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Knotter, M.H.; Stams, G.J.J.M.; Moonen, X.M.H.; Wissink, I.B.

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## Correlates of direct care staffs' attitudes towards aggression of persons with intellectual disabilities



M.H. Knotter<sup>a,\*</sup>, G.J.J.M. Stams<sup>b</sup>, X.M.H. Moonen<sup>b,c</sup>, I.B. Wissink<sup>b</sup>

<sup>a</sup> De Twentse ZorgCentra, Den Alerdinck 2, 7608 CM Almelo, The Netherlands

<sup>b</sup> University of Amsterdam, Nieuwe Prinsengracht 130, 1018 VZ Amsterdam, The Netherlands

<sup>c</sup> Hogeschool Zuyd, Nieuw Eyckholt 300, 6419 DJ Heerlen, The Netherlands

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### ABSTRACT

**Background and aim:** To explain direct care staff's attitudes (responsive or rejecting) towards aggression of clients with intellectual disability (ID), data were collected about client characteristics as well as individual and team characteristics of 475 direct care staff members, working in 71 teams.

**Method and results:** Multilevel analyses revealed that a positive team climate was positively associated with both a rejecting and responsive attitude towards aggression. Senior staff members and females showed a less responsive attitude towards aggression, whereas a relatively high percentage of females in a team and a positive attitude towards external professionals were associated with a more responsive attitude towards aggression. Unexpectedly, staff who experienced less verbal and/or physical aggressive incidents of their clients with ID showed a more rejecting attitude towards aggression. Finally, characteristics of the clients with ID accounted for the largest part of the variance in the attitude towards aggression of direct care staff, in particular psychiatric diagnoses.

**Conclusions and implications:** Further research is necessary in order to understand how team processes affect the attitude towards aggression of direct care staff. Further it is recommended to provide direct care staff with knowledge about mental disorders in clients with ID.

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### What this paper adds

Aggressive incidents “challenge” the relationship between direct care workers and clients with ID. A previous study showed that attitudes towards aggression of direct care workers influence their behaviour in contact with clients who present aggressive behaviour. The present study adds to the existing knowledge by showing that team climate, support from external professionals, and client characteristics were associated with staff's attitudes towards aggression. Characteristics of the clients with ID accounted for the largest part of the variance in the attitude towards aggression of direct care staff, in particular psychiatric diagnoses.

\* Corresponding author.

E-mail address: [maartje.knotter@detwentsezorgcentra.nl](mailto:maartje.knotter@detwentsezorgcentra.nl) (M.H. Knotter).

## 1. Introduction

The aggressive behaviour of clients with intellectual disabilities (ID) “challenges” the relationship between direct care staff and their clients. The prevalence of clients with ID who show aggressive behaviour can be high (Crocker et al., 2006; Lowe et al., 2007; Tenneij & Koot, 2008; Tyrer et al., 2006) and creates a significant clinical concern in the care for people with ID. There are several factors that complicate the care for or treatment of clients with ID who present aggressive behaviour problems.

First, aggressive incidents may lead to threatening and sometimes even dangerous situations for the clients with ID themselves, for other clients and direct care staff. For clients there is a risk of psychological problems (Fish & Culshaw, 2005; Hawkins, Allen & Jenkins, 2005; de Bakker, Nieuwenhuizen, Negenman, Embregts, & Frederiks, 2014) and physical injuries, especially due to restrictive measures, such as restraint by direct care staff in order to control clients' aggressive behaviour and to avoid danger and harm for themselves or other clients with ID (Duxbury, Aiken, & Dale, 2011). For direct care staff the exposure to aggression can be associated with negative psychological consequences, including high levels of stress and symptoms of burnout (Hastings & Brown, 2002; Hensel, Lunskey, & Dewa, 2012; Hensel et al., 2013; Mills & Rose, 2011; Rose, Mills, Silva, & Thompson, 2013).

Another complicating factor in care or treatment is that aggression can be a reason for placement breakdown, especially when services have a poorer overall quality (Allen, 1999; Broadhurst & Mansell, 2007; Phillips & Rose, 2010). To be treated in different settings with new direct care workers can be very stressful for a client with ID and a negative indicator for building meaningful relationships, including client-staff relationships.

A final complicating factor in the treatment of clients with ID who present aggressive behaviour problems is that interventions often turn out to be less effective for persons with outward directed aggression (Heyvaert, Maes, Van Den Noortgate, Kuppens, & Onghena, 2012). Harvey, Boer, Meyer and Evans (2009) also found that individuals with ID and disruptive and aggressive behaviour generally responded the least to interventions targeting behaviour change. As a result clients receive less opportunities to achieve treatment goals and develop better social, emotional and practical skills (Grey & Hastings, 2005).

Because of the afore-mentioned complicating factors, it is important to strengthen the quality of positive contacts between direct care workers and their clients with ID, and to reduce the rate of aggression by using effective and non-intrusive behavioural interventions. Positive behavioural interventions, which account for the function of aggression and subsequently teach the client (functionally equivalent) adaptive skills, are considered the most effective interventions (Didden, Korzelius, van Oorsouw, & Sturmey, 2006; Grey & Hastings, 2005; Harvey et al., 2009; Heyvaert et al., 2012). The role of care workers as ‘lay therapists’ in for instance cognitive-behavioural therapy for anger management with individuals with ID is promising (Willner et al., 2013). However, these interventions require a range of complex staff skills to cope with the emotions and cognitions of the people with ID (Willner et al., 2013). It is therefore important to examine the complex and dynamic interactions between direct care staff and their clients.

Knotter, Wissink, Moonen, Stams and Jansen (2013) found that the type of intervention used in response to clients with ID who presented aggressive behaviour was strongly related to the context of the team of direct care staff in which interactions between an individual staff member and a client with ID are embedded. At the individual level, one of the factors that influences the interactions between a direct care staff member and clients with ID is the way the direct care staff member perceives and subsequently interprets aggressive behaviour. A responsive attitude towards aggression reflects that direct care staff interpret the function behind the aggressive behaviour from their clients with ID, that is, as a form of communication. A rejecting attitude from direct care staff towards the aggressive behaviour of their clients reflects that staff interpret aggression as violent and intrusive behaviour, which is evaluated by direct care staff as an unacceptable manifestation of aggression (Jansen, Dassen, Burgerhof, & Middel, 2005). A rejecting attitude towards aggression (i.e., aggression is perceived as offensive, destructive and intrusive) proved to be related to the use of restrictive measures (Knotter et al., 2013). Furthermore, results from Knotter et al. (2013) indicated that a rejecting attitude towards aggression within a team of direct care staff members was even more strongly associated with frequent use of restrictive measures applied by individual team members. The rejecting attitude towards aggression of the team proved to be a substantially more powerful explanatory factor for the use of restrictive measures than the rejecting attitude of individual direct care staff members.

Additionally, the ‘climate’ of a team may influence the attitudes of direct care staff members towards aggressive behaviour of their clients with ID and, subsequently, the type of interventions used by them. Team climate can be measured by applying the Team Climate Inventory (TCI; Anderson & West, 1999), which assesses participative safety, support for innovation, vision, and task orientation. In several studies this instrument was applied to examine team climate within teams working in health care settings (for instance: Anderson & West, 1998; Ouwens, Hulscher, & Wollersheim, 2009; Rose, Ahuja, & Jones, 2006; Strating & Nieboer, 2009). While Strating and Nieboer (2009) focused on the relation between team climate and team performance, in the study of Rose, Ahuja and Jones (2006) a positive relation was found between team climate and the general psychological wellbeing of direct care staff.

Besides team climate, another important factor that can be associated with the attitudes towards aggression is the team members' experienced support from external professionals (e.g., support from GPs, psychiatrists, psychologists and therapists). Rose et al. (2006) investigated not only the association between team climate and psychological wellbeing of team members, but also the association between team climate, psychological wellbeing and the attitudes of direct care staff towards external professionals. The level of support from, for instance, other direct care staff members (indicating a

positive team climate) and external professionals may decrease the level of stress of direct care staff. According to Rose (1999) social support is functioning like a 'social buffer', and this may influence the psychological wellbeing of direct care staff. Rose et al. (2006) indeed found a positive correlation between a positive direct care staff attitude towards external professionals (the 'social buffer') and improvement of their mental health (using the Care Staff Attitude Questionnaire; CSAQ). Their results underline the importance of the association between psychological wellbeing of direct care staff, team climate and experienced support from external professionals.

We therefore investigated whether team climate and the attitudes towards external professionals were related to the attitudes towards aggression of all direct care staff members working in a team. More knowledge about the importance of these factors for the explanation of direct care staff attitude towards aggression of their clients with ID could provide opportunities to improve the quality of relationships between individual direct care workers and clients with ID.

We took into account several individual direct care staff characteristics, client characteristics, and team variables. We expected a positive team climate and a positive attitude towards external professionals to be positively associated with a responsive attitude towards aggression (i.e., aggression perceived as a normal or functional reaction, as a way of communication from a client with ID) and to be negatively associated with a rejecting attitude towards aggression (i.e., aggression of clients with ID perceived by direct care staff as a hurtful reaction, evaluating aggression for instance as offensive, destructive and intrusive). Furthermore, we expected a negative team climate and a negative attitude towards external professionals to be positively associated with a rejecting attitude towards aggression and negatively associated with a responsive attitude towards aggression.

Multilevel regression analyses (Hox, 2010) were used to examine how characteristics of individual direct care staff members and the context in which they operated, including characteristics of the team and clients living in group homes, were related to direct care staff's attitude towards aggression.

## 2. Methods

### 2.1. Participants

Participants in this study were 475 direct care staff members (working in 71 different teams) employed in seven different facilities in The Netherlands that provide care for people with intellectual disabilities. See for more information the descriptive statistics of the participants in Table A.1. A total of 67,8% of the participants were female employees. Participants ranged in age from 17 to 68 years ( $M = 32.85$ ,  $SD = 10.75$ ). The minimum amount of professional working experience was less than a year and the maximum was 40 years ( $M = 8.89$ ,  $SD = 7.93$ ). A total of 180 of the participants were senior group workers (37,9%), 188 participants (39,6%) were junior group workers, and 46 (9,7%) were assistant group workers. In Table A.2 client variables are shown. A total of 299 (62,9%) participants provided care to people with mild intellectual disabilities ( $IQ: 55 < IQ < 70$ ) and 167 (37,1%) participants provided care to people with severe forms of intellectual disabilities ( $IQ: 20/25 < IQ < 55$ ). A total of 54,1% ( $N = 257$ ) of the participants provided care in living groups composed of adults and elderly people with a minimum age of 18 to a maximum age of 79 years, and 45,9% ( $N = 218$ ) of the participants provided care in living groups composed of children, adolescents and young adults with a minimum age of 8 years to a maximum age of 23 years. The group size varied from a minimum of 3 clients to a maximum of 36 clients (living in separate apartments with a shared community room). The group environment varied from institutional care to a community setting (apartments). Direct care staff members were trained in dealing with psychiatric disorders, mental health problems, and they were used to work with clients with different social problems (see Table A.2).

### 2.2. Procedure

The seven Dutch organizations were informed by a letter about the aim of the study and the research design, and after approval by the board, managers selected 87 teams and arranged contact with the researchers who made an appointment for joining a team meeting. Only teams in which all members agreed to participate in the study were included. An informed consent procedure was used. Inclusion criteria for participating in the project were that the participants had to work in teams that provided around the clock care for children, adolescents, adults and/or elderly persons with an intellectual disability and had experienced verbal (for instance yelling) or physical (for instance hitting) aggressive incidents in their work with their clients. The questionnaires used in this study were distributed and gathered by the first author of the study and by students during team meetings. There were no minimum or maximum criteria for the time of working experience of direct care staff. A total of 16 teams (18%) did not cooperate in this study. Reasons for non-cooperation were lack of time or problems to make an appointment for joining a team meeting with the researchers and the students. Anonymous client data were provided by a questionnaire sent per e-mail or were collected in a telephone interview.

### 2.3. Measures

#### 2.3.1. Independent variables

2.3.1.1. *Direct care staff characteristics.* The assessed direct care staff characteristic were: gender, age, years of working experience, position in the team and educational level. For position in the team the response options were: (1) apprentice, (2)

assistant group home worker, (3) junior group home worker and (4) senior group home worker. For educational level the response options were: (1) primary education, (2) secondary education, (3) lower vocational training, (4) higher vocational training, (5) university.

**2.3.1.2. Client characteristics.** Client characteristics were: group size, age, level of intellectual disability, psychiatric diagnoses assessed by a professional (trained psychologist and/or psychiatrist), and other problems of clients living in the group homes (for instance, addiction related problems, sexual abuse, family-child relationship problems, delinquency). The characteristics of the client groups were based on anonymous information derived from a seven item questionnaire filled in by a consulting psychologist, or a manager and/or the direct care staff. Age consisted of five response options: (1) children 0–12 years, (2) youth 12–18 years, (3) young adults 18–30 years, (4) adults 30–65 years) and (5) elderly (65+). The level of ID was categorized into five response options (DSM-IV-TR): (1) borderline intelligence  $71 < IQ > 90$ , (2) mild ID  $55 < IQ > 70$ , (3) moderate ID  $35 < IQ > 55$ , (4) severe ID  $20 < IQ > 35$  and (5) profound ID  $< 20$ ). Based upon the mean age of the clients in a group home and of their mean level of ID, we distinguished between group homes hosting mainly youth versus those hosting mainly adults, and group homes hosting mainly clients with borderline intelligence and mild ID versus group homes mostly hosting clients with a moderate, severe and/or profound level of ID.

**2.3.1.3. Direct care staff's perception of the extent of aggression in the group.** Aggression was assessed with two items addressing the perceived physical and verbal aggression. For instance: 'How often do you experience physical or verbal aggression in your daily work?' Examples of physical aggression were hitting, kicking, biting and spitting. Two examples of verbal aggression were yelling and scolding. The response options were (1) never, (2) once a month, (3) once a week, and (4) daily.

**2.3.1.4. Team climate.** Team climate as perceived by direct care staff members was assessed by using the Dutch translation of the shortened Team Climate Inventory (TCI; Anderson & West, 1998; 1999). The original 38-item version of the TCI was shortened by Kivimäki and Elovainio (1999) into a 14-item version, which demonstrated acceptable reliability and validity, and was translated into Dutch by Strating and Nieboer (2009), who demonstrated satisfactory reliability for all scales. The short version of the TCI has a four-factor structure: participative safety (4 items; for example: 'In this team people keep each other informed'), support for innovation (3 items: 'In this team we take time needed to develop new ideas'), vision (4 items; 'In this team we have agreement with the objectives') and task orientation (3 items; 'In this team we are prepared to basic questions'). The 14 questions are rated on a 5-point response scale varying from 'strongly disagree' to 'strongly agree', in which higher scores indicate a better or more desirable team climate. In the present study, the reliability for all four scales was acceptable, ranging from  $\alpha = 0.74$  to  $\alpha = 0.82$ . The total score was acceptable with  $\alpha = 0.85$ .

**2.3.1.5. Direct care staff's attitude towards external professionals.** Direct care staff's attitude towards external professionals were assessed by means of the Dutch version of the Care Staff Attitudes Questionnaire (CSAQ; Rose et al., 2006), which was translated by the authors of the current study. The CSAQ contains 20 statements rated on a 5-point Likert type scale varying from (1) strongly disagree to (5) strongly agree. Although the questionnaire has not been extensively validated by Rose, Ahuja and Jones (2006), they found that the internal consistency of the scale was acceptable ( $\alpha = 0.81$ ). Contrary to a bipolar construct, as found in the study of Rose et al. (2006), using a principal component analysis, we found a 2-dimensional construct: a positive attitude towards professionals (8 items; for example: 'I find the advice given to me by professionals helpful';  $\alpha = 0.78$ ), and a negative attitude towards professionals (10 items; for example: 'Professionals do not take care staff seriously';  $\alpha = 0.92$ ). We used these two constructs in the present study. Two items were removed because of low factor loadings ( $< 0.20$ ), resulting in a scale of 18 items (see Table B.1). The resulting 2-factor model showed a close fit to the data: RMSEA = 0.057, CFI = 0.95 and TLI = 0.94.

## 2.3.2. Dependent variables

**2.3.2.1. Attitudes towards aggression.** Attitudes towards aggression was assessed with the Attitude Towards Aggression Scale (ATAS; Jansen, Middel, & Dassen, 2005). The ATAS contains 18 items rated on a 5-point Likert type scale varying from (1) strongly disagree to (5) strongly agree. Jansen et al. (2005) validated the ATAS for use in psychiatric care, and they found a five factor structure with sufficient reliability: the extent to which aggression is perceived 1) as offensive (7 items); 2) as a form of communication (3 items); 3) as destructive (3 items); 4) as a form of self-defence (2 items); and 5) as intrusive (3 items). In the study of Knotter et al. (2013) a principal component analysis yielded two components: a responsive attitude towards aggression (for example: 'Aggression is to protect oneself') and a rejecting attitude towards aggression (for example: 'Aggression cannot be tolerated'). In the present study we found satisfactory reliabilities for both scales: 'responsive attitude towards aggression'  $\alpha = 0.66$  and 'rejecting attitude towards aggression'  $\alpha = 0.80$ .

## 3. Statistical analyses

In order to take into account the nested structure of the data, a two-level model was applied, with individual direct care staff nested in teams providing care to groups of clients. The associations between the background characteristics of the individual staff members, the teams of direct care staff members and client characteristics on the one hand and the attitudes towards aggression (responsive and rejecting) on the other hand were tested in multilevel regression analyses (Hox, 2010).

Data were analysed using SPSS-20. All explanatory variables were modelled as fixed factors, and divided into explanatory variables at the individual level (for example gender of a direct care staff member) and at the contextual level (such as the proportion of males within a team). For all continuous explanatory variables (i.e., age, working experience, perceived frequency of aggression, attitude towards external professionals, team climate), the means were calculated (at the team level) and, subsequently, the deviation from team averages was computed for each individual team member (group mean centring; the individual direct care staff member level). A similar approach was used in studies by Willems et al. (2010) and Knotter et al. (2013).

#### 4. Results

Table C.1 provides the results from a stepwise multilevel regression analysis explaining responsive attitude towards aggression, which yielded a significant model:  $X^2 (df=9, N=475)=60.320, p<0.001$ . The individual direct care staff level accounted for 5% of the variability, while the contextual level (team and client group) accounted for 8% of the variability. Thus, a total of 13% of the variance in responsive attitude towards aggression was explained by the model.

Significant results were found at the level of the individual staff member with respect to gender ( $b = -0.11$ ) and position in the team ( $b = -0.10$ ), indicating that females and senior staff members showed a less responsive attitude towards aggression. Team climate ( $b = 0.11$ ) and attitude towards external professionals ( $b = 0.10$ ) were also found to be significant. The more an individual team member indicated the team climate to be positive or an individual team member reported to have a positive attitude towards external professionals, the higher the level of responsive attitude towards aggression was.

At the team level a significant result was found for gender ( $b = 0.20$ ), which meant that a relatively high percentage of females in a team was related to a more responsive attitude towards aggression.

At the client group level a significant result was found for age of the clients ( $b = -0.15$ ) and ADHD ( $b = 0.15$ ), Oppositional Defiant Disorder ( $b = -0.15$ ) and Personality Disorder ( $b = -0.14$ ). If clients with ID were younger (children, youth and young adults) direct care staff showed a less responsive attitude towards aggression. ADHD, besides the intellectual disability of clients, was related to a more responsive attitude towards aggression, and Oppositional Defiant Disorder (ODD) and Personality Disorder (PD) were related to a less responsive staff attitude towards aggression.

In Table C.2 the results from a stepwise multilevel regression analysis are presented, predicting a rejecting attitude towards aggression, which yielded a significant model:  $X^2 (df=8, N=475)=51.950, p<0.001$ . The model accounted for 2% of the variance at the individual level and 13% at the contextual (team and client group) level.

Significant variables at the individual level were frequency of physical aggression perceived by individual team members ( $b = -0.10$ ) and the team climate ( $b = 0.10$ ), which indicated that direct care staff members who perceived a lower frequency of physical aggression showed a more rejecting attitude towards aggression of their clients with ID. A more positive team climate, as perceived by individual team members, was related to a more rejecting attitude towards aggression.

The only significant variable at the team level was team climate ( $b = 0.11$ ), meaning that a more positive team climate, as perceived by the whole team, was related to a more rejecting attitude towards aggression.

At the client group level the following variables were found to be significant: anxiety disorder ( $b = -0.24$ ), tic disorder ( $b = 0.41$ ), family-child relationship problems ( $b = -0.20$ ), addiction related problems ( $b = 0.23$ ) and abuse ( $b = 0.16$ ). Addiction related problems, tic disorder and abuse were associated with a more rejecting attitude towards aggression of direct care staff. Anxiety disorder and family-child relationship problems were related to a less rejecting attitude towards aggression.

#### 5. Discussion

The aim of this study was to examine the associations between team climate, the attitude of direct care staff towards external professionals and direct care staff's responsive and rejecting attitude towards aggression, taking into account several individual direct care staff characteristics, team variables and client characteristics

##### 5.1. Team climate

The current study results underline the importance of a positive team climate in relation to the attitude of direct care staff towards aggression of their clients. A positive team climate was related to both a *responsive* and *rejecting* attitude towards aggression at the level of individual team members. A *positive* team climate was also related to a *rejecting* attitude towards aggression of teams as a whole. A *positive* team climate affected a *responsive* attitude of direct care staff towards aggression, which was in accordance with our expectation. However, the association between a positive team climate and a *rejecting* attitude towards aggression at both the level of individual team members and for teams as a whole was not expected.

Thus, on the one hand a *positive* team climate was related to a *responsive* attitude towards aggression of individual team members, which confirms the results of the study by Rose et al. (2006), who found that a positive team climate was related to improved psychological well-being of direct care staff. It is possible that a positive team climate may lead to improved mental health and less stress by staff (Buljac-Samardžić, 2012). This may lead to a better understanding and/or interpretation of the antecedents and function of the aggressive behaviour of clients with ID by direct care staff, which reflects a more reflective attitude towards aggression. On the other hand, we also found an association between a *positive* team climate and a more *rejecting* attitude towards aggression of individual team members and for teams as a whole. This is interesting, because the

rejecting attitude towards aggression of teams as a whole influences the way direct care staff behave in their daily work with their clients with ID (Knotter et al., 2013). A possible explanation might be that a positive team climate seems necessary to work safely. For instance, teams working with clients with ID showing aggressive behaviour often encounter dangerous and harmful situations for themselves, their colleagues and other clients with ID living in the same group. Members of a team strongly depend on each other in such situations. Furthermore, aggressive behaviour perceived by teams as a harmful reaction and therefore as a form of destructive, offensive or intrusive behaviour means that the aggressive behaviour of the client with ID constitutes a threat for the team, which creates fear and hostility toward the aggressive client with ID and vice versa (Brewer, 1999). This could explain the association between a positive team climate and a rejecting attitude towards aggression of teams as a whole. It also underpins the importance of team education about the possible antecedents and/or consequents of the aggressive behaviour of clients with ID (applying functional behaviour analysis, see for instance Paclawskyj, Kurtz and O'Connor, 2004), besides the need of coaching to establish a positive team climate.

## 5.2. External professionals

Expert knowledge about the strengths and impairments of clients with ID and explanations about the function of the aggressive behaviour may influence the way direct care staff members perceive aggression and the way they behave. Our results show that access to immediate and valuable expert advice and support is related to a more responsive perception of direct care staff members of the aggressive behaviour of their clients with ID. However, no association was found at the team level, which reflects the less significant role external professionals may play in influencing the attitude towards aggression of teams as a whole. A possible explanation could be that in the Netherlands communication between direct care staff and external professionals often occurs at an individual level and not at a team level. Therefore, individual direct care staff members may experience difficulties in sharing the information (and subsequent attitude) gained in those contacts with other team members.

## 5.3. Direct care staff characteristics

Individual direct care staff characteristics, such as gender and job position, explained a larger part of the variance in a responsive attitude towards aggression than in a rejecting attitude towards aggression. This difference reflects that for a rejecting attitude towards aggression the impact of the context is greater than the impact of individual staff characteristics.

Female direct care staff members had a less responsive attitude towards aggression than their male colleagues. This result is in line with the study of Jansen, Middel, Dassen and Reijneveld (2006). They found that male nurses in psychiatric wards showed a more responsive attitude towards aggression (i.e., aggression perceived as a form of communication), whereas their female colleagues showed a more rejecting attitude towards aggression (i.e., aggression perceived as destructive). According to Jansen et al. (2006) this difference could be explained by the fact that in general female nurses feel more intimidated by verbal and physical aggression than male nurses. It seems likely that men, more than women, perceive the relational dimension of aggressive behaviour in a more positive way because they tend to feel less intimidated and afraid.

At the team level, however, more females relative to males in a team predicted a more responsive attitude towards aggression of the direct care staff. Differences between females and males at the individual and team level are striking, and were also found in the study of Knotter et al. (2013). Teams with relatively more men more frequently used coercive measures. Different findings at the individual level (individual male care workers showing a more responsive attitude towards aggression compared to their female counterparts) and at a team level (a higher proportion of male team members predicting a less responsive attitude towards aggression) may be explained by the fact that, according to a study of Yamagishi and Mifune (2009), men more than women have a strong tendency to behave cooperatively in their team, and therefore perceive aggression of their clients with ID as threatening for the team coherence, which may influence their attitude towards aggression and the type of intervention they choose as a reaction to it. It is a finding that merits further study.

At the individual level, the association between the frequency of physical aggression of clients with ID and a rejecting attitude towards aggression of direct care staff is remarkable as well. Direct care staff who perceived a lower frequency of physical aggression showed a more rejecting attitude towards aggression than direct care staff who perceived a higher frequency of physical aggression. Howard, Rose and Levenson (2009) found an association between a higher level of violence and lower levels of fear of violence by direct care staff. They also found that direct care staff encountering higher levels of violence were all trained in managing aggressive behaviour. Training may have altered the perception of their ability to deal with violence (Hastings & Brown 2002).

It is possible that direct care staff working with clients with ID showing more physical aggression would receive more expert information about and coaching to deal with the antecedents and consequences of aggressive client behaviour, and would therefore be more experienced in dealing with aggression than direct care staff who encounter less physical aggression. This might explain the association between more physical aggression and a less rejecting attitude towards aggression of direct care staff. Another plausible explanation could be a selection effect, indicating that the personality traits of direct care staff members who choose to work with clients with ID and severe behaviour problems, such as physical aggression, differs from their colleagues. Perhaps they feel less intimidated, which may result in a less rejecting attitude towards aggression.

#### 5.4. Client characteristics

Characteristics of the clients with ID living in the different group homes and/or apartments were also associated with the attitude towards aggression of direct care workers. Especially the comorbidity of psychiatric disorders, besides the level of intellectual disability, explained a large part of the variance in the attitude towards aggression of direct care staff.

The psychiatric diagnosis ADHD for instance was associated with a *responsive* attitude towards aggression and on the other hand the psychiatric diagnoses ODD and PD were associated with a *less responsive* attitude towards aggression of direct care staff.

Tic disorder was associated with a *more rejecting* attitude towards aggression and anxiety disorder was associated with a *less rejecting* attitude towards aggression. A possible explanation for differences in association between client's psychiatric diagnoses and the attitude of direct care staff towards their clients who present aggressive behaviour may be the way direct care staff perceive the different behaviour symptoms of the psychiatric disorders. For instance the behaviour symptoms of ODD, PD and tic disorder are associated with behaviour symptoms that can be very intrusive for direct care staff, and may therefore lead to negative emotional feelings influencing the way direct care staff members perceive the aggressive behaviour of their clients with ID (Chester, 2010; Došen, 2007). Direct care staff showed a *less rejecting* attitude towards aggression for clients with ID diagnosed with an anxiety disorder. Perhaps clients with ID who experience severe anxiety problems provoke feelings of sympathy and empathy by direct care staff, which may result in a *less rejecting* attitude towards aggressive behaviour.

Another explanation might be that psychiatric disorders are often under-diagnosed or diagnostically overshadowed in people with ID (Chester, 2010; Christensen, Baker & Blacher, 2013; Došen, 2007). For that reason direct care staff may have little knowledge about the nature of most psychiatric disorders. This could also be an explanation for the fact that in our study ADHD was associated with a *responsive* attitude towards aggression of direct care staff. ADHD proved to be, apart from autism and attachment problems, the most common clinical diagnosis of the clients with ID involved in this study. It is plausible to suggest that direct care staff had more common knowledge about this disorder.

#### 5.5. Amount of explained variance

The total amount of variance explained in the attitude towards aggression of direct care staff is not high, which may be explained by the complex and multi-causal nature of these attitudes (Sameroff, 2010). It is possible that there are still unknown factors not taken into account in this study, which may influence the attitude towards aggression of direct care staff, such as organisational standpoints, the team manager's style of leadership or the way problems are solved within teams (Buljac-Samardžić, 2012).

#### 5.6. Limitations of this study

Self-report questionnaire data have particular limitations, such as a degree of subjectivity. To illustrate, self-report about the actual frequency of the physical and verbal aggression of clients with ID may be filtered through interpretation. It is therefore recommended to use video feedback besides questionnaires when analysing the influence of individual and collective direct care staff behaviour and client aggressive behaviour (see for instance, Embregts, 2002). In addition, the participating staff members indicated that the answer options measuring the frequency of verbal and physical aggression were too broad. Therefore, it is recommended to use measurements with more defined answer options, like the Modified Overt Aggression Scale (MOAS, Oliver, Crawford, Reece, & Tyrer, 2007), besides video observation, in order to measure the frequency of aggressive behaviour in future studies. Another limitation is that the questionnaires assessing team climate were distributed during team meetings. It is possible that team members answered in a social desirable way despite the instructions given during these team meetings in which anonymity and the importance of individual answering was emphasized.

In this study we decided to use no exclusion criteria based on the total amount of working experience of direct care staff because we aimed to examine the attitude towards aggression of *all* staff members working in the same team. Notably, it is plausible to suggest that staff who have working experience of less than a year with a client with ID have more difficulties in interpreting the signals and function of the aggressive behaviour than staff who have had the opportunity to work (much) longer with the same client. However, in this study working experience did not explain differences in the responsive or rejecting attitude towards aggression of direct care staff.

A final limitation is that the prevalence and diversity of psychiatric diagnoses is high in people with ID, which negatively affects interrater reliability of assessments of psychiatric disorders in patients with ID (Došen, 2007). For this study psychiatric classifications were provided by a clinician without a double check. Therefore, information on mental disorders should be handled with care.

## 6. Conclusion

Our results suggest that a positive team climate is not a guarantee for a team's responsive attitude towards the aggressive behaviour of their clients with ID. A team with a positive team climate may show a rejecting attitude towards aggression.



It is therefore important to expand our knowledge of the influence of team processes on direct care staff's attitude towards aggression and their behaviour in order to develop effective training and coaching programs.

The team's contact with external professionals proved to be associated with a more responsive attitude towards aggression of individual team members, but surprisingly no association was found at the team level, meaning that external professionals play a minor role in developing a more responsive or less rejecting team attitude towards aggression. It is recommended to pay more attention to how external professionals influence the team's attitude towards aggression of their clients with ID. In the Netherlands, for instance, the advice of external professionals, such as psychiatrists and psychologists, is often given to an individual direct care worker, and perhaps it is better to provide advice to the whole team.

In further research paying attention to gender differences in teams is recommended especially in teams working with clients who show high rates of aggression. For the clinical practice it is important to acknowledge that when teams do not encounter high levels of aggression, and for that reason receive no coaching or information in order to deal with aggressive behaviour of their clients, they may develop a more rejecting attitude towards aggression. It is therefore recommended that those teams also receive refresher courses and if necessary coaching to deal with aggressive behaviour of clients with ID from the perspective of prevention.

Finally, client characteristics accounted for the largest part of the variance in both a responsive and rejecting attitude towards aggression of direct care staff. It is therefore recommended to provide direct care staff with current knowledge about psychiatric diagnoses in clients with ID and of effective interventions to target psychiatric disorders.

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## Appendix A.

**Table A.1**

Descriptive statistics of the participants ( $N = 475$ ).

Variables	N	M	SD	%
Gender				
Male	153			32.2
Female	322			67.8
Age groups		32.85	10.75	
<30 years	256			53.9
31–39 years	91			20.2
40–49 years	76			16.2
>50 years	47			9.8
Professional experience		8.89	7.93	
<5 years	222			46.7
6–10 years	110			23.1
11–15 years	60			12.6
16–20 years	38			7.9
>20 years	45			12.4
Job position				
Assistant	46			9.7
Group worker	188			39.6
Senior group worker	180			37.9
Education				
<4 years vocational training	212			44.6
>4 years vocational training	263			55.4
Experienced verbal aggressive incidents				
Daily	336			70.7
Once a week	102			21.5
Once a month	35			7.4
Never	2			0.4
Experienced physical aggressive incidents				
Daily	98			20.6
Once a week	185			38.9
Once a month	149			31.4
Never	43			9.1

**Table A.2**  
Descriptive statistics of the participants (N = 475)<sup>a</sup> about their clients.

Variables	N	%
<b>Level of ID</b>		
Mild to borderline ID (55 < IQ < 70)	299	62.9
Severe forms of ID (20/25 < IQ < 55)	176	37.1
<b>Age</b>		
Adults/Elderly (18–79 years)	257	54.1
Youth (8–23 years)	218	45.9
<b>Psychiatric diagnoses (DSM-IV-TR)</b>		
Pervasive Developmental Disorder	447	94.1
Attachment problems	322	67.8
Attention Deficit/Hyperactivity Disorder	242	50.9
Mood disorder	171	36
Psychotic Disorder	126	26.5
Anxiety Disorder	115	24.2
Personality disorder	113	23.8
Oppositional Defiant Disorder	67	16
Tic Disorder	27	5.7
<b>Social problems</b>		
Addiction related problems	131	27.6
Family-child relation problems	70	14.7
Abuse	71	14.9
<b>Mental health problems</b>		
Physical impairments	84	17.7
Epilepsy	63	13.3

<sup>a</sup> N = 475 participants provided care to clients with ID.

## Appendix B.

**Table B.1**  
Factors and reliability of the Care Staff Attitudes Questionnaire (CSAQ).

		Reliability (Cronbach's alpha = 0.78)
<b>Factor 1: Positive Attitude towards external professionals</b>		
Item:		Factor loading
1	I find the advice given to me by professionals helpful.	0.69
2	I find that there is not a problem of confidentiality amongst professionals.	0.57
3	I feel listened to by professionals.	0.76
8	I find that professionals are approachable.	0.38
10	If a problem arises at work it is dealt with appropriately.	0.54
12	An 'us and them' situation does not exist amongst care staff and professionals at work.	0.48
13	Professionals are aware of the risk that care staff are under whilst working with their clients.	0.57
14	When care staff report an incident it is investigated immediately.	0.45
		Reliability (Cronbach's alpha = 0.92)
<b>Factor 2: Negative attitude towards external professionals</b>		
Item:		Factor loading
4	I would like professionals to spend more time on the unit.	0.58
5	I find that professionals do not listen to me in staff meetings.	0.77
6	I cannot talk to anyone at work if I am experiencing some difficulty in my job.	0.84
7	I would not like professionals to attend staff meetings.	0.90
11	I do not discuss my problems with professionals because it will not remain confidential.	0.88
15	Professionals place too much emphasis on observational work.	0.38
16	I find that someone has to get physically hurt before professionals will do anything about the problem.	0.53
17	I find that professionals do not take the time to conduct an investigation when there is a high incidence of sick leave amongst care staff.	0.64
19	Professionals do not take care staff seriously.	0.88
20	Professionals are not aware that morale is low amongst care staff.	0.80

## Appendix C.

**Table C.1**

Multilevel regression analysis of responsive attitude towards aggression (ATAS).

Results of best fitting model step wise regression modeling for all sample: Beta, t-scores, deviance, Chi Square			
Parameters	Null model	Explained Beta	Model t
<b>Individual staff level</b>			
Female (0 = male, 1 = female)		-0.11	-2,23*
Senior group worker		-0.10	-2,34*
Team climate		0.11	2,66*
Attitude external professionals		0.10	2,30*
<b>Team level</b>			
Gender (proportion female)		0.20	3,86***
<b>Client group</b>			
Age (0 = adult, 1 = youth)		-0.15	-2,73*
ADHD		0.15	2,75*
Oppositional Defiant Disorder		-0.15	-2,99**
Personality disorder		-0.14	-3,16**
<b>Variance</b>			
Contextual level	0.08	0.00	
Individual level	0.92	0.87	
<b>Explained variance</b>			
Contextual level		8%	
Individual level		5%	
<b>Deviance</b>			
X <sup>2</sup> (df=9)	1340.579	1280.259	60,320***

N = 475 Staff, N = 71 teams.

\*  $p < 0.05$ .\*\*  $p < 0.01$ .\*\*\*  $p < 0.001$ .**Table C.2**

Multilevel regression analysis of the rejecting attitude towards aggression (ATAS).

Results of best fitting model step wise regression modeling for all sample: Beta, t-scores, deviance, Chi square			
Parameters	Null model	Explained Beta	Model t
<b>Individual staff level</b>			
Freq. Physical aggression		-0.10	- 2,40*
Team climate		0.10	2,40*
<b>Team level</b>			
Team climate		0.11	2,40*
<b>Client group</b>			
Anxiety disorder		-0.24	- 4,50***
Tic disorder		0.41	6,13***
Family-child relationship problems		-0.20	- 2,51**
Addiction related problems		0.23	4,39***
Abuse		0.16	2,44*
<b>Variance</b>			
Contextual level	0.17	0.04	
Individual level	0.83	0.81	
<b>Explained variance</b>			
Contextual level		13%	
Individual level		2%	
<b>Deviance</b>			
X <sup>2</sup> (df=8)	1307.249	1265.300	51.949***

N = 475 Staff, N = 71 teams.

\*  $p < 0.05$ .\*\*  $p < 0.01$ .\*\*\*  $p < 0.001$ .

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