Reese, 1996; McConkey, Morris, & Purcell, 1999). This makes these methods less useful for training, coaching or team consultation purposes in the clinical practice of challenging relationships. Third, in using self-reports or self-reflection, support staff are invited to assess their own interpersonal behaviour, which is complementary to traditional objective information-gathering by an external professional or trainer. Self-report and self-reflection builds upon the powerful effects of 'therapeutic assessment' that has been shown to maximize the self-confidence of staff and the potential for generating changes (Finn, Fischer, & Handler, 2012). Fourth, until the start of this thesis in 2009, to the best of our knowledge, the existing self-report instruments within our field were limited to staff reactive behaviour on challenging behaviour (consequences), and did not include staff proactive behaviour during interactions in general (Bromley & Emerson, 1993; Bruininks, Hill, & Morreau, 1988; Lambrechts, Kuppens, & Maes, 2009).

We, therefore, constructed the Staff-Client Interactive Behaviour Inventory as a self-report questionnaire, containing 30 items and measuring a broad range of staff behaviour in supporting persons with intellectual disabilities and challenging behaviour (SCIBI, see Chapter 2). The SCIBI measures four interpersonal staff behaviours, mainly based on the interpersonal models of Leary (1957) and Benjamin (1974, 1994), namely assertive control, hostile, friendly and support-seeking behaviour, and three intrapersonal staff behaviours, proactive thinking, self-reflection, and critical expressed emotion.

In comparing the SCIBI with the interpersonal models of Leary and Benjamin, we found three of the four interpersonal factors to be completely in agreement. The factors in agreement were being hostile or friendly for the affiliation dimension and assertive control for the control dimension. However, the factor support-seeking of the SCIBI does not fully represent the opposite pole on the control dimension, which is submission or autonomy giving. An explanation for this is that the SCIBI was developed for staff working with persons with challenging behaviour, and they are mostly expected to be in control over that challenging behaviour (Emerson, 1995). Staff therefore can feel the need to get support from the person with an intellectual disability and challenging behaviour and that makes them somewhat dependent, but not really submitting or giving autonomy to the other person.

In a second study (see Chapter 3), the seven-factor structure of the SCIBI was replicated, with mostly high levels of internal consistency. The findings of the third study revealed mostly sufficient to good convergent validity. Thus, the conclusion seems justified that the SCIBI is a reliable and sufficiently valid measure of interpersonal and intrapersonal behaviour of support staff working with people with all levels of intellectual disabilities, of all ages and with different kinds of challenging behaviour. The factor structure and the internal consistency of the SCIBI have also been largely confirmed in research studying teacher's interpersonal style towards students with intellectual disabilities and challenging behaviour (Alevriadou & Pavlidou, 2015).

During the course of this thesis, some comparable self-report instruments of staff behaviour have been developed, such as the Group care worker Intervention Check List (GICL), measuring controlling, autonomy granting, and warmth/support dimensions of the interventions by group care workers in youth care (Bastiaanssen, Kroes, Nijhof, Delsing, Engels, & Veerman, 2012). More specifically, the Staff Behavior towards Clients (SBC) was developed for use in the field of intellectual disabilities. The SBC is a staff self-report questionnaire for use in youths with mild to borderline intellectual disabilities, measuring care staff behaviour regulation, client-directed care, teaching, and empowerment (Huitink, Embregts, Veerman & Verhoeven, 2011). A third recent self-report instrument, the behavioural intervention questionnaire, was designed only for use in managing the aggressive behaviour of persons with intellectual disabilities, measuring staff activities in the provision of personal space and behavioural boundary setting, restricting freedom, and applying coercive measures (Knotter, Wissink, Moonen, Stams, & Jansen, 2013).

In comparison with the SCIBI, the GICL and the SBC have been developed only for use with youths, either with or without mild to borderline intellectual disability, and no further replication or validation studies have so far been reported. As for the behavioural intervention questionnaire, this instrument was limited to staff reactions in managing aggressive behaviour, and also has no known replication or validation studies. This means that the SCIBI is probably more applicable because it has been constructed, replicated, and validated for persons with all levels of intellectual disabilities and of all ages. Furthermore, as the SCIBI builds upon general interpersonal models, findings using the SCIBI strengthen the connection with several other research lines on interpersonal behaviour, adding to research aimed at ´revealing the big picture´ regarding relationships (Ellemers, 2013).

7.2 OUTCOMES OF A FUNCTIONAL ANALYSIS OF STAFF INTERPERSONAL BEHAVIOUR

In Chapter 1, we presented a research framework for a functional analysis of staff interpersonal behaviour, with the aim of incorporating aspects that affect interpersonal behaviour in staff training, coaching or team consultation. In *Figure 1* only the significant results from a great many dynamic aspects of the three studies presented in Chapters 2, 4 and 5 are integrated. Almost all the findings have been obtained by using multilevel or hierarchical regression analyses and represent unique influences on staff interpersonal behaviour. The factors are discussed in order of their importance.

First of all, being confronted with challenging behaviour as opposed to non-challenging behaviour seems to lead to more controlling and less friendly behaviour in support staff members. Interestingly, when dealing with challenging behaviour, it is not externalising challenging behaviour that seems important, but rather internalising

challenging behaviour that contributes largely to staff being more friendly. Furthermore, in line with the similarity principle of interpersonal models, friendly or dominant behaviour of the person with an intellectual disability evokes more friendly or dominant behaviour, respectively, on the part of the support staff member (Benjamin, 1974, 1994; Leary, 1957). Because interpersonal behaviour is bidirectional in its nature, this would also apply to behaviour in the opposite direction.

Second, staff emotional reactions, especially negative and critical expressed emotions, were of much more significance in predicting staff interpersonal behaviours than staff attributions, their cognitive beliefs of what causes the challenging behaviour. This is also in line with the so-called 'hot route' in emotion theories, which states that basic or primary emotions such as anger, fear, disgust or sadness have a more immediate impact on behaviour than cognitive processes (Damasio, 1994; Zajonc, 1980). However, Weiner's attribution model (1986) predicted that internal or personal controllability would also have an effect on emotions, resulting in less helping behaviour, which could not be confirmed in our further analyses. Due to inconsistencies in research findings Weiner revised his model (1995) stating that the emotions and behaviour of one person towards another is much more determined by how responsible that person is held for his behaviour than by attributing a high level of personal control to his behaviour. In supplementing this view, our findings demonstrated a positive influence of external controllability and of positive emotional reactions on friendly staff behaviour. This confirmed the conclusion of Thomas and Rose (2010), that positive emotions led to higher optimism and thus to a higher level of staff helping behaviour.

Third, only a harsh-dominant attitude of support staff members towards persons with intellectual disabilities in general had a significant and substantial influence on assertive control and hostile staff behaviour towards the person with an intellectual disability and challenging behaviour that the staff were supporting. This emphasizes the importance of training staff to adopt respectful attitudes, as in professional loving care (Hermsen, Embregts, Hendriks & Frielink, 2014; van Heijst, 2005).

Fourth, staff self-efficacy was one of the most significant psychological resources, having an influence on several staff interpersonal behaviours, especially on friendly staff behaviour. This is in line with findings that demonstrate that self-efficacy beliefs serve to promote the competence that is also needed in handling challenging behaviours in a proactive and positive way (Caprara, Alessandri, & Barbarenelli, 2010; Cudré-Mauroux, 2011).

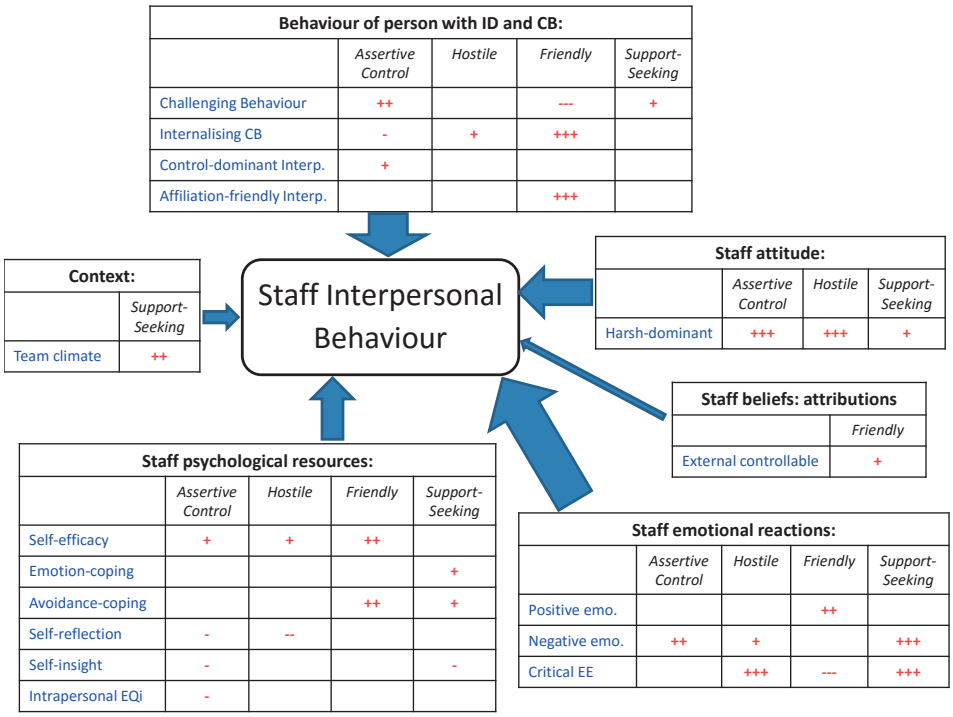

Figure 1. Significant outcomes of a functional analysis of staff interpersonal behaviour
(width of the arrows indicates the degree of influence of a factor on staff interpersonal behaviour styles, which is assertive control, hostile, friendly and support-seeking behaviour. More + or - means that a factor leads to higher or lower staff interpersonal behaviour style, based on P-levels)

Fifth, two other staff psychological resources, self-reflection and insight, and intrapersonal emotional intelligence, led to lower assertive control behaviour in support staff members when dealing with challenging behaviour in persons with intellectual disabilities. The importance of engaging in self-reflection and having a high sense of self-awareness and self-insight is supported by studies reporting positive effects from staff mindfulness-training or training focused on emotional intelligence (Singh, Lancioni, Winton, Singh, Adkins, & Singh, 2009; Zijlmans, Embregts, Gerits, Bosman, & Derksen, 2015).

Sixth, support staff members with a higher avoidance-focused coping style reported much more friendly behaviour, whereas an emotion-focused coping style led to higher support-seeking staff behaviour, that is to say that the staff felt more dependent. This style of seeking distraction and the company of others is probably an adequate resilience strategy for staff in preventing stress and overcoming adversities, such as being repeatedly confronted with challenging behaviour (Fletcher & Sarkar, 2013; Hastings, 2002). Also, emotion-focused coping styles are often related to other negative

outcomes like higher anxiety, higher depression and higher dissatisfaction with life (Westerhof & Bohlmeijer, 2010).

Seventh and last, a better climate in teams of support staff members was only related to higher support-seeking behaviour. Further analysis of the subscales of team climate showed that it was mostly team interaction and searching for innovation that correlated highly with support-seeking. To explain this finding, it could be hypothesized that higher support-seeking behaviour can generate unwanted feelings of dependency in support staff members because they are supposed to be competent in the opposite of support-seeking, namely to be in control of challenging behaviour. This desire to be competent can lead to more discussions within their team, searching for other solutions in managing challenging behaviour. Furthermore, another subscale of team climate, team vision, was correlated with a higher level of friendly behaviour in support staff members This is in line with the opinion of care staff that an open team atmosphere and a shared team vision facilitates the offering of professional loving care, which is characterised by such friendly compassion (Hermsen et al., 2014).

Overall, friendly staff behaviour in particular is influenced by many dynamic factors. Friendly interpersonal behaviour of the person with intellectual disability and challenging behaviour had the highest impact on staff friendliness. So, even when support staff members are confronted with challenging behaviour, this bidirectional principle of similarity on the friendly-hostile dimension turns out to hold up. With regard to support staff members, there were several dynamic determinants of friendly staff behaviour in dealing with challenging behaviour. Staff positive emotions, self-efficacy, and attribution of external controllability (believing that others, for example staff themselves, can regulate the challenging behaviour) are all shown to heighten friendliness in support staff members. The relevance of these three elements is supported by positive psychology, broaden-and-build theory, and solution-focused therapy, demonstrating the effectiveness of expressing positive emotions and optimism, feeling competent, and knowing one's strengths and talents (Fredrickson, 2013; Roeden, Maaskant, Bannink, & Curfs, 2014; Seligman, 2011).

Support staff members who have a higher avoidance-focused coping strategy, looking for distraction or the company of others, also prove to be much more friendly towards a person with intellectual disability and challenging behaviour. Understandably, experiencing critical expressed emotion, feeling hostility, and cynicism leads to a lower level of friendly behaviour in support staff members. Particularly these elements are incorporated in stress-management training and in emotion-regulation techniques that have proven to be successful in increasing the use of adequate coping styles and awareness of what causes stress signals (Gross, 1998; van Oorsouw, Embregts, Bosman, & Jahoda, 2014).

The importance of a high level of friendliness, warmth or closeness cannot be overestimated. It is not only much appreciated by persons with intellectual disabilities and their parents and support staff members, but it also has a high priority in care ethics

and quality of care (see Chapter 1). Warmth and closeness especially are regarded as essential for forming positive attachment relationships between support staff and persons with intellectual disabilities (Birtchnell, 2014; De Schipper, Stolk, & Schuengel, 2006).

Some static characteristics of persons with intellectual disabilities and challenging behaviour also appeared to have a relatively large influence on most staff interpersonal behaviours. Most importantly, staff report acting much less friendly towards persons with moderate to mild levels of intellectual disability than towards lower-level functioning persons. As has recently been demonstrated, a higher intellectual functioning person will be held more responsible for their behaviour because staff assume that there are no mitigating circumstances such as a lower level of communication (Williams, Dagnan, Rodgers, & Freeston, 2015). In line with Weiner's revised attribution model (1995), the person will therefore be approached with less sympathy by support staff members. The gender of the support staff member is an important static characteristic. Two of our studies revealed that male staff members report higher support-seeking behaviour than female staff members. This can be explained by the fact that male staff tend to have higher intrapersonal emotional intelligence scores, focusing on their own feelings instead of on the feelings of others, which could lead to a higher need for support and compliance from persons with intellectual disabilities and challenging behaviour (Gerits, Derksen, & Verbruggen, 2004).

7.3 Dynamics of interactions

The central aim of all of our studies was to provide insights into the interpersonal behaviour of staff confronted with challenging behaviour that can be used not only in general staff training but also in individual staff coaching. Evidently, what holds true for support staff in general, building on inter-individual and nomothetic research, cannot just be applied to the individual support staff member (Molenaar, 2004; Molenaar & Campbell, 2009). Therefore, in addition to our large cross-sectional studies, it is considered essential to incorporate the findings from our study of the dynamic interactions within dyads of a support staff member and a person with an intellectual disability and challenging behaviour, obtained from intra-individual and idiographic research.

In chapter 6, we presented a study on three dyadic natural interactions between one staff member and a person with an intellectual disability and challenging behaviour, investigating their patterns of verbal, paralinguistic and nonverbal interpersonal behaviour. Even in interactions where many conflicts occurred, both partners became synchronized, leading to recognizable interaction patterns. This meant that, over the course of time, they adapted their interpersonal behaviour to one another and became

attuned, especially on their friendly and hostile behaviour, but also on controlling behaviour.

First, support staff can be coached to apply his influence on the form of their interactions. For example, to increase friendly interactions by acting similarly when approached in a friendly manner or complementarily when approached in a hostile manner, thus leading to more attunement.

Second, it can be suggested to a staff member that (s)he tries to change the persistence, stability or complexity of her or his interpersonal behaviour to find out how this could improve the relationship or decrease the number or severity of conflicts with the person (s)he is supporting.

Third, the influence that support staff have on the process of their interactions can also be pointed out to them. They actually are predominantly leading or dominating the relationship, and therefore have more influence on how interaction patterns evolve, even when confronted with challenging behaviour. Particularly on the dimension friendly-hostile behaviour, support staff appear to set the tone in the interaction process.

Fourth, and most remarkably, the issue of who is leading or dominating the interaction patterns can actually change quickly within a time frame ranging from several seconds to more than 30 minutes. This means that a staff member can be stimulated to try changing their timing in taking the lead or following. This may have a positive effect on the interpersonal behaviour of the person (s)he is supporting. It is even more important for staff to realize that, instead of only looking for immediate antecedents and consequences, they should also be interested in longer-term antecedents and consequences of their bidirectional interpersonal behaviour.

7.4 MECHANISMS IN STAFF INTERPERSONAL BEHAVIOUR AND INTERACTIONS

In reviewing these research findings, three concluding remarks can be made because the use of the same interpersonal dimensions in all our studies makes it possible to directly combine all the findings. First of all, staff interpersonal behaviour and interactions with persons with intellectual disabilities and challenging behaviour are indeed 'contingency-shaped', meaning that one's behaviour can be shaped and maintained through either positive or negative reinforcement of the behaviour of the other person (Hastings & Brown, 2000; Hastings & Remington, 1994). We found that in subjective self-reports staff interpersonal behaviour was influenced by the interpersonal behaviour of the person they were supporting, as predicted by the interpersonal models of Leary and Benjamin. Also, objectively, both partners adapted their interpersonal behaviour to the interpersonal behaviour of the other person over the course of time, arriving at recognizable patterns in their interactions, as stated in

dynamic systems theory (Fogel, Garvey, Hsu, & West-Stroming, 2006). Remarkably, who is taking the lead or is following in these semi-stable interaction patterns within one interaction situation, can change within a few seconds, several minutes and over much longer time periods.

Second, staff interpersonal behaviour is also somewhat 'rule-governed'. Rules are described as the verbal formulations support staff have of either the causes or treatment of challenging behaviour. These rules can be externally supplied, such as professional analyses of challenging behaviour, treatment programs or service guidelines. They can also be self-generated by support staff members, such as personal beliefs about the causes of challenging behaviour or ways to deal with it (Hastings & Brown, 2000; Hastings & Remington, 1994). In our studies we found that staff self-generated rules or beliefs on these causes, called attributions, did indeed have some small unique influence on staff interpersonal behaviour. Instead of staff beliefs on who or what causes or controls the challenging behaviour, Weiner suggested that it is especially staff personal belief regarding the amount of responsibility the person with an intellectual disability that functions as a rule in less helping behaviour (1995). This suggestion has not been directly tested in our studies, but it would explain our finding that support staff members report less friendly and more hostile behaviour towards higher functioning persons with intellectual disabilities and challenging behaviour.

But third and probably most significantly, staff interpersonal behaviour can be labelled as highly 'self- and socially-driven'. We demonstrated that a considerable number of staff personal and social factors had a significant influence on staff interpersonal behaviour. These factors were, in order of importance, (a) positive, negative, and critical emotional reactions, (b) harsh-dominant attitude, (c) self-efficacy, (d) self-reflection and insight, (e) avoidance-focused and emotion-focused coping style, (f) team climate, and (g) intrapersonal emotional intelligence.

To ensure the maximum impact for training and coaching all these influences and processes regarding interpersonal behaviour can thus be addressed in staff training, coaching or consultation, as well as in assessment and treatment of challenging behaviour.

7.5 IMPLICATIONS FOR PRACTICE

7.5.1 Content of Interaction Training, Coaching and Consultation for Teams (ITCCT)

Staff training, coaching and team consultation is a way to empower support staff members in the care they provide to persons with intellectual disabilities and challenging behaviour. As empowerment can be looked upon as a form of health education or promotion, we considered the Intervention Mapping protocol for health promotion a suitable framework

to develop a theory- and evidence-based training program (Bartholomew, Parcel, & Kok, 1998; Bartholomew, Parcel, Kok, Gottlieb, & Fernandez, 2011).

The first step of the Intervention Mapping protocol is to define the problem, the behaviour to be trained and its determinants. In this thesis I have argued that the problem of challenging behaviour can be redefined as a problem of challenging relationships, discussing five reasons for a focus on relationships between support staff members and persons with intellectual disabilities and challenging behaviour. To unravel the actual social influence processes in these relationships we based our research on interpersonal behaviour models, defining their structure and the dynamic processes involved. We have developed and validated a self-report instrument to rapidly measure interactive staff behaviour and we have investigated many factors and dynamic processes that are important for these interactions. In doing so, step 1 of the Intervention Mapping protocol can be considered properly accomplished.

The next step in intervention mapping is to formulate the main goals and content for the intervention, called Interaction Training, Coaching and Consultation for Teams (ITCCT), based on the results of the studies within this thesis. Because ITCCT is concerned with educating support care staff, it is important to align it with an authoritative and worldwide overview on education for health professionals in the 21st century (Frenk *et al.*, 2010). Frenk and colleagues state that in modern health education three levels of learning are needed.

On the first level, informative learning is needed. This relates to acquiring core competencies in order to become an expert. Therefore, we propose that support staff members are taught to be competent in attunement in relationships when supporting persons with intellectual disabilities and challenging behaviour. Based on our results, specific determinants for this main goal of ITCCT are (a) knowledge of interpersonal models and skills in using the principles of similarity and complementarity, (b) balancing between active interpersonal behaviour and reactive interpersonal behaviour, and (c) reflecting on interaction patterns that occur within seconds, minutes and over longer time frames (see *Figure 2, left column*).

On the second level formative learning is needed, constructing mini-theories and learning techniques on topics that determine staff's interpersonal behaviour and interactions, in order to become professionals (Ruijters, 2006). The content of ITCCT should include topics concerning the dynamic staff factors that can be trained and that have proven to have an influence on staff interpersonal behaviour (see *Figure 2, left column*). The first topic is that the positive, negative and critical emotional reactions of staff should be addressed. Preventive methods, training staff to increase their positivity ratio by using savouring techniques, such as the 'three good things'-exercise, are useful (Fredrickson, 2013; Seligman, Steen, Park, & Peterson, 2005). Staff can also be trained to use reactive emotion-regulation techniques, such as heart coherence feedback, relaxation or mindfulness (Noone, & Hastings, 2010; Singh *et al*., 2009; van Oorsouw, et

al., 2014). A second topic in learning to become a professional is to discuss and increase staff levels of self-efficacy by, for example, identifying their strengths and talents, using instruments such as the VIA Signature Strengths (Peterson & Seligman, 2004), the R2 Strengths Profiler (Centre for Applied Positive Psychology, 2010) or the 'Talentenwijzer' (Hiemstra, 2011). Third, staff should be made aware of the effect of a harsh-dominant attitude by, for example, reflecting together with an expert-by-experience, acting as a co-trainer, on the impact of power or physical restraints, the issue of being excluded or the importance of a genuine dialogue (Hermsen, & Embregts, 2014; Hutchinson, Hastings, Hunt, Bowler, Banks, & Totsika, 2014). A fourth topic in becoming a professional is to explore staff coping styles, especially avoidance-focused and emotion-focused coping styles because adequate coping strategies are important to recover from the impact of failures and setbacks (Cudré-Mauroux, 2011; Schwarzer, 2008). High avoidance focused coping in staff can be stimulated, as long as this seeking of distraction or seeking the company of others does not make the staff member avoid their negative feelings when confronted with challenging behaviour (Kashdan, Barrios, Forsyth, & Steger, 2006). Emotion-focused coping almost always leads to negative outcomes. Therefore, the use of anxious, angry and fantasy strategies can best be replaced by preventive or reactive emotion-regulation techniques (Folkman & Moskowitz, 2004).

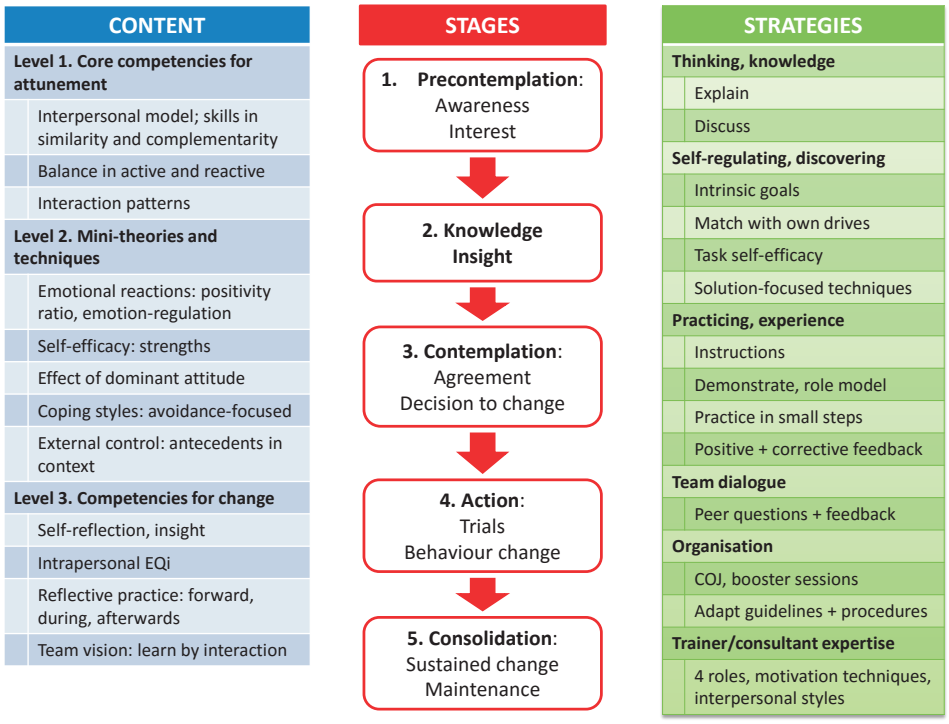

Figure 2. Outline for Interaction Training, Coaching, and Consultation for Teams (ITCCT)

The fifth and last topic is that staff learn the importance of finding and changing external factors that can control challenging behaviour by applying functional analysis to detect antecedents in the social or physical context and by creating new experiences through changing day programmes and social networks as described, for example, in Active Support (de Vor, 2014; Jones, Perry, Lowe, Allen, Toogood, & Felce, 1996).

On the third level and most importantly, as well as informative and formative learning, transformative learning is needed, using competencies for change to enable support staff to become change agents in a dynamic and challenging daily work environment (Frenk *et al,* 2010). This means that staff must develop leadership attributes, which includes being capable of critical reasoning, reflecting and decision making. In our studies we demonstrated the positive influence of staff self-reflection, self-insight, and intrapersonal emotional intelligence. Central to these aspects is the concept of 'reflective practice' that can help staff members to deal with uncertain and complex work situations by looking forward to, overseeing, and looking back at such situations. Support staff members should therefore be stimulated to create new scripts in advance for dealing with challenging behaviour. They should also be encouraged to oversee the actual process of their daily actions, goals, feelings and thoughts and be able to review the results of their actions afterwards (Durning, Lubarsky, Torre, Dory, & Holmboe, 2015; Hermsen & Embregts, 2015; Ruijters, 2006). In training and coaching, strengthening metacognitive strategies like self-reflection and insight into behavioural goals has been shown to be more effective than reflecting on emotions and thoughts (Coffield, Mosely, Hall, & Ecclestone, 2004; Grant, 2012). Apart from these individual attributes in staff, it has been stated and demonstrated that high-quality, efficient care also depends on staff members who are expert team members, especially during task relevant group discussions (Frenk, et al., 2010; Meleady, Hopthrow, & Crisp, 2012; Weaver, Rosen, Salas, Baum, & King, 2010). We indeed discovered that a shared vision within the team had a positive effect on staff interpersonal behaviour, which underlines the importance for staff members to learn by interacting with their colleagues, discussing several perspectives on problems and solutions (Ruijters, 2006).

7.5.2 Stages of change and strategies within ITCCT

Having formulated the second step, the goals and content of ITCCT, the third step of the Intervention Mapping protocol states that theory-based methods and practical strategies have to be selected to bring about the changes described. This is in line with Grey, Hastings and McClean (2007) who state that the future direction for staff training to deal with challenging behaviour should also define how staff can be trained best, based on processes of change within people. Such insights can be extracted from a great many models of behaviour change and implementation. The most influential behaviour change models are those of social-cognitive theory (Bandura, 1989), the theory of self-regulation (Carver & Scheier, 1982), Theory of Planned Behavior (Ajzen,

1991), the Transtheoretical Model (Prochaska & DiClemente, 1982), the Health Action Process Approach (Schwarzer, 2008) and implementation models (Grol & Wensing, 2007). Central to these models is a perspective on five global stages of change, being (a) precontemplation, awareness or interest ('seeing'), (b) knowledge and insight into one's performance, (c) contemplation, agreement or decision to change ('being moved'), (d) action, trials or behaviour change ('start moving') and (e) consolidation, sustained change or maintenance (see *Figure 2, central column*).

Several effective techniques that can be used to create practical strategies for training, coaching and consultation can be found in a meta-analysis of educational interventions and a taxonomy of behaviour change techniques (Hattie, 1992; Michie, van Stralen, & West, 2011; Michie, Wood, Johnston, Abraham, Francis, & Hardeman, 2015) (see *Figure 2, right column*). Based upon a taxonomy of learning preferences, four types of strategies can be distinguished. In order to meet with the different preferences of all support staff members, it is best to apply all these strategies (Simons & Ruijters, 2004). First, in the case of a thinking or knowledge-driven learning preference, it is important to explain and discuss the content topics of ITCCT. Second, in the case of a self-regulating and self-discovering learning preference, staff should be stimulated to match their behaviour with their own goals, drives, self-efficacy, and solutions (Colquitt, LePine, & Noe, 2000; Roeden, Maaskant, Bannink, & Curfs, 2014; Ryan & Deci, 2000; Versnel & Koppenol, 2013; Williams, Kessler, & Williams, 2014). Third, when staff prefer learning by practice and experience, it is essential to provide instructions, to demonstrate, to practice in small steps, and to give positive and corrective feedback (Embregts, 2002; Grant, 2001; van Oorsouw, Embregts, Bosman, & Jahoda, 2009). Fourth, in matching with a preference for learning by dialogue and from one another, staff should be invited to ask their peers solution-focused questions, to give peer support and peer feedback (Thurlings, Vermeulen, Kreijns, Bastiaens, & Stijnen, 2012).

Furthermore, to ensure the maintenance and consolidation of adequate interaction behaviour of staff members in clinical practice, it is essential that the organisation creates opportunities for staff coaching on-the-job and booster sessions to prevent relapses. In addition, topics on interactions should be incorporated within already existing treatment and quality guidelines, person-centred planning procedures and team discussions. Also, the trainer or consulting psychologist is supposed to be experienced in the different roles of being a teacher with expertise, a person-focused mentor, a behavioural instructor and a performance-directed coach. Above all, as the quality of the relationship as a trainer, coach or consultant is considered essential, he must have expertise in techniques for motivating, persuading, dealing with resistance, giving hope, and in adjusting his interpersonal style to that of the staff member (Duncan, 2010; Keijsers, Vossen, & Keijsers, 2012; Miller & Rollnick, 2013).

This outline for ITCCT encompasses several of the elements that are regarded as effective in reviews of staff training, focusing on direct skills to reduce or manage

challenging behaviour, and on beliefs, emotions, coping style and self-awareness to deal with challenging behaviour (Cox, Dube, & Temple, 2015; Stoesz, Shooshtari, Montgomery, Martin, Heinrichs, & Douglas, 2016). During the course of this thesis, most of the content topics and strategies regarding staff interactions have been appraised in over 50 workshops and a pilot study on ITCCT. We have found that interaction training or consultation works best with the complete support staff team taking part in a training, workshop or consultation and that the focus should be on one person with intellectual disability and challenging behaviour. Also, for ITCCT to be as effective and efficient as possible, it would be best that a team of support staff members is screened with regard to all the relevant determinants on staff interpersonal behaviour, thereby conducting a form of functional analysis of that team.

7.5.3 Clinical practice: assessment and treatment of challenging behaviour

In clinical practice of assessing and treating challenging behaviour in a person with an intellectual disability, any of these content topics and practical strategies of ITCCT can be directly applied in a shared decision-making process with that person, his relatives and support staff members. The supervising psychologist can quickly assess, using the SCIBI, what specific interpersonal style is related to the challenging behaviour. Subsequently, together they can discuss typical dynamic interaction patterns, regarding staff balance in active and reactive interpersonal behaviour, and what kind of short- and long-term attunement in interactions can be detected. Furthermore, the psychologist and support staff members can create insights on what staff determinants seem to be most influential on staff interpersonal behaviour. Finally, they can decide what practical strategies can best be applied in empowering the support staff members to change their interpersonal style.

Of course, treatment of challenging behaviour does not have to be limited to better attunement in interactions. As has been discussed in the general introduction of this thesis (Chapter 1), in cases of challenging behaviour, it is necessary to adopt a broad and integrative diagnostic perspective, also assessing the impact of developmental, context and transdiagnostic individual aspects. This assessment can generate other treatment options, mainly building upon recent evidence-based reviews for treatment in the field of intellectual disabilities (Sturmey & Didden, 2014; Taylor, Lindsay, Hastings, & Hatton, 2013; Wehmeyer, 2013). Overall, besides treatments focusing on attunement in interaction, four other broad and transtherapeutic treatment categories may be identified, with a focus on (a) changing behaviour, such as in behavioural modification, skills training, and Positive Behavior Support, (b) changing antecedents in day programmes or social context, such as in Active Support and increasing social networks, (c) changing cognitions and emotions, such as in Cognitive-Behavioural Therapy, EMDR, mindfulness, and psychodynamic therapy, or (d) improving well-being, building upon

strenghts and drives, such as in motivational interviewing, Solution-Focused Therapy and positive psychology techniques.

7.6 FUTURE RESEARCH

Our studies encompassed 1033 different support staff members, supporting almost 300 persons with intellectual disabilities and challenging behaviour, working in 15 different care organizations in the south of The Netherlands. This provides us with findings that are ecologically valid and can be generalised, because the response percentages in our studies were high, and people of all ages and levels of intellectual disabilities were included. However, during the workshops with all teams on their results, we discovered that the findings were difficult to apply in a few cases where staff members supported a person with a profound intellectual disability and challenging behaviour. In these persons it was almost impossible to differentiate between control and affiliation behaviours. This is because their function on a cognitive level is comparable to babies or toddlers, where topics such as sensitive responsivity and engaging in mutual communication are more relevant. Therefore, future research on persons with a profound intellectual disability and challenging behaviour should focus more on attachment and quality of dialogue, studying aspects such as mentalizing, mutual openness, joint embedding, non-manipulative negotiating, and joint confirmation (Dekker-van der Sande, & Sterkenburg, 2015; Hostyn, Daelman, Janssen, & Maes, 2010)

As a second line of research, it would be worthwhile to construct shorter versions of several of the more time-consuming instruments used in our studies. This would make them more applicable within ITCCT, in clinical assessment of challenging behaviour and in effect studies on interaction interventions. For that purpose, data from our large study in Chapter 5 could be combined with data that we have collected on these instruments since 2014 in support staff teams asking for workshops on their interpersonal behaviour.

Most importantly, and in line with the Intervention Mapping protocol, the next step would be to develop a manual for staff training, coaching, and consultation based on our outline for ITCCT. We recommend that the effect of ITCCT is subsequently studied using multiple case-studies in routine clinical practice settings where staff are confronted with challenging behaviour. In the case of an interrupted time-series design, eight or more case-studies would serve as an adequate alternative for conducting RCT's (van Yperen & Veerman, 2008). This type of study is more suitable for capturing the complex reality of staff functioning in their daily job, especially when a mixed-methods approach is used. We are specifically interested in the effect on staff interpersonal behaviour, on interaction patterns with the person they are supporting, and eventually on the challenging behaviour itself. It is also recommended that the quality of the

relationship is measured, as evaluated by both the person with an intellectual disability or his relatives and the support staff member.

Finally, ITCCT aims to be dynamic in adjusting its content to the topics that are found to be most relevant in a specific team or individual staff member, moving slower or faster through their stages of change and attuning the practical strategies and roles as a trainer or consultant to the preferences and needs of the staff members. This would call for implementation and process research of ITCCT, studying how things work best for staff members in improving their interactions with a person with an intellectual disability and challenging behaviour (Borsboom, Kievit, Cervone, & Hood, 2009).

7.7 CONCLUSION

Support staff members caring for persons with intellectual disabilities and challenging behaviour are challenged every day to support them in their search for well-being, as well as to care for their own well-being. In the introduction, we discussed several arguments for focusing on their relationships and interactions. With the SCIBI, both support staff and their consulting psychologists have a practical instrument for measuring staff interpersonal behaviour that can be used in assessment, treatment, coaching and consultation of challenging behaviour. A broad range of factors influencing staff interpersonal behaviour and several dynamic processes in their interactions have been incorporated within an outline of a staff training, coaching and consultation program, which was the central aim of this thesis.

I hope it has become clear that within a challenging relationship there are no quick fixes, no ideal roads and no standard protocols. The challenge lies in the 'dance' with the partner, trying to find again and again a balance between being active and reactive, between feeling autonomous and feeling connected, switching from taking the lead to following, and adjusting one's steps to the partner when obstacles arise. This calls for support staff members, clinical psychologists, managers, and researchers who take pleasure in finding such an attunement in the challenging relationships that all of them encounter.

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Summary

The studies in this thesis focus on the professional relationships of support staff with persons with intellectual disabilities and challenging behaviour. When these persons receive their support from care organizations, it is a challenge for support staff to help these persons in reducing their problem behaviour and to stimulate their well-being. The way in which these professionals do this, by means of their interpersonal behaviour style, is essential. MFCG-Limburg, where I work as a clinical psychologist, is a multidisciplinary consultative team which provides assessment and treatment advice for persons with intellectual disabilities and mental disorders or challenging behaviour in all participating care organizations in Limburg. Therefore the present thesis is partly funded by MFCG-Limburg, with the practical purpose to use the insights of these studies in developing a training, coaching, and team consultation program for support staff, in order to empower them in the challenging care they provide.

CHAPTER 1

From an ethical point of view, persons with intellectual disabilities, especially in case of challenging behaviour, are often dependent on support staff. This dependency means that the staff member needs to be very interested, compassionate, reliable and sensitive towards that other person. Therefore, in the first chapter we propose to focus on relationships between support staff and persons with intellectual disabilities. The emphasis on the quality of the professional relationship is at the heart of a rather recent paradigm in care ethics within care, called professional loving care. Also in clinical practice and research there appear to be five reasons for such a focus on the professional relationship. First of all, both persons with intellectual disabilities and their parents want support staff to build a warm, sensitive, respectful relationship with them, also because staff is a part of their social network. Second, support staff believe that is important to foster a relationship of trust and stimulating autonomy with these persons. However, persons with challenging behaviour can react in unpredictable or negative ways on the positive input of support staff, which leads to frequent staff discussions on how to maintain a positive professional relationship. Third, all organizations in the care of people with intellectual disabilities acknowledge relationship quality as an important theme in their care view. The emphasis on interpersonal relationships is in line with the international policy on quality of life and with recent legislation. It is also one of the cornerstones of quality of care of the Dutch Association of ID Care Organizations. A fourth reason for focusing on relationships can be found in the international consensus to use a transdiagnostic framework in the assessment of challenging behaviour. Challenging behaviour can be explained by developmental aspects, context aspects or individual characteristics, but also by behaviour of other persons, such as support staff. Support staff can cause or maintain challenging behaviour by making strict demands or by reinforcing this behaviour by

giving social attention to it. But also the type of communication, the interpersonal behaviour style and the reciprocal interaction patterns can be partly a cause for challenging behaviour. Fifth, in research on the treatment of psychological or behavioural problems it is demonstrated that one of the most important common factors is the working relationship or therapeutic alliance. This means an accent on therapist aspects like empathy, genuiness, goal consensus, controlling one's power and directiveness, enhancing motivation for therapy and creating an attachment relationship. As support staff are in the frontline of managing and treating the challenging behaviour of persons with an intellectual disability, this focus on a therapeutic alliance is relevant for them also.

Thus although the importance of the relationship between support staff and persons with intellectual disabilities has been demonstrated, there have been critical questions regarding how the social influence processes and interactions actually evolve within such professional relationships. Knowing this would help us to focus directly on actual social behaviour in training, coaching and team consultation of support staff. Therefore in this thesis we study interpersonal behaviour of support staff based on the most validated models for interpersonal behaviour: the Interpersonal Circle of Leary, the circumplex model of Schaefer and the Structural Analysis of Social Behaviour of Benjamin. These models describe in general a vertical dimension of control (dominance vs. autonomy giving; separation vs. submission) and a horizontal dimension of affiliation (friendliness vs. hostility). Because a relationship always consists of two interaction partners, it is also necessary to study how the support staff and the person with an intellectual disability affect one another reciprocally and how these interaction patterns evolve over the course of time. In order to do this, we apply the two most important interpersonal principles, being symmetry and complementarity, and we use video observations next to self-report instruments.

Furthermore, in order to maximize the effect of an interaction training, coaching and team consultation program for support staff, it is important to know which factors in and relating to support staff have an influence on their interpersonal behaviour. Therefore, a functional analysis of staff interpersonal behaviour is presented, building upon a comprehensive framework. Based on the results of this functional analysis a training, coaching and team consultation program can be customized to a specific team of support staff.

To be able to formulate the most important goals and content of an interaction training, coaching and team consultation program, Chapter 1 ends up with the following three research questions, which will be addressed in five studies in this thesis. How can staff interactive behaviour towards persons with intellectual disabilities and challenging behaviour be measured? Which factors in support staff and persons with intellectual disabilities and challenging behaviour influence staff interpersonal behaviour towards these persons? What are the dynamic patterns in interactions between support staff and a person with an intellectual disability and challenging behaviour?

CHAPTER 2

In Chapter 2 we describe the development, construct validity and reliability of a self-report questionnaire for support staff, measuring their interactive behaviour towards a person with an intellectual disability and challenging behaviour in their own daily practice. This Staff-Client Interactive Behaviour Inventory (SCIBI) has been studied in 292 support staff members, containing 30 items and measuring seven factors. Four factors are strongly based on the interpersonal models of Leary and Benjamin and measure the interpersonal behaviour of support staff working with persons with intellectual disabilities and challenging behaviour: assertive control, hostile, friendly and support-seeking behaviour. The SCIBI also measures three intrapersonal behaviours of support staff: proactive thinking, self-reflection and critical Expressed Emotion. The reliability of these seven factors proved to be sufficient to good.

Moreover, the interpersonal behaviour of support staff is influenced by their own critical Expressed Emotion , self-reflection and proactive thinking. This influence is even higher than that of gender, age and intelligence level of the persons with intellectual disabilities and challenging behaviour. The SCIBI appears to be an easy to administer and reliable instrument for measuring interactive behaviour of support staff within the assessment and treatment of challenging behaviour. It is important to conduct further replication and validation studies on the SCIBI.

CHAPTER 3

Chapter 3 first describes a replication study of the SCIBI with 265 support staff members, confirming the factor structure of the SCIBI. The reliability of the seven factors proved to be somewhat higher than in our first study. Next, in order to determine the convergent validity of the SCIBI, in a second study with 158 other support staff members three more self-report instruments were completed. Two of these instruments are based on the interpersonal models of Leary and Benjamin and the third instrument measures the emotional intelligence of support staff (EQi). Most of the expected correlations indeed appeared to be significant, thereby demonstrating sufficient to good convergent validity for the SCIBI, except for the factor self-reflection.

The studies in Chapter 2 and 3 constitute an adequate answer to our first research question on measuring staff interpersonal behaviour and the SCIBI can thus be regarded a useful instrument in further research and clinical practice.

CHAPTER 4

In order to be able to answer the second research question in Chapter 4 - which factors influence staff interpersonal behaviour? - we first examined the influence of challenging behaviour by using questionnaires in a study with 158 support staff members on 158 clients. When support staff in daily practice is confronted with a client with challenging behaviour as opposed to a client without challenging behaviour, they report much less friendly, moderately more assertive control and a little less support-seeking interpersonal behaviour.

Furthermore, regression analyses show that the general interpersonal attitude of support staff towards people with intellectual disabilities has quite some influence on staff interpersonal behaviour towards an individual client with challenging behaviour. Especially when support staff has a harsh-dominant attitude in general, they show much more assertive control and hostile behaviour towards a so called challenging client. Having an understanding-friendly attitude in general, staff members show more friendly behaviour towards a challenging client. The influence of their emotional intelligence (EQi) on interpersonal behaviour is much lower. Higher intrapersonal EQi is a predictor for lower staff assertive control in working with a challenging client. This is understandable, because support staff who have a high sense of self-awareness, self-regard, and independence are very much in balance with themselves and therefore probably do not feel the need to exert control, imposing their will and demands, when confronted with challenging behaviour.

This implies that within training, coaching and consultation on staff interpersonal behaviour towards a so called challenging client, there also has to be a focus on the influence of a harsh versus understanding attitude and on the influence of higher or lower intrapersonal emotional intelligence in support staff.

CHAPTER 5

Based on the model in Chapter 1 we expected many more factors to have an influence on staff interpersonal behaviour besides the impact of challenging behaviour, attitude and EQi. Therefore, Chapter 5 describes a fourth study with 318 support staff members, working in 44 teams in their own clinical practice with 44 clients with challenging behaviour. In this study each support staff member completed seven more self-report instruments besides the SCIBI, concerning interpersonal behaviour of the client, staff emotional reactions, attributions, self-efficacy, self-reflection/-insight, coping style and team climate.

As predicted in interpersonal models (principle of symmetry), friendly interpersonal behaviour of a challenging client leads to more friendly interpersonal behaviour in

support staff. More dominant behaviour of the client leads to more assertive control behaviour of the staff member.

Negative emotional reactions in support staff prove to have a high impact on almost all staff interpersonal behaviours, and positive emotional reactions indeed lead to more friendly staff behaviour. Furthermore, the belief of support staff that the challenging behaviour of the client can be controlled by others leads to more friendly staff behaviour.

With regard to the psychological resources of support staff, higher self-efficacy in support staff has a very positive impact on staff friendly behaviour, but also moderately on assertive control and on hostile behaviour. Staff self-reflection/-insight leads to less assertive control and to less hostile behaviour in support staff. And an avoidance-focused coping style in staff, meaning seeking distraction and company of others, has especially a positive influence on staff friendly behaviour towards that challenging client.

Remarkably, a better team climate correlates with more support-seeking behaviour in staff. This is probably because support staff who seek more support towards a client with challenging behaviour, also tend to have more team discussions about this, trying to find other solutions for managing the challenging behaviour as a team.

The fact that we examined the influence of many factors together on staff interpersonal behaviour makes it possible to determine the relative importance of each factor for staff interpersonal behaviour. In doing so, it is most noteworthy that we have been able to predict even 56% of staff friendly behaviour. Next, for practical purposes, we give several suggestions how to use the insights based on this study in an interaction training program for support staff as well as in clinical practice of treating challenging behaviour.

CHAPTER 6

Up to now, all our research regarding challenging behaviour gives insights on staff interpersonal behaviour in general and on the factors generally influencing staff interpersonal behaviour. But both in clinical practice and in the workshop sessions with teams during our studies, it has become clear that we also have to study the actual interaction processes between an individual staff member and a person with an intellectual disability and challenging behaviour. In order to answer our third research question on these dynamic interaction patterns, in Chapter 6 we describe an intensive observation study through video analyses of three support staff members and the same challenging client. The interaction patterns and dynamics of a daily bathing session during 30-50 minutes have been studied. The findings of this study are especially useful within individual coaching on interpersonal behaviour of staff members.

First of all, in their interactions, even in case of severe challenging behaviour, each staff member and the client becomes attuned to each other. They adapt their form of affiliation behaviour (friendly-hostile) and control behaviour (dominant-submissive) to

one another, thus leading to recognizable interaction patterns. This means that the interpersonal principles of symmetry and complementarity do not only exist when support staff are asked how they perceive their interactions, but also when their behaviour is objectively observed. Therefore, in coaching support staff, they can be stimulated to apply these principles, for example by increasing their friendly behaviour in order to evoke friendly behaviour in the client.

However, there are some clear differences between these three dyads regarding the persistence, stability and complexity of their interaction patterns. During coaching, one can suggest that the staff member tries to vary in the persistency, stability or complexity of his interpersonal behaviour, in order to find out what effect this has on client interpersonal behaviour.

Furthermore, it is especially the staff member who has the most influence on the attunement process during the interaction with this client, particularly on the dimension friendly-hostile behaviour. This means that the staff member even in case of challenging behaviour can set the tone in the interaction process. During coaching, this can have an empowering effect on staff in supporting clients with challenging behaviour.

But most remarkably, this amount of influence can differ greatly during an individual support session. On a time frame of 20 seconds it was often the client who had the most influence on control or affiliation interaction patterns and it was the staff member who appeared to be following. This is in line with the principle from applied behaviour analysis that in the very short term support staff tend to follow by reacting on their client's behaviour, thereby reinforcing it. However, on a longer time frame of more than 30 minutes, it was the staff member who was leading in these patterns and it was mostly the client who was following. Therefore, support staff should also be coached to consider the effects of their behaviour in the long term, because within an entire support session it is support staff which seems to have the most influence on the course of staff-client interactions. This implies a focus on taking the lead as support staff in interactions with a client and thereby on the antecedent influence of one's own interpersonal behaviour. In order to find new solutions in the case of negative interaction patterns, support staff can therefore be coached in changing their taking the lead or following in their interpersonal behaviours. Doing so, they can examine if this has a positive effect on the negative interaction patterns on a long-, medium- or short-time frame.

CHAPTER 7

In Chapter 7 the main findings of the five studies are summarized, encompassing data of over 1000 staff members supporting almost 300 persons with intellectual disabilities and challenging behaviour.

The SCIBI appears to be a reliable and sufficient valid instrument to measure interpersonal and intrapersonal staff behaviour. Moreover, it is probably more applicable within the field of care for people with intellectual disabilities than somewhat comparable instruments which have been developed since 2009.

Based on the functional analysis of staff interpersonal behaviour and on the dynamics of interaction patterns it is justified to say that interactions between support staff and people with intellectual disabilities and challenging behaviour are indeed partially shaped through positive and negative reinforcement. Besides that, staff interpersonal behaviour is somewhat governed by staff beliefs on the cause of clients' challenging behaviour, but probably even more by their beliefs on clients' responsibility for that behaviour. Furthermore, our research demonstrates that staff interpersonal behaviour is most importantly driven by their personal and social factors, being emotional reactions, attitude, self-efficacy, self-reflection/-insight, coping style, team climate, and intrapersonal emotional intelligence.

Because the aim of this thesis is very practical, a comprehensive outline for an intervention is presented, called Interaction Training, Coaching and Consultation for Teams (ITCCT). This outline is not only based on our research, but also on a future perspective on education for health professionals, on several implementation models, and on a taxonomy of educational and behaviour change techniques. In conclusion, ITCCT encompasses twelve themes on content, five stages of change, and six strategies for education and behaviour change.

For clinical purposes in the treatment of a client with challenging behaviour, a supervising psychologist can help support staff to quickly create insights on their interpersonal behaviour by using the SCIBI. Subsequently, together they can discuss which of the 12 staff determinants seem to be have the highest influence on staff interpersonal behaviour. Furthermore, the psychologist can address staff short- and long-term attunement in interactions with that client. He can help support staff in discovering alternatives by stimulating them to apply interpersonal principles, to change their taking the lead or following, and he can practice these alternatives with them. Of course, treatment of challenging behaviour does not have to be limited to changing staff interpersonal behaviour or their attunement in interactions. Overall, four other broad treatment categories may be identified, with a focus on (a) changing behaviour, such as in behavioural modification, skills training, and Positive Behavior Support, (b) changing antecedents in day programmes or social context, such as in Active Support and increasing social networks, (c) changing cognitions and emotions, such as in Cognitive-Behavioural Therapy, EMDR, mindfulness, and psychodynamic therapy, or (d) improving well-being, building upon strenghts and drives, such as in motivational interviewing, Solution-Focused Therapy and positive psychology techniques.

With regard to future research, it is suggested to construct shorter versions of several instruments in our studies, in order to make them more applicable within ITCCT.

Furthermore, effect and process research of ITCCT is recommended, preferably by conducting multiple case-studies with support staff teams.

In conclusion, I hope that support staff, clinical psychologists, managers, and researchers keep searching for attunement in the challenging relationships that all of them encounter.

Samenvatting

Het onderzoek in dit proefschrift richt zich op de professionele relatie van begeleiders met mensen met een verstandelijke beperking en gedragsproblemen. Wanneer deze mensen ondersteuning krijgen vanuit een zorgorganisatie, is het voor de begeleiders een uitdaging om hen te helpen minder gedragsproblemen te vertonen en meer welbevinden te ervaren. Het MFCG-Limburg, waar ik werk als GZ-psycholoog, is een multidisciplinair consultatieteam dat diagnostiek doet en behandeladviezen geeft bij mensen met een verstandelijke beperking en gedrags- of psychische problematiek in alle participerende organisaties in Limburg. Het MFCG-Limburg heeft dit onderzoek dan ook deels gefinancierd, met als praktisch doel om de inzichten uit dit onderzoek te vertalen in training, coaching en teamconsultatie voor begeleiders, zodat zij zich beter in staat voelen om die uitdagende zorg te bieden.

HOOFDSTUK 1

Vanuit een ethisch oogpunt zijn mensen met een verstandelijke beperking, vooral als er sprake is van gedragsproblematiek, afhankelijk van begeleiders. Deze afhankelijkheid betekent dat die begeleider erg geïnteresseerd, betrouwbaar,en sensitief moet zijn in zijn relatie naar die ander toe, gedreven vanuit compassie. Daarom stellen we in dit eerste hoofdstuk voor dat het accent moet liggen op de relaties tussen begeleiders en mensen met een verstandelijke beperking. Dit accent op de kwaliteit van de professionele relatie is de kern van een vrij recent ethisch paradigma in de zorg, menslievende professionalisering genoemd. Ook in de dagelijkse praktijk van de zorg en vanuit onderzoek blijken er een vijftal argumenten te bestaan voor een dergelijke focus op de professionele relatie. Allereerst willen mensen met een verstandelijke beperking en hun ouders dat begeleiders met hen vooral een warme, invoelende, respectvolle relatie hebben, ook als deel van hun sociale netwerk. Daarnaast vinden begeleiders het zelf belangrijk om een band met deze mensen op te bouwen vanuit vertrouwen en het stimuleren van autonomie. Maar omdat mensen met gedragsproblemen onvoorspelbaar of negatief kunnen reageren op de positieve inzet van begeleiders, wordt in teambesprekingen vaak gediscussieerd hoe begeleiders die positieve bejegening kunnen volhouden. Op de derde plaats benoemen alle organisaties in de zorg voor verstandelijke beperking de kwaliteit van de relatie als belangrijk thema in hun zorgvisie. Dit accent op bejegening en interpersoonlijke relaties sluit aan op internationaal beleid rond kwaliteit van leven en op recente wetgeving. Het is ook een van de pijlers binnen het kwaliteitskader van de VGN. Een vierde argument voor de focus op relaties komt vanuit de internationale consensus om bij de beeldvorming rond gedragsproblemen bij mensen met een verstandelijke beperking zo breed mogelijk transdiagnostisch te kijken. Gedragsproblemen kunnen namelijk verklaard worden vanuit de ontwikkelingsgeschiedenis, omgevingskenmerken of individuele kenmerken, maar ook vanuit het gedrag van anderen, zoals begeleiders. Op de vijfde plaats blijkt uit

veel onderzoek over behandeling van psychische of gedragsproblematiek dat het vormen van een goede werkrelatie of therapeutische alliantie een van de belangrijkste werkzame factoren is. Dan gaat het bij de behandelaar vaak over principes als empathie, echtheid, het samen eens worden over doelen van de behandeling, de mate van macht en directiviteit doseren, motivatie voor behandeling versterken en een hechtingsrelatie creëren. Omdat het meestal de begeleiders zijn die elke dag bezig zijn met het hanteren en behandelen van gedragsproblemen, is de focus op een therapeutische alliantie ook voor hun relevant.

Hoewel het belang van de professionele relatie tussen begeleiders en mensen met een verstandelijke beperking dus is aangetoond, blijven er kritische vragen hoe de onderlinge sociale beïnvloeding en de interacties binnen die relatie nu daadwerkelijk verlopen. Als we dit weten, kan men de training, coaching en teamconsultatie van begeleiders rechtstreeks op die sociale beïnvloeding richten. In dit proefschrift kijken we daarom naar het interpersoonlijke gedrag van begeleiders aan de hand van de meest gevalideerde modellen rond interpersoonlijk gedrag: de interpersoonlijke cirkel van Leary, het circumplex model van Schaefer en de structurele analyse van sociaal gedrag van Benjamin. Deze modellen bestaan in hoofdzaak uit een verticale dimensie van controle (dominantie versus autonomie geven; je eigen weg gaan versus volgzaam zijn) en een horizontale dimensie van affiliatie (vriendelijk versus vijandig). Omdat een relatie altijd uit twee interactiepartners bestaat, is het ook nodig om te onderzoeken hoe de begeleider en de mens met een verstandelijke beperking elkaar wederzijds beïnvloeden en hoe die interacties zich gedurende de tijd ontwikkelen. Hiervoor hanteren we de twee belangrijke interpersoonlijke principes van symmetrie en complementariteit en gebruiken we naast vragenlijsten ook video-observaties.

Om een interactie-gerichte training, coaching en consultatie van begeleiders zo effectief mogelijk te maken, is het verder nodig om te weten welke factoren in en rondom begeleiders van invloed zijn op hun interpersoonlijke gedrag. Met een uitgebreid model wordt daarom de basis gelegd voor een functionele analyse van het interpersoonlijk gedrag van begeleiders. Op basis van de uitkomsten van deze functionele analyse kan in de dagelijkse praktijk een training, coaching of consultatie op maat worden gemaakt voor een bepaald team van begeleiders.

Om de belangrijkste doelen en inhoud van een interactie-gerichte training, coaching en teamconsultatie te kunnen formuleren, eindigt hoofdstuk 1 met de volgende drie onderzoeksvragen, die middels vijf onderzoeken in dit proefschrift worden beantwoord. Hoe kan het interactiegedrag van begeleiders naar mensen met een verstandelijke beperking en gedragsproblemen worden gemeten? Welke factoren in begeleiders en mensen met een verstandelijke beperking en gedragsproblemen beïnvloeden het interpersoonlijke gedrag van begeleiders naar deze mensen? Wat zijn de dynamische interactiepatronen tussen begeleiders en een persoon met een verstandelijke beperking en gedragsproblemen?

HOOFDSTUK 2

In hoofdstuk 2 wordt de ontwikkeling, constructvaliditeit en betrouwbaarheid beschreven van een zelfrapportage vragenlijst voor begeleiders, die hun interactiegedrag meet naar een persoon met een verstandelijke beperking en gedragsproblemen in hun eigen dagelijkse praktijk. Deze Schaal voor Interactief Gedrag van Begeleiders (SIG-B) is onderzocht bij 292 begeleiders, omvat uiteindelijk 30 vragen en meet zeven factoren. Vier factoren zijn sterk gebaseerd op de interpersoonlijke modellen van Leary en Benjamin en meten het interpersoonlijke gedrag van begeleiders die werken met mensen met een verstandelijke beperking en gedragsproblemen: assertieve controle, vijandig, vriendelijk en steunzoekend gedrag. Daarnaast meet de SIG-B nog drie intrapersoonlijke gedragingen van begeleiders: proactief denken, zelfreflectie en kritische Expressed Emotion. De betrouwbaarheid van de zeven factoren is voldoende tot goed.

Verder blijkt dat het interpersoonlijke gedrag van begeleiders wordt beïnvloed door hun eigen kritische Expressed Emotion, zelfreflectie en proactief denken. Die invloed is zelfs groter dan die van sekse, leeftijd en IQ van de mensen met een verstandelijke beperking en gedragsproblemen. De SIG-B blijkt dus een snel in te vullen en betrouwbaar instrument te zijn om binnen beeldvorming en behandeling van gedragsproblemen het interactiegedrag van begeleiders te meten. Het is belangrijk om verder replicatie- en valideringsonderzoek van de SIG-B te doen.

HOOFDSTUK 3

Hoofdstuk 3 beschrijft eerst een replicatie-onderzoek van de SIG-B bij 265 begeleiders, waarin de factorstructuur van de SIG-B bevestigd wordt. De betrouwbaarheid van de zeven factoren blijkt ook wat hoger te zijn dan in het eerste onderzoek. Om de convergente validiteit van de SIG-B te onderzoeken is vervolgens in een valideringsonderzoek bij 158 andere begeleiders gebruik gemaakt van drie extra vragenlijsten. Twee hiervan zijn gebaseerd op de interpersoonlijke modellen van Leary en Benjamin en de derde vragenlijst meet de emotionele intelligentie bij begeleiders (EQi). De meeste verwachte correlaties blijken inderdaad significant te zijn, waardoor we kunnen spreken van voldoende tot goede convergente validiteit voor de SIG-B, behalve voor de factor zelfreflectie.

Met de onderzoeken in hoofdstuk 2 en 3 is de eerste onderzoeksvraag rond het meten van het interactiegedrag van begeleiders afdoende beantwoord en kan de SIG-B als een bruikbaar instrument worden beschouwd binnen verder onderzoek en binnen de klinische praktijk.

HOOFDSTUK 4

Om de tweede onderzoeksvraag te kunnen beantwoorden - welke factoren beïnvloeden het interpersoonlijke gedrag van begeleiders? - is in hoofdstuk 4 allereerst de invloed van gedragsproblematiek onderzocht aan de hand van vragenlijsten bij 158 begeleiders over 158 cliënten. Het blijkt dat begeleiders naar een eigen zogenaamde gedragsmoeilijke cliënt toe veel minder vriendelijk, meer assertief controlerend en een beetje minder steunzoekend zijn dan als diezelfde begeleiders een eigen niet-gedragsmoeilijke cliënt begeleiden.

Daarnaast blijkt uit regressieanalyses dat de algemene interpersoonlijke attitude van begeleiders naar mensen met een verstandelijke beperking nogal veel invloed heeft op hun interpersoonlijke gedrag naar een eigen gedragsmoeilijke cliënt. Vooral als begeleiders een streng-dominante attitude hebben, zijn ze naar die ene gedragsmoeilijke cliënt meer assertief controlerend en meer vijandig. Als ze een begripvolle-vriendelijke attitude hebben, dan zijn ze ook meer vriendelijk naar die ene gedragsmoeilijke cliënt. De invloed van emotionele intelligentie (EQi) van begeleiders op hun interpersoonlijke gedrag is een stuk lager. Het blijkt dat vooral een hogere intrapersoonlijke emotionele intelligentie van begeleiders leidt tot minder assertieve controle naar die eigen gedragsmoeilijke cliënt toe. Dat is begrijpelijk, omdat begeleiders met een hoger zelfbewustzijn, zelfvertrouwen en onafhankelijkheid meer in balans zijn met zichzelf en daardoor wellicht minder de neiging hebben om controle te willen uitoefenen en directief te zijn als ze geconfronteerd worden met gedragsproblemen.

Dit betekent dat er binnen het trainen, coachen en de consultatie rondom de bejegening van een gedragsmoeilijke cliënt ook gelet moet worden op de invloed van een strenge versus begripvolle interpersoonlijke attitude en op de invloed van de hogere of lagere intrapersoonlijke emotionele intelligentie van begeleiders.

HOOFDSTUK 5

We verwachten op basis van het model uit hoofdstuk 1 dat er nog veel meer factoren invloed hebben op het interpersoonlijke gedrag van begeleiders dan alleen de gedragsproblematiek, de attitude en de EQi van begeleiders. Daarom wordt in hoofdstuk 5 een vierde onderzoek bij 318 begeleiders beschreven, binnen 44 teams werkend met 44 eigen cliënten met gedragsproblematiek. In dit onderzoek zijn door elke begeleider naast de SIG-B zeven andere vragenlijsten ingevuld, over het interpersoonlijk gedrag van die cliënt, over hun eigen emoties, opvattingen, zelfverzekerdheid, zelfreflectie/-inzicht, coping-stijl en teamklimaat.

Zoals voorspeld binnen de interpersoonlijke modellen (symmetrie-principe) leidt vriendelijk interpersoonlijk gedrag van een gedragsmoeilijke cliënt inderdaad tot meer

vriendelijk interpersoonlijk gedrag van de begeleider. En meer dominant gedrag van de cliënt leidt tot meer assertieve controle bij de begeleider.

Negatieve emoties bij begeleiders blijken veel invloed te hebben op bijna alle stijlen in hun interpersoonlijke gedrag en positieve emoties leiden vooral tot een meer vriendelijke bejegening van die gedragsmoeilijke cliënt. Ook de opvatting van begeleiders dat diens gedragsproblemen door anderen onder controle kunnen worden gehouden leidt tot een meer vriendelijke bejegening.

Wat betreft de psychologische kenmerken van begeleiders blijkt dat een grotere zelfverzekerdheid bij begeleiders een erg positieve invloed heeft op hun vriendelijke bejegening, maar ook nogal verhogend werkt op assertieve controle en vijandige bejegening.

Zelfreflectie/-inzicht van begeleiders leidt tot minder assertieve controle en tot een minder vijandige bejegening bij begeleiders. En een vermijdingsgerichte copingstijl van begeleiders, d.w.z. het zoeken van afleiding en het gezelschap van anderen opzoeken, heeft met name een positieve invloed op hun vriendelijke bejegening naar die gedragsmoeilijke cliënt.

Het is opvallend dat een beter teamklimaat correleert met meer steunzoekend gedrag bij begeleiders. Dit komt waarschijnlijk omdat begeleiders die meer steun zoeken bij hun gedragsmoeilijke cliënt hierover ook meer teamdiscussies hebben, in een poging om samen als team nieuwe oplossingen te zoeken voor het hanteren van die gedragsproblematiek.

Omdat we de invloed van veel factoren tegelijk op de bejegening van begeleiders onderzoeken, kunnen we heel zuiver het relatieve belang van elke factor voor die bejegening vaststellen. Het valt vooral op dat we hierdoor zelfs 56% van de vriendelijke bejegening kunnen voorspellen. Ten behoeve van de praktijk geven we vervolgens op basis van dit onderzoek verschillende suggesties hoe deze inzichten gebruikt kunnen worden, zowel in een interactiegerichte training voor begeleiders als in de dagelijkse behandeling van probleemgedrag.

HOOFDSTUK 6

Al ons onderzoek tot nu toe geeft inzicht in hoe begeleiders zich gemiddeld genomen gedragen in hun bejegening naar gedragsmoeilijke cliënten toe en welke factoren daar gemiddeld gezien een rol bij spelen. Maar zowel vanuit de klinische praktijk als vanuit de workshops met de teams binnen ons onderzoek blijkt dat we ook moeten onderzoeken hoe de interactieprocessen nu echt verlopen tussen een individuele begeleider en haar of zijn specifieke gedragsmoeilijke cliënt. Om onze derde onderzoeksvraag naar de dynamische interactiepatronen te beantwoorden, wordt in hoofdstuk 6 dan ook een intensief observatieonderzoek beschreven aan de hand van videoanalyse bij drie begeleiders met eenzelfde gedragsmoeilijke cliënt. Hierbij zijn de

interactiepatronen en dynamiek tijdens een dagelijkse verzorgingssituatie van 30-50 minuten onderzocht. De uitkomsten hiervan zijn vooral bruikbaar binnen de individuele coaching van begeleiders in hun bejegening.

Allereerst blijkt dat elke begeleider en deze cliënt in hun interacties, zelfs bij forse gedragsproblematiek, op elkaar afgestemd raken. Ze passen hun vorm van affiliatie-gedrag (vriendelijk - vijandig) en controle-gedrag (dominant - volgzaam) aan op de ander, hetgeen leidt tot herkenbare interactiepatronen. Dit betekent dat de interpersoonlijke principes van symmetrie of complementariteit niet alleen van toepassing zijn als men de begeleiders vraagt hoe ze hun interacties beleven, maar ook als hun gedrag objectief geobserveerd wordt. In het coachen van begeleiders kan men hen dan ook stimuleren om deze principes toe te passen, bijvoorbeeld door meer vriendelijk interpersoonlijk gedrag te vertonen en zo meer vriendelijkheid bij de cliënt uit te lokken.

Er zijn echter wel duidelijke verschillen tussen de dyades in het volhouden, de stabiliteit en de complexiteit van hun interactiepatronen. Tijdens het coachen kan men de begeleider voorstellen om te variëren in het volhouden, stabiel houden of complex maken van zijn interpersoonlijk gedrag, om zo na te gaan wat het effect daarvan is op het interpersoonlijk gedrag van de cliënt.

Verder blijkt dat het vooral de begeleider is die de meeste invloed heeft op het proces van afstemming in de interactiepatronen met deze cliënt, met name op de dimensie vriendelijkheid - vijandigheid. Dit betekent dat de begeleider zelfs bij probleemgedrag de toon blijkt te kunnen zetten in het verloop van de interacties. Tijdens coaching van begeleiders kan dit een bemoedigend effect hebben op hun inzet naar een gedragsmoeilijke cliënt toe.

Het meest opvallende is echter dat het gedurende zo'n dagelijkse begeleidingssituatie sterk kan wisselen of de begeleider of de cliënt de meeste invloed heeft. Binnen een tijdsbestek van 20 seconden was het vaak de cliënt die de meeste invloed had op de interactiepatronen van controle- en affiliatie en was het de begeleider die daarin bleek te volgen. Dit komt sterk overeen met het principe vanuit de gedragstherapie dat begeleiders op de hele korte termijn vooral volgend zijn door te reageren op het gedrag van de cliënt en het daarmee vervolgens bekrachtigen. Echter, op een langere termijn van meer dan 30 minuten zette de begeleider met zijn bejegening de toon voor deze interactiepatronen en was het vooral de cliënt die daarin volgde. Daarom moeten begeleiders ook gecoacht worden om naar de effecten op de langere termijn te kijken, omdat in een hele begeleidingssituatie juist hun eigen interactie-gedrag bepalend lijkt te zijn voor het verloop van de interactie met de cliënt. Hiermee komt dan meer het accent te liggen op het regie nemen als begeleider in de bejegening naar een cliënt en daarmee op de antecedente invloed van de eigen bejegening. Om nieuwe oplossingen te vinden bij negatieve interactiepatronen kan men begeleiders dus coachen in het veranderen van regie-nemen versus volgen qua

bejegening. Op die manier kunnen begeleiders nagaan of dit een positief effect heeft op de negatieve interacties binnen lange, middellange en korte termijn.

HOOFDSTUK 7

In hoofdstuk 7 worden de belangrijkste bevindingen van de vijf onderzoeken samengevat, waarbij meer dan 1000 begeleiders betrokken zijn die ondersteuning bieden aan bijna 300 mensen met een verstandelijke beperking en gedragsproblematiek.

De SIG-B blijkt een betrouwbaar en voldoende valide instrument te zijn om het interpersoonlijke en intrapersoonlijke gedrag van begeleiders te meten. Bovendien lijkt de SIG-B beter bruikbaar binnen het werkveld van de zorg voor verstandelijke beperking dan enigszins vergelijkbare instrumenten die sinds 2009 zijn ontwikkeld.

Op basis van de functionele analyse van het interpersoonlijk gedrag van begeleiders en de dynamiek van interactiepatronen kunnen we stellen dat interacties tussen begeleiders en met mensen met een verstandelijke beperking en gedragsproblematiek inderdaad deels gevormd worden door positieve of negatieve bekrachtiging. Daarnaast wordt het interpersoonlijk gedrag van begeleiders enigszins bepaald door hoe zij denken over de oorzaak van die gedragsproblematiek, maar mogelijk nog meer door in hoeverre ze de cliënt daarvoor verantwoordelijk houden. Uit ons onderzoek blijkt dat het interpersoonlijk gedrag van begeleiders verder vooral sterk gedreven wordt vanuit hun persoonlijke en sociale kenmerken, nl. emoties, attitude, zelfverzekerdheid, zelfreflectie/-inzicht, copingstijl, teamklimaat en intrapersoonlijke emotionele intelligentie.

Omdat dit onderzoek een heel praktisch doel heeft, wordt vervolgens een uitgebreid raamwerk geschetst voor een Interactie Training, Coaching en Consultatie voor Teams (ITCCT). Dit raamwerk is niet alleen gebaseerd op ons onderzoek, maar ook op een toekomstvisie voor scholing voor professionals in de gezondheidszorg, op diverse implementatiemodellen en op een taxonomie van leer- en gedragstechnieken. Uiteindelijk bestaat ITCCT uit twaalf inhoudelijke thema's, vijf stadia voor verandering en zes strategieën voor opleiding en gedragsverandering.

In de dagelijkse praktijk rond het behandelen van een gedragsmoeilijke cliënt kan een gedragsdeskundige de begeleiders helpen om met de SIG-B snel zicht te krijgen op hun bejegeningsstijlen. Vervolgens kunnen ze samen bespreken welke van de 12 persoonlijke factoren de grootste invloed hebben op die bejegening. Ook kan de gedragsdeskundige de afstemming van begeleiders in hun interacties met de cliënt op de korte- en lange-termijn aan de orde stellen. Hij kan hen helpen hier alternatieven voor te zoeken door hen te stimuleren om de interpersoonlijke principes toe te passen, om hun regie-nemen of volgen te veranderen, en hij kan deze alternatieven met hen oefenen. Natuurlijk hoeft de behandeling van gedragsproblematiek niet beperkt te

worden tot het veranderen van het interpersoonlijk gedrag van begeleiders of hun afstemming in interacties. Over het algemeen kunnen er nog vier andere brede ingangen voor behandeling onderscheiden worden, met een focus op (a) gedragsmodificatie of het trainen van vaardigheden, (b) het veranderen van omgevingsaspecten zoals in een dagprogramma of de sociale context, (c) het veranderen van cognities en emoties zoals in CGT of EMDR, of (d) het versterken van welbevinden door in te gaan op de motieven en sterke kanten zoals in Oplossingsgerichte therapie of motiverende gespreksvoering.

Ten aanzien van toekomstig onderzoek wordt voorgesteld om van een aantal instrumenten in de diverse onderzoeken een kortere screening-versie te maken, zodat ze beter toepasbaar worden binnen ITCCT. Verder wordt effect- en procesonderzoek naar ITCCT aanbevolen, het liefst middels een groter aantal casestudies van teams.

In de conclusie spreek ik de hoop uit dat begeleiders, gedragsdeskundigen, managers en onderzoekers blijven zoeken naar afstemming in de uitdagende relaties die ieder van hen tegen komt.

Dankwoord

Wat kan het gek lopen voordat er daadwerkelijk een proefschrift ligt, want die ambitie had ik al vanaf mijn 30e in mijn werk binnen St. Anna (Koraal Groep). Maar na een rondreis langs diverse hoogleraren kwam ik met een veel te uitgebreid voorstel voor een onderzoeksproject, zo een uit de categorie 'alle gedragsproblematiek in de zorg voor verstandelijke beperking doorgronden en verhelpen'. Toch schreef ik toen al dat het vooral moest gaan over hoe begeleiders omgaan met hun zogenaamde moeilijke cliënten, dus over relaties. Maar het was ook de periode dat onze vier kinderen nog echt jong waren. En het schrikbeeld van een pappa die te weinig tijd zou vinden om met hun te stoeien heeft mij toen gelukkig geholpen om definitief een punt te zetten achter deze ambitie. Totdat ik in 2004 binnen het MFCG-Limburg bezig was om samen met Anita van der Heijden 'toevallig' een vragenlijst te ontwikkelen die het interactiegedrag van begeleiders kon meten. Dus Anita, jij weet niet hoe ontzettend dankbaar ik jou ben: jij hebt 'per ongeluk' mijn oude ambitie weer tot leven gewekt! Want ik ging in teams werken met deze voorloper van de SIG-B en zo had ik in een aantal jaren een paar honderd vragenlijsten verzameld. Dat was voor onze 'kartrekker' van het MFCG, Xavier Moonen, aanleiding om me in contact te brengen met Petri Embregts. Xavier, jij wist en weet als geen ander verbindingen te creëren met je neus voor nieuwe kennis en je enorme netwerk. Ik dank je van harte dat je mijn ambitie hebt helpen omzetten in kansen en dat je me na de eerste keer meeschrijven weer hebt losgelaten om het onderzoek op mijn manier te kunnen doen.

En daarmee begon dan in mei 2009 mijn echte promotietraject, een periode waarin ik heb leren dansen met de uitdagingen van een wetenschappelijk onderzoek. Het is een dans geworden waarbij ik ben blijven uitgaan van mijn eigen choreografie. En ja, inderdaad soms wat eigengereid. Na een poosje durfde ik me wat meer over te geven aan de dansstijlen van jullie, mijn promotoren Petri Embregts en Anna Bosman en copromotor Lex Hendriks. Petri, met jou was en is het gewoon fantastisch dansen! Want jij weet als geen ander hoe en waarin ik gezien wilde worden: als vakman in de praktijk, als denker in modellen, als pietje precies in onderzoek, maar ook gewoon als mens die het een poos moeilijk had. Jij danst altijd heel bewogen, puur en oprecht. En jij komt ontzettend snel en soepel in beweging, bijvoorbeeld nog dezelfde avond reagerend op mijn mails. Intussen daagde jij me uit om niet eindeloos te blijven schrijven aan meer en meer uitdijende choreografietjes, maar om me gewoon te focussen op steeds één dans. En om te vertrouwen op de spontane stappen die dan wel zouden volgen. Petri, ik weet zeker dat ooit iemand in jouw 'liber amicorum' zal schrijven dat jij de eerste hoogleraar was met 'professor loving care'! En dan jij, Anna. Dansen met jou was voor mij soms als een hink-stap-sprong. Als ik me had voorbereid op een linkse theoretische draai, dan was jij er opeens met een ontzettend rake praktische huppel of met een ontnuchterende relativering van het hele SPSS-dansje. Want jij bent het levende bewijs dat het kán: diep theoretisch denken in systemen, wiskundig de draak steken met gemiddelden-statistiek en tegelijk heel praktisch

betrokken zijn op die ene mens die worstelt in zijn of haar leven. En door dat alles heen klonk dan vaak jouw aanstekelijke schaterlach. Maar als het echt moest, dan danste je ook stevig met me door en konden we meters maken, zoals bij ons laatste CRQA-artikel. Anna, voor dit alles ben ik jou zeer dankbaar! Lex, jij en ik deden toch het meest aan line-dancing, geloof ik. Want waar ik mezelf wel had bekwaamd in alles wat Field me uitlegde over de SPSS-dans, was ik toch erg blij dat jij soms nog eens geduldig de basis-steps wilde voordoen. En als we het samen niet in SPSS konden vinden, dan koppelde jij me aan een andere bekwame danspartner, maar gelukkig bleef je ons dan wel coachen. Lex, ik dank jou voor hoe je me steeds het gevoel gaf dat ik met mooie dingen bezig was en dat ik dat op een consciëntieuze manier deed, ook als de twijfel wel eens in mij toesloeg.

Ik prijs me zeer gelukkig dat ruim 1000 begeleiders en 300 mensen met een verstandelijke beperking of hun wettelijk vertegenwoordigers bereid waren om allerlei vragenlijsten in te (laten) vullen en zichzelf soms in hun kwetsbaarheid op video te laten opnemen. Zonder jullie had dit proefschrift nooit geschreven kunnen worden! Ik wil er voor gaan zorgen dat jullie in de praktijk de vruchten kunnen gaan plukken van de uitkomsten van al dit onderzoek. Dank ook aan de directies van werkorganisaties binnen Koraal Groep (St. Anna, Maasveld, Op de Bies, De La Salle), van Dichterbij, Daelzicht, Pergamijn, Prisma, Radar, PSW, Cello, Driestroom, Lunet, ASVZ en Altrecht voor hun deelname. Binnen al deze organisaties dank ik vooral de tientallen gedragsdeskundigen en managers die de tijd namen om me te helpen bij het zoeken van respondenten voor al mijn onderzoek.

En dan jullie in Tilburg, de club van de Academische Werkplaats Leven met een Verstandelijke Beperking, binnen Tranzo. Al doe je als buitenpromovendus je onderzoek vooral alleen, toch was het voor mij heerlijk om na mijn 50^{e} weer eens mee te mogen doen in dat jonge bruisende wetenschappelijke wereldje. Jullie waren voor mij als een warm bad tijdens de werkoverleggen die ik af en toe kon meemaken, maar zeker tijdens de prachtige congressen samen en de AWVB-symposia. En ik ben jullie er nog steeds heel dankbaar voor dat jullie me zo lief ontzien hebben bij alle extra taken rond het organiseren van zo'n symposium. Speciaal wil ik jou, Wietske, bedanken, voor je steun bij het draaien van mijn eerste groep master-studenten klinische vaardigheden. Noud, ik bewonder jouw gedrevenheid in theorie en onderzoek, jouw veelzijdigheid in allerlei taken bij de AWVB, jouw humor en jouw altijd snelle hulp bij SPSS-updates of het aanleveren van pdf's. Dat Limburgs biertje heb je dubbel en dwars verdiend! Linda, jij bent voor mij op meer manieren bijzonder. Dat is niet alleen omdat wij samen zo'n beetje de Limburgse enclave vormden, al is dat alleen bij mij goed te horen. Het is vooral jouw stralend mens-zijn en jouw manier van zingen waarmee je me telkens weer diep raakt!

Er zijn twee mensen zonder wie het schrijven van mijn eerste en laatste artikel nooit was gelukt. Prof. dr. G.J.J.M. Stams, Geert Jan, jou wil ik hartelijk danken voor je uitgebreid meewerken aan ons eerste artikel, toen ik nog niets wist van SPSS, laat staan van multilevel regressieanalyses. Dr. M. Wijnants, Maarten, ik ben jou ontzettend dankbaar voor je uren geduld om me in te wijden in de basics van (C)RQA en voor je bereidheid om toch steeds weer net wat andere analyses te draaien.

Mijn collega's binnen het MFCG-Limburg wil ik zeggen hoe blij ik met ze ben, al 14 jaar. We zijn heel verschillend allemaal en het lukt ons nog steeds om elkaar uit te dagen. Rens, Ann (tot 2007), Ley (tot 2013), Marco, Nathalie, Sebastiaan en Gerlie, het is soms echt een hanenhok op ons kantoor. Maar die humor tussen ons, gecombineerd met wat praktische no-nonsense en de vlaaien op donderdagochtend, houden dit serieuze modellen-mannetje in een mooie balans. In de laatste fase van mijn onderzoek mocht ik mijn taken binnen het MFCG voor anderhalve dag per week laten vervangen door Gerlie van Kerkhof-Willemsen. Gerlie, het was heel fijn om te merken dat jij je als gedegen vakvrouw zo snel vertrouwd maakte met dit werk. En Rens, wat is er voor een GZ-psycholoog nu mooier dan een psychiater als collega te hebben die in zijn eigen proefschrift stelt dat het belang van de omgangsstijl wordt onderschat en dat van psychofarmaca overschat!

'Mijn' stagiaires binnen het MFCG bedank ik voor hun aanvullende master onderzoeken rond mijn proefschrift: Mirthe van Oeteren, Janou Koudijs, Wendy Sluysmans en Niniane Jakobs. Mirthe, sjiek dat je middels 12 interviews bij begeleiders ontdekte hoeveel factoren volgens hun van invloed zijn op hun bejegening naar gedragsmoeilijke cliënten toe, vooral die binnen begeleiders zelf, zoals persoonlijkheid, zelfreflectie, kennis over psychopathologie, levenservaringen, emoties, attitude en opvattingen over de cliënt. Janou, op basis van 120 dagelijkse metingen bij zes begeleiders liet jij zien dat zij bij hun gedragsmoeilijke cliënten meer volgend en minder vriendelijk gedrag ervaren, en bij zichzelf veel meer sturend en vriendelijk gedrag. Deze lage samenhang past goed bij het complementair principe in relaties. Wendy, jij maakte me blij door aan te tonen dat een korte pilot training rond bejegening binnen twee teams met 9-10 begeleiders al enig effect had op hun bejegening en emoties. Niniane, jij bent degene geweest die me op een prachtige manier hebt geholpen om de stap van vragenlijstonderzoek naar analyses van concreet gedrag te maken, wat uiteindelijk heeft geleid tot een mooi artikel. Ik ben jou ontzettend dankbaar voor het uitgebreid samen stoeien om tot een goed codeerschema te komen. En ik bewonder vooral jouw enorme doorzettingsvermogen om steeds opnieuw en minutieus elke seconde het interpersoonlijk gedrag van drie begeleiders en hun cliënt te scoren.

Het proefschrift moest ook kritisch beoordeeld worden en ik ben heel dankbaar voor de zeer positieve manier waarop dit is gedaan door de leden van de promotiecommissie,

prof. dr. B. Maes, prof. dr. B.K.G. van Meijel, prof. dr. Ch. van Nieuwenhuizen, prof. dr. S. Vandevelde en dr. P.S. Sterkenburg. Ik zie uit naar een mooie oppositie door jullie.

De grootste uitdagingen ben ik toch vooral tegengekomen in mijn persoonlijk leven, en ja, die gingen inderdaad ook over relaties. Allereerst mijn familie: mams, mijn vier lieve broers en zussen met hun partners. We lopen elkaars deur niet plat, maar als het echt nodig is, of als er iets heel moois is, dan raken we elkaar, steeds weer. Pap, we hebben in maart afscheid van u moeten nemen, maar in uw stilte weet u hoe uw wijsheid aan de wieg heeft gestaan van mijn groei en balans. Dus *deze daag plök ich same mit uch*!

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Margo, 36 jaar lang mijn vriendin, mijn vrouw, mijn partner in nieuwe liefde, en nu voor altijd mijn maatje. Jij was het die 'ja' zei toen je voelde hoe ik zou opbloeien met de creatie van dit proefschrift. Wij hebben elkaar vaak kunnen zeggen hoe diep wij elkaar hebben laten groeien in ons een-zijn, vanuit de krachten en littekens van ons eigen-zijn. Het is er in het mooie stille weten van onze ogen, telkens als we elkaar aankijken. Margo, jij leeft ten diepste vanuit verbinden en losser maken. Jij hebt de moed dat te doen voor jezelf en voor die ander. En zo heb ik nu 'ja' kunnen zeggen tegen je weg om te creëren wat in joúw handen en stem klaar ligt. Onze relatie zal altijd uitdagend zijn ... liefde die vrijheid geeft zoals het bedoeld is!

Curriculum Vitae

Arno Willems werd op 20 december 1958 in Puth-Schinnen geboren. In 1977 haalde hij zijn Gymnasium-alpha diploma aan de scholengemeenschap St. Michiel te Geleen. In 1984 studeerde hij cum laude af binnen klinische psychologie aan de Katholieke Universiteit Nijmegen, na een uitgebreide klinische en onderzoeksstage in de toenmalige RIAGG Maastricht. Van 1984 tot 2002 werkte hij bij St. Anna in Heel (Koraal Groep), gericht op diagnostiek, behandeling, teambegeleiding en counseling bij kinderen en volwassenen met een verstandelijke beperking. Vanaf 1994 is hij ook acht jaar parttime gedetacheerd geweest als psycholoog bij Daelzicht. Sinds 1990 is hij regelmatig consulent voor het CCE Regio Zuid. In 1997 werd hij als NIP-supervisor diagnostiek en in 1999 als GZ-psycholoog geregistreerd. Gedetacheerd vanuit St. Anna werkt hij in 2001 een jaar bij de behandelcentra Gastenhof en Dichterbij en vanaf 2002 als GZ-psycholoog binnen het toen net opgerichte MFCG-Limburg. Dit multifunctionele centrum richt zich op onderzoek, diagnostiek, behandeling en begeleiding van mensen met een verstandelijke beperking en gedrags- of psychische problemen. Het MFCG-Limburg is opgericht als een samenwerkingsverband tussen Koraal Groep en Dichterbij en werkt consultatief voor alle aangesloten Limburgse organisaties in de zorg voor verstandelijke beperking. Sinds 2008 werkt hij daarnaast als docent voor de opleidingen tot GZ-psycholoog en tot Orthopedagoog-Generalist in Nijmegen en Eindhoven, als docent binnen enkele postmaster opleidingen voor gedragsdeskundigen en als supervisor voor de GZ-opleiding. Zijn belangrijkste thema's betreffen diagnostiek, behandeling en adviesvaardigheden voor gedragsdeskundigen die werken in de zorg voor verstandelijke beperking. Hij was en is betrokken bij het schrijven van landelijke richtlijnen rond verstandelijke beperking, o.a. vanuit de beroepsverenigingen van NIP en NVO, de Multifunctionele Centra LVB en het Trimbos Instituut. In 2009 is hij vanuit zijn speciale interesse in de begeleidingsstijl bij mensen met een verstandelijke beperking en gedragsproblematiek begonnen aan zijn promotieonderzoek, als buitenpromovendus aan Tilburg University. De resultaten van dit onderzoek zijn beschreven in dit proefschrit.

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