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Attributional styles of support staff working with people with intellectual disabilities exhibiting challenging behaviour

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Abstract

Background: Attributions are cognitive variables that influence a person's behaviour. Although a large volume of research has been conducted on the attributions of support staff with regard to challenging behaviour (CB) exhibited by people with intellectual disabilities (ID), studies on patterns of attributional dimensions (i.e. attributional styles) are scarce.

Method: Using semi-structured interviews, 19 support staff members were asked to describe incidents of aggressive, self-injurious and sexualized challenging behaviour. Data on attributions were analysed using the Leeds Attributional Coding System.

Results: Four attributional styles differed significantly for aggressive, self-injurious and sexualized challenging behaviour. In addition, support staff members largely attributed these three types of CB to characteristics and behaviour of clients with ID.

Conclusions: The results indicate that it is important to train support staff to recognize and understand the ways in which their attributions and behaviour influence the existence and maintenance of CB.

KEYWORDS

attributional style, attributions, challenging behaviour, intellectual disability, support staff

1 | INTRODUCTION

People with intellectual disabilities (ID) are at greater risk of developing psychopathology than people without ID (Matson & Shoemaker, 2011). In addition, they relatively often engage in disruptive and challenging behaviours (CB), including aggressive behaviour, self-injurious behaviour (SIB) and sexualized challenging behaviour (SCB) (Luiselli, 2012). CB can be seen as “the product of interaction between the individual and its environment” (Bank et al., 2007). Therefore, the environments of people with ID, and particularly their support staff, could play a key role in the prevention and management of CB (van den Bogaard, Nijman, Palmstierna, & Embregts, 2018a; Hastings, 2010). Several previous studies have addressed the explicit role that support staff may have in triggering and reacting to CB. For

example, support staff members have noted that their interactions with people with ID could be triggers for CB and that they consider their interventions necessary to stopping or controlling CB (e.g. van den Bogaard, Nijman, Palmstierna, & Embregts, 2018a; Nijman & Campo, 2002; Tenneij & Koot, 2007). Moreover, people with ID have also suggested that the behaviour of support staff could potentially influence the existence and persistence of CB (e.g. Brown & Beail, 2009; Fish & Culshaw, 2005; Griffith, Hutchinson, & Hastings, 2013; Jones & Stenfert Kroese, 2007; van den Bogaard, Lugtenberg, Nijs, & Embregts, 2018). For example, in their recent review, Bogaard, Lugtenberg, Nijs, Lugtenberg, Nijs, and Embregts (2018) report that people with ID have identified the attitudes and reactions of staff members (or their lack of reaction) as triggers for various types of CB (e.g. aggressive, self-injurious and offending behaviour). Previous

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studies have also suggested that environmental triggers may vary for different types of CB (Griffith et al., 2013; Nijman & à Campo, 2002). For example, Nijman and à Campo (2002) report that SIB is more prevalent in the evening as compared to aggressive behaviour (50% vs. 32%), and it is more likely to occur in the patient's room (66% vs. 9%). The same study demonstrates that at least 54% of the triggers of aggressive behaviour are related to actions occurring within the environment and on the part of support staff (e.g. denial of a client's request or reaction to the behaviour of a fellow client), with the same percentage being lower for SIB (23%). Interestingly, actions occurring within the environment, and particularly on the part of support staff (e.g. restrictive interventions aimed at preventing dangerous situations), could paradoxically also trigger the repeated occurrence of CB (Griffith et al., 2013; Nijman, à Campo, Ravelli, & Merckelbach, 1999). Furthermore, support staff are more likely to use restrictive measurements (e.g. holding with force, seclusion and/or medication) to stop aggressive behaviour than they are to use these measures in response to SIB or sexualized CB (Foster, Bowers, & Nijman, 2007; van den Bogaard, Nijman, Palmstierna, & Embregts, 2018a; van den Bogaard, Nijman, Palmstierna, & Embregts, 2018b).

Research based on applied behaviour analysis (ABA) has also contributed to the existing body of knowledge concerning the causes and functions of challenging behaviour, pointing towards the importance of using functional assessment methods to map these behaviours in relation to the environment (e.g. Lloyd & Kennedy, 2014). Descriptive assessment and experimental functional analyses of CB can be used to generate insight into the setting and conditions (antecedents and consequences) that can trigger and maintain various types of CB (Beavers, Iwata, & Lerman, 2013). For example, studies have indicated that aggressive behaviour is maintained primarily by escape and attention, while self-injurious behaviour is maintained by escape and automatic reinforcement (i.e. executing the CB creates a favourable outcome without involvement of the social environment; Cooper, Heron, & Heward, 2007). Adequate intervention for CB and its reduction and prevention require assessment of the behaviour within its context (Gore et al., 2013). Several studies on the use of ABA in assessing functions and causes of CB and treating CB have already demonstrated its efficacy (e.g. Grey & Hastings, 2005).

The behaviour of support staff is related to their attributions with regard to CB exhibited by clients with ID (Snow, Langdon, & Reynolds, 2007; Wanless & Jahoda, 2002). In recent decades, several studies have focused on attributions of support staff regarding CB (e.g. Cudré-Mauroux, 2010; Noone, Jones, & Hastings, 2006; Rose, Gallivan, Wright, & Blake, 2014). Studies comparing attributions for various types of CB have revealed differences between these attributions (e.g. Dilworth, Philips, & Rose, 2011; Hastings, Reed, & Watts, 1997; MacKinlay & Langdon, 2009; Stanley & Standen, 2000). For example, MacKinlay and Langdon (2009) compared attributions for sexual offending behaviour to attributions for challenging behaviour (operationalized as aggressive behaviour) using the Attributional Style Questionnaire (ASQ; Peterson et al., 1982). The responding support staff members were more likely to attribute sexual offending behaviour (in contrast to aggressive behaviour) to

factors originating within the environment (external factors) that continued influencing the behaviour over time (stable) and that were less controllable by the client. In addition, Stanley and Standen (2000) report that carers considered SIB more likely to continue influencing the behaviour of clients over time (stable) and less likely to be controlled, as compared to aggressive behaviour and destructiveness. Finally, Williams, Dagnan, Rodgers, and McDowell (2012) indicate that attributions can change as a result of training. Support staff who are provided with information about CB are more likely to exhibit behaviours that will not initiate CB.

Although a considerable body of research has been conducted on the attributions of support staff regarding CB on the part of people with ID, to our knowledge, none of these studies has focussed on the patterns of the attributional dimensions (i.e. attributional styles) of support staff with regard to CB. An attributional style can be described as a cognitive personality characteristic that reflects the way people habitually explain what happens in their lives (Houston, 2016). Attributional models in which people attribute positive events to causes that are stable, global and internal, while attributing negative events to causes that are unstable, specific and external are considered "healthy." In contrast, attributional styles that attribute negative events to stable, internal and global causes are considered "depressogenic" (Abramson, Metalsky, & Allow, 1989), as they assume that the individuals experiencing these events have little influence over or few options for preventing them. Several studies have indeed identified associations between certain attributional styles and distress in adult relationships (e.g. Silvester, Bentovim, Stratton, & Hanks, 1995). It is also important to study the attributional styles of support staff, as these styles may influence the affective and behavioural reactions that occur within relationships (Dix, 1991), as well as the quality of those relationships (Fincham, Beach, & Baucom, 1987). Finally, research on training attributions of support staff (e.g. Grey, McClean, & Barnes-Holmes, 2002) has indicated that attributions can change as a consequence of prolonged training in providing behavioural support. Given that the identification of attributions based on real incidents, instead of vignettes, is likely to result in a more representative and complete picture of the attributions of support staff (Snow et al., 2007), the Leeds Attributional Coding System (LACS; Stratton, Munton, Hanks, Heard, & Davidson, 1988; see the Analysis section for more information about this coding system) was used in the current study to identify the attributions of support staff based on actual incidents that they had experienced with people with ID. Moreover, the application of the LACS allowed us to explore and compare the attributional styles of three distinct and frequently reported types of CB (i.e. aggressive behaviour, SIB and SCB).

2 | METHOD

2.1 | Participants and setting

Nineteen staff members (five males) working with people with intellectual disabilities ranging from mild (IQ between 50 and 70)

TABLE 1 Definition of causal dimensions used in the Leeds Attributional Coding System

Causal dimension	Definition of causal dimension
Stable/unstable	Stable causes are causes that are likely to continue to influence outcomes in the future
Global/Specific	Global causes are those causes that are likely to have a significant impact on several different outcomes
Internal/external	Internal causes are those causes believed to originate from within the person being coded
Personal/universal	Personal causes contain information concerning something unique or idiosyncratic about the person being coded
Controllable/uncontrollable	Controllable causes are causes in which the person thinks he could have influenced the outcome

to borderline intellectual functioning (IQ between 70 and 85), hereafter designated as people with mild to borderline intellectual disabilities (MBID), were recruited from a healthcare service for people with ID in the south-eastern region of the Netherlands. The only inclusion criterion for participation in this study was having witnessed aggressive behaviour, SIB and/or SCB in people with MBID. The mean age of the support staff members was 33.2 years ($SD = 10.2$, range: 22.7–57.4 years), and they had worked with people with ID and CB for an average of 9.6 years ($SD = 8.0$, range: 2.5–36.0 years). Three (15.8%) of the staff members had completed only junior or pre-vocational education, 10 (52.6%) had completed secondary vocational education, and six (31.6%) had completed undergraduate or post-graduate professional education. All participants had received training regarding the prevention and management of aggressive behaviour, but not with regard to SIB or SCB.

2.2 | Procedure

After receiving approval from the Ethics Committee of Tilburg University (EC-2014.21) and the participating healthcare organization, the researchers provided the management team (consisting of four managers, each serving several locations) with information about the study. These managers then selected 19 members of the support staff to participate based on their working experience with people with MBID and CB. The first author subsequently provided full information about the research to the managers, who informed the support staff about the study. All of the staff members who were approached by their managers agreed to participate. After they had provided written informed consent, the staff members were asked to describe what they regarded as CB, and the types of CB that were exhibited by the people with ID to whom they provide support, in addition to noting the frequency and severity of incidents involving CB. The participants were then asked to describe the most memorable incident of aggressive behaviour, SIB and/or SCB that they had experienced. The average duration of the interviews was 50 min (range: 34–65 min). Although aftercare (e.g. a follow-up interview with the manager) was offered after the interview, none of the staff members requested such services.

2.3 | Instrument

A semi-structured interview was used to obtain descriptions from the participants concerning incidents of aggressive behaviour, SIB and/or SCB that they had experienced, as well as their corresponding attributions. The interview was based on the information addressed in the Staff Observation Aggression Scale-Revised (Nijman, Muris, et al., 1999; van den Bogaard, Nijman, Palmstierna, & Embregts, 2018a) for aggressive behaviour, the Self-Harm Scale (van den Bogaard, Nijman, Palmstierna, & Embregts, 2018b) for SIB and the Harmful Sexual Behaviour Scale (van den Bogaard, Nijman, & Embregts, 2018) for SCB. The structure of the interview was in line with earlier research on attributions, in which semi-structured interviews were used to generate attributions (Lundström, Åström, & Graneheim, 2007; Noone et al., 2006; Todd & Watts, 2005). Two researchers asked support staff members whether they had witnessed aggressive behaviour, SIB and/or SCB on the part of people with ID. Participants providing affirmative answers ($n = 19$ for aggressive behaviour, $n = 17$ for SCB and $n = 12$ for SIB) were asked to describe the incident that they remembered most vividly. They were encouraged to speak freely and, afterwards, the researchers asked clarifying questions about the CB. Clarifying questions were related to (a) the antecedent (e.g. "What immediately preceded and seemed to trigger the CB?"); (b) the nature of the behaviour (e.g. "What did the CB consist of?"); (c) against whom the CB had been directed (e.g. "Was the CB directed towards other clients or support staff members, or was it self-directed?"); (d) the consequences of the CB (e.g. "What were the emotional and physical consequences of the CB for you and the client?"); (e) the measures that the participants had used to stop the CB (e.g., "What did you do to stop the CB?"); (f) temporal-spatial characteristics of the CB (e.g. "Where and when did the CB occur?"); and (g) feelings concerning the CB (e.g. "What did you feel, and what do you think the client felt during and after the CB?").

Each interview was recorded and transcribed verbatim. The first author extracted and coded the attributions using the Leeds Attributional Coding System (LACS; Stratton et al., 1988), which transforms qualitative data into quantitative data based on real incidents. In addition to eliciting different responses from interviewees (Lucas, Collins, & Langdon, 2009), the use of real incidents increases the ecological validity of the results (Wanless & Jahoda, 2002). The

Type of CB	Subtype of CB	Percentages*
Aggressive behaviour	Verbal aggressive and threatening behaviour	78.9
	Physical aggressive behaviour	57.9
	Aggression against property	36.8
	Other aggressive behaviour (e.g. spitting)	15.8
SCB	Sexual inappropriate comments	70.6
	Sexual inappropriate touching	47.1
	Other SCB (e.g. indecent exposure)	11.8
SIB	Head banging	63.6
	Slamming one's body against the wall	36.4
	Cutting	18.2
	Other SIB (e.g., removing nails)	36.4

*Percentages add up to more than 100% because support staff described incidents with multiple topographies.

LACS consists of six stages (Stratton et al., 1988): (1) identifying the source of the attributions (i.e. the transcripts in which participants described the incidents of CB); (2) extracting the attributions (e.g. identifying text referring to causes of CB); (3) separating the cause and outcome elements of the attributions (e.g. "The client shouts and throws objects (= outcome CB), because things did not go the way he wanted" (= cause); (4) identifying the speaker (i.e. the person providing the attribution), agent (i.e. the person mentioned in the cause of the attribution) and target (i.e. the person mentioned in the outcome of the attribution); (5) coding the attributions along five causal dimensions (see Table 1 for the definition of these dimensions); and (6) analysing the codes (e.g. importing the codes into a statistical programme to perform descriptive and comparative analyses).

To test the reliability of the extracting and coding phase, a second researcher rated 25% of the interviews. The percentage agreement index was used to compare the similarities and differences between the two raters (Suen & Ary, 1989). In line with earlier studies using the LACS (e.g. Noone et al., 2006; Stratton et al., 1988), the percentage of agreement for the extraction of the attributions was calculated for 25% of the interviews (the percentage of agreement was 72%). Disagreements related to the extractions were discussed until consensus was reached. The first author then extracted the attributions from the remaining 75% of the interviews and discussed ambiguous statements with the third author until consensus was reached. In addition, the percentage of agreement on the coding was calculated. The average percentage of agreement across all the attributional dimensions was 85%. The percentage of agreement on the stable/unstable dimension was 76%, with values of 86% on the global/specific dimension, 77% on the internal/external dimension, 89% on the personal/universal dimension and 93% on the controllable/uncontrollable dimension. In this phase as well, disagreements related to the coding were discussed with a second researcher until consensus was reached. The remaining 75% of the attributions were

TABLE 2 Types and percentages of CB described in the Reported Incidents by support staff

coded by the first author and discussed with the third author until consensus was reached.

In all, 629 attributions were mentioned by the participants, with 19 staff members mentioning a total of 371 attributions regarding aggressive behaviour. For example: "Well, you walk towards the door and you say that it was not intended this way and then he curses, rages and swears" (Participant 4).

A total of 17 staff members mentioning 145 attributions about SCB, like: "I had to bend to grasp something and then he said ow, you may stand here all night long" (Participant 8). And a total of 12 staff members mentioning 113 attributions about SIB, like: "This is a men who bangs his head hard against the wall when he feels tense and...it's actually with his whole body, arms, shoulders and head (Participant 17)".

More specifically, 12 staff members mentioned attributions regarding all three types of CB, with five mentioning attributions concerning two types of behaviours (i.e. aggressive behaviour and SCB) and two mentioning only attributions about aggressive behaviour. Most of the incidents described by the participants involved a variety of forms related to a specific type of CB (see Table 2). For example, the client displayed verbal aggression, displayed threatening behaviour and physical aggressive behaviour towards the support staff member. For aggressive behaviour, 89.5% of the incidents consisted of more than one subtype. For SCB, 41.2% of the incidents consisted of more than one subtype, as was the case for 54.5% of the incidents involving SIB.

2.4 | Analysis

The analyses were carried out in two steps. In the first step, descriptive statistics were used to identify the agents for each type of CB and to explore the scores on the five attributional dimensions. The second step started with calculating the most

TABLE 3 Overview of type of agents for every type of challenging behaviour

	Aggressive behaviour		Self-injurious behaviour		Sexualized challenging behaviour		Total	
	N	371	N	113	N	145	N	629
	n (%)		n (%)		n (%)		n (%)	
Agent								
Client	258	(69.5)	86	(76.1)	112	(77.2)	456	(72.5)
Support staff	92	(24.8)	11	(9.7)	27	(18.6)	130	(20.7)
Other	21	(5.7)	16	(14.2)	6	(4.1)	43	(6.8)

TABLE 4 Number and percentage of attributions made by support staff regarding three types of challenging behaviour for staff or client as agent

	Aggression				SIB				SCB			
	Staff		Client		Staff		Client		Staff		Client	
	92	258	11	86	27	112						
	n (%)	Range (%)	n (%)	Range (%)	n (%)	Range (%)	n (%)	Range (%)	n (%)	Range (%)	n (%)	Range (%)
Stable	10 (10.9)	(0–50)	102 (39.5)	(0–100)	1 (9.1)	(0–100)	42 (50.0)	(0–67)	11 (40.7)	(0–100)	51 (45.5)	(0–100)
Global	16 (17.4)	(0–50)	212 (82.2)	(40–100)	2 (18.2)	(0–100)	81 (94.2)	(67–100)	6 (22.2)	(0–100)	80 (71.4)	(0–100)
Internal	91 (98.9)	(86–100)	246 (95.3)	(80–100)	11 (100)	(100)	83 (96.5)	(78–100)	27 (100)	(100)	107 (95.5)	(50–100)
Personal	35 (38.0)	(0–100)	244 (94.6)	(0–100)	3 (27.3)	(0–100)	86 (100)	(100)	19 (70.4)	(0–100)	108 (96.4)	(80–100)
Controllable	76 (82.6)	(50–100)	120 (46.5)	(0–100)	8 (72.2)	(0–100)	27 (31.4)	(8–100)	13 (48.1)	(0–100)	83 (74.1)	(33–100)

frequently mentioned attributional styles for each type of CB. To determine the difference between the three types of CB per type of agent and the three types of CB and the attributional styles, multivariate analyses were undertaken using generalized estimating equations (GEE), where dependent variables were binary categorical (client/support staff as agent, presence of attributional style (yes/no)). This model was used to take into account the internal correlational structure in the data, due to the multiple records related to CB per support staff member. Any significant associations ($p \leq .05$) were subjected to additional *post hoc* tests using pairwise comparisons to compare the scores on the three types of CB. To reduce the likelihood of Type I errors, an alpha level of 0.008 was set for these *post hoc* analyses, given the large number of comparisons. Only differences at or below this alpha level were considered significant.

3 | RESULTS

3.1 | Agents for each type of CB

As indicated in Table 3, the participating support staff members mentioned a variety of individuals and situations as having caused CB (agents). Most frequently, they identified clients as the agent (72.5%), followed by support staff (20.7%) and situations or other individuals (e.g. family or passers-by; 6.8%). There was a significant

association between the agent and the type of CB (Wald Chi-square (2) = 7.011, $p = .030$). Additional *post hoc* comparisons revealed that support staff members were less likely to be identified as the cause of SIB ($p = .002$) compared to aggressive behaviour.

3.2 | Scores on five attributional dimensions

3.2.1 | Stable/unstable

Most of the causes that support staff members identified for aggressive behaviour, SIB and SCB were scored as unstable (Table 4). It should be noted; however, that this was less often the case when a client was identified as the agent than when a staff member was identified. The scores thus indicate that, when a support staff member was the agent, participants were more likely to assume that the causes of CB can change over time. For example, compare the observation, "He (client) became aggressive, because he is hot-tempered" (stable aggressive behaviour, Participant 4) to the observation, "..., I told him he couldn't do that at that moment" (unstable aggressive behaviour, Participant 7). One interesting difference between the three types of CB is that, with regard to incidents in which a support staff member was the agent, SCB was deemed more stable than either aggressive behaviour or SIB. These results suggest that the causes of SCB are more likely to continue influencing outcomes in the future.

TABLE 5 Attributional styles of support staff with client as agent per type of challenging behaviour

Attributional style*	Aggressive behaviour	Self-injurious behaviour	Sexualized challenging behaviour
	n (%)	n (%)	n (%)
1. Stable, global, internal, personal and controllable	31 (12.0)	10 (11.6)	23 (20.5)
2. Stable, global, internal, personal and uncontrollable	61 (23.6)	30 (34.9)	14 (12.5)
3. Stable, specific, internal, personal and controllable	2 (0.8)	0 (0.0)	11 (9.8)
4. Unstable, global, internal, personal and controllable	52 (20.2)	15 (17.4)	28 (25.0)
5. Unstable, global, internal, personal and uncontrollable	55 (21.3)	24 (27.9)	12 (10.7)
6. Unstable, specific, internal, personal and controllable	25 (9.7)	2 (2.3)	15 (13.4)
7. Unstable, specific, internal, personal and uncontrollable	10 (3.9)	1 (1.2)	1 (0.9)

*All other styles ($n = 25$) are only mentioned zero, one or two times on each type of CB.

3.2.2 | Global/specific

With regard to the global/specific dimension, differences were found between the ratings for the causes of aggressive behaviour, SIB and SCB concerning the agent. More specifically, the indicated causes of aggressive behaviour, SIB and SCB were rated as global when a client was identified as the agent (e.g. "He is also schizophrenic" (global SIB, Participant 13)), whereas the causes of aggressive behaviour, SIB and SCB were rated as specific when a support staff member was identified as the agent (e.g. "The client became aggressive, because we [support staff] offered him his medication" (specific aggression, Participant 2)). Support staff members thus apparently made attributions in which their own influence regarding the impact of the causes of CB was minor compared to the influence of clients.

3.2.3 | Internal/external

For incidents in which a support staff member was the agent, as well as for those in which a client was the agent, the vast majority of the causes of all three types of CB were rated as internal (see Table 4). For example, with regard to a cause of aggressive behaviour in which a support staff member was the agent, one participant stated, "If he (client) notices that I (support staff) am tense in that situation, he becomes aggressive (internal aggressive behaviour, Participant 8)." The following is an example of an internal cause of SIB with the client as agent: "Because he was not happy with himself, and then he did such things [injuring himself]" (internal SIB, Participant 13). These results indicate that regardless of who the agent is (e.g. client or support staff) the causes of CB are thus more likely to be identified as originating from within the agent than from within the environment (i.e. external to the person).

3.2.4 | Personal/universal

When participants described incidents in which they had been the agent, they frequently identified the causes of CB as being universal

in the case of aggressive behaviour and SIB (e.g. "Or the lights that he [the client] turns off, and then reacts when you [support staff member] turn it back on" (universal aggressive behaviour, Participant 10)). In contrast, with respect to SCB, most causes were rated as being personal (e.g. "At that time, I [support staff member] was one of the youngest in the team, so, maybe, yeah. I worked with men or older women, so maybe he saw that mostly, at that time" (personal SCB, Participant 5)). If the client was the agent, the causes identified by the participants were largely rated mostly as being personal for all three types of CB (e.g. "He [client] is heavily into his under-stimulation, and then he kicks off" (personal aggressive behaviour, Participant 17)). These results thus suggest that, when the client was the agent, the causes of CB identified by the participant contain information concerning something unique or idiosyncratic about the client.

3.2.5 | Controllable/uncontrollable

In the majority of cases in which a support staff member was identified as the agent, the participants' attributions of aggressive behaviour and SIB were scored as controllable. In other words, these attributions indicate that staff members could exert some control over the cause to be prevented in the future (e.g. "That is, I think, if you [support staff member] are not on time, you just let him [client] continue and continue" (controllable SIB, Participant 19)). For SCB, the picture was less clear. In about half of the cases, the attributions of support staff members indicated that, when they were identified as the agent, they had control over the cause of CB (e.g. "But you see, if you [support staff member] let it go, the behaviour gets worse" (controllable SCB, Participant 6)). On the other hand, if the client was the agent, the support staff members' attributions of SCB are rated as controllable (e.g. "That is what I [support staff member] say, he [client] does it as a provocation" (controllable SCB, Participant 5)). For incidents involving aggressive behaviour and SIB, participants most often reported causes that were not controllable by the client (e.g. "Socially and emotionally, he functions at about the level of 6 months of age" (uncontrollable aggressive behaviour, Participant 10)). The attributions mentioned by support staff members thus

indicate that they are able to exert more control over aggressive behaviour and SIB than clients are, although they can exert less control over SCB than clients can.

3.3 | Attributional styles for each type of CB

In this study, attributional styles are operationalized as a composition of distinct scores on the five attributional dimensions of the LACS (stable/unstable, global/specific, internal/external, personal/universal and controllable/uncontrollable). Only the attributional styles in which a client was identified as the agent were taken into account, due to the smaller number of attributions ($N = 130$) in which a support staff member was identified as the agent. The most frequent attributional styles are presented in Table 5. As indicated by these results, seven different attributional styles can be distinguished (other potential attributional styles occurred ≤ 2 times for each type of CB, and they were therefore not included in further analyses). Four of these seven attributional styles were identified as having significant associations. More specifically, when the causes of CB were rated as being stable, global, internal, personal and uncontrollable (Attribution Style 2), there was a significant association between the style and the type of CB (Wald Chi-square (2) = 15.90, $p = .000$). *Post hoc* comparisons revealed that Attribution Style 2 was observed more often in incidents involving SIB compared to SCB ($p = .000$) and aggressive behaviour ($p = .001$). Furthermore, when the causes of CB were rated as being unstable and—in line with Attribution Style 2—global, internal, personal and uncontrollable (Attribution Style 5), there also was a significant association between attribution style and type of CB (Wald Chi-square (2) = 7.258, $p = .027$). Additional *post hoc* comparisons revealed no significant differences. When the causes of CB were rated as being stable, specific, internal, personal and controllable (Attribution Style 3), there was again a significant association between attributional style and type of CB (Wald Chi-square (2) = 621.642, $p = .000$). Follow-up *post hoc* comparisons revealed that Attribution Style 3 was observed more often in incidents involving SCB compared to aggressive behaviour ($p = .002$) and SIB ($p = .001$). Finally, when the causes of CB were rated as being unstable and—in line with Attribution Style 3—specific, internal, personal and controllable (Attribution Style 6), there was a significant association between attributional style and type of CB (Wald Chi-square (2) = 7.948, $p = .019$). *Post hoc* comparisons revealed that Attributional Style 6 was observed more often in SCB compared to SIB ($p = .003$), whereas Attributional style 6 was relatively less often observed in SIB compared to aggressive behaviour ($p = .000$).

4 | DISCUSSION

In this study, the attributional styles of 19 support staff members with regard to three different types of CB (i.e. aggressive behaviour, SIB and SCB) exhibited by people with MBID were explored and

compared. To this end, we started by analysing the identified agents for each type of CB, after which we analysed the attributions along the five causal dimensions of the LACS: stable/unstable, global/specific, internal/external, personal/universal and controllable/uncontrollable. Finally, we analysed attributional styles. The results indicate that, in general, support staff members were more likely to attribute the causes of all three types of CB to the client, rather than to themselves, other individuals or situations. With regard to SIB, the results are in line with those reported in previous studies, with the causes of SIB being attributed largely to aspects arising from within the person engaging in SIB (internal; Snow et al., 2007). With respect to aggressive behaviour: however, support staff were more likely to identify themselves as agents than they were in the case of either SIB. This is consistent with the results reported by Nijman and à Campo (2002), indicating that aggressive behaviour is more often caused by interactions than is SIB. Observation studies of support staff with regard to CB (van den Bogaard, Nijman, Palmstierna, & Embregts, 2018a; van den Bogaard, Nijman, Palmstierna, & Embregts, 2018b) have supported this finding by clarifying the role of support staff in triggering aggressive behaviour, as compared to SIB.

We found that the attributions for all three types of CB were quite similar on the global/specific and internal/external dimensions. In contrast, the scores on the stable/unstable, personal/universal and controllable/uncontrollable dimensions differed for aggressive behaviour, SIB and SCB. Support staff members attributed the causes of SCB (as compared to aggressive behaviour and SIB) to factors that were less controllable, universal and stable for themselves and to those that were more controllable and specific for the client. In some respects, these differences between incidents involving SCB and those involving aggressive behaviour and SIB are comparable to the results found in a study by MacKinlay and Langdon (2009), who report that attributions of sexual offending behaviour were rated as less controllable by support staff, as compared to their attributions for aggressive behaviour. In contradiction to our findings; however, they report that attributions of sexual offending behaviour were more stable and less controllable by the client than was the case for aggressive behaviour. This discrepancy could potentially be explained in light of findings reported by MacKinlay and Langdon (2009) that attributions differ for more severe forms of sexual offending behaviour. In our study, most of the attributions did not refer to severe forms of sexual offending behaviour but to sexualized challenging behaviour (e.g. making inappropriate sexual comments). Although similar for all three types of CB, one important finding of this study concerns the attributional dimension stable/unstable. More specifically, for incidents in which a support staff member was identified as the agent, the participants largely tended to attribute the causes of CB to unstable factors, thus suggesting the possibility of change. In contrast, when a client was identified as the agent, support staff members did not always see a possibility for change (i.e. they were more likely to rate the cause of CB as stable). This is an important aspect in interactions between support staff and clients, as attributing CB to stable causes might trigger passivity in both clients and staff. In this case, the support staff members participating

in our study might not have provided adequate feedback on the behaviour of the clients in the incidents that they described, as they thought that clients were unable to change their behaviour, thus potentially reducing the effect that they could have on the behaviour of their clients. Educating support staff to recognize that CB can be the product of interaction between the person exhibiting the CB and the surrounding environment might generate important insights into the interpretation and management of CB on the part of their clients. This is plausible, given the results reported by Williams and colleagues (2012), indicating that it is possible to change support staff attributions after training.

The results further indicate that it is possible to distinguish seven common attributional styles (in this study, operationalized as a composition of the scores on the five attributional dimensions). Interestingly, 40% of the attributional styles consisted of the stable, global and internal dimensions. Experiencing challenging behaviour might be a negative event for support staff. The phenomenon of attributing negative events to stable, global and internal causes has been hypothesized as being “depressogenic”, assuming that neither support staff nor clients can do much to prevent such events (Abramson et al., 1989). Given the potentially major impact of CB on support staff, it is logical to expect that support staff members might have difficulty understanding and responding to CB (Whittington & Burns, 2005) and that they are likely to experience fear, sadness or other negative emotions (Bromley & Emerson, 1995; Zijlmans, Embregts, Bosman, & Willems, 2012), in addition to feeling threatened (van den Bogaard, Nijman, Palmstierna, & Embregts, 2018a), emotionally exhausted (Mills & Rose, 2011; Rose, Horne, Rose, & Hastings, 2004) and stressed (Mitchell & Hastings, 2001). In this study, we focus on the attributional styles of support staff without relating them to data on other aspects (e.g. depression or emotional exhaustion). In future research, these variables should also be incorporated into the analyses.

The findings of this study should be considered in light of several limitations. First, we interviewed only support staff members who were working with people with mild to borderline intellectual functioning about their attributions regarding CB. In light of evidence from vignette-based studies that the severity of the ID contributes to the attributions of support staff (e.g. Tynan & Allen, 2002), this implies that these results might not be generalizable to populations of people with more severe ID. Moreover, based on the notion that CB is an interaction between the client and the environment, future studies should also include interviews with clients concerning their views regarding the causal dimensions of their CB. Second, we asked support staff members to rate the incidents of aggressive behaviour, SIB and SCB that they remembered most vividly, regardless of when these incidents had occurred. The passing of time might have influenced the ways in which the participants thought about the reported incidents (and the causes and triggers thereof). Future research should focus on incident interviews concerning recent incidents experienced by both the support staff and clients involved, thereby generating more accurate information on the causal dimensions of CB from two perspectives. Furthermore, although we drew distinctions between three types of CB (i.e. aggressive behaviour, SIB

and SCB), the data did not allow us to differentiate between specific types (e.g. verbal and physical aggression). Different types of aggressive behaviour are likely to have different impacts on support staff (van den Bogaard, Nijman, Palmstierna, & Embregts, 2018a), thus, possibly generating different attributions. For this reason, it would be interesting to distinguish between different types of aggressive behaviour in future studies. Finally, the results should be interpreted in light of the limited evidence that staff attributions actually influence staff responses. Although several theories hypothesize a relationship between cognitions about CB and staff behaviour (e.g. cognitive-behavioural theory and attribution theory), not all studies support this hypothesized relationship (e.g. Jones & Hastings, 2003).

In summary, the results of this study indicate that, in addition to differences in attributions of support staff regarding causal dimensions of three types of CB (i.e. aggressive behaviour, SIB and SCB), attribution styles also differ with regard to these types of CB. It is interesting to note that attributions are likely to shape the behaviour of support staff members, as well as their ideas of possible causes of and preventive options for CB (e.g. Hill & Dagnan, 2002; Stanley & Standen, 2000). Training and coaching support staff to understand their own attributions and related behaviour—and, more specifically, to understand their influence on the existence and maintenance of CB—is therefore likely to help improve the effectiveness of support staff in reacting to CB.

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CONFLICT OF INTEREST

No conflict of interest.

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