Accepted Manuscript:

Is the amount of exposure to aggressive challenging behaviour related to staff work-related well-being in intellectual disability services? Evidence from a clustered research design

DOI:	https://doi.org/10.1016/j.ridd.2018.04.006
Please cite as:	Flynn, S., Hastings, R. P., Gillespie, D., McNamara, R., Randell, E. (2017). Is the amount of exposure to aggressive challenging behaviour related to staff work-related well-being in intellectual disability services? Evidence from a clustered research design. Research in Developmental Disabilities.

Is the amount of exposure to aggressive challenging behaviour related to staff work-related well-being in intellectual disability services? Evidence from a clustered research design

Samantha Flynn[1], Richard P Hastings[1,2], David Gillespie[3], Rachel McNamara[3] & Elizabeth Randell[3]

[1] CEDAR, University of Warwick

[2] Centre for Developmental Psychiatry and Psychology, Department of Psychiatry, School of Clinical Sciences at Monash Health, Monash University

[3] Centre for Trials Research, Cardiff University

Abstract

Background: Previous research has demonstrated an association between aggressive challenging behaviour (CB) and reductions in work-related well-being for intellectual disability (ID) support staff. Much of this research has used subjective measures of CB.

Aims: To examine whether exposure to aggressive CB is associated with reduced work-related well-being in staff working in ID residential settings across the UK.

Methods and procedure: A cross-sectional analysis was undertaken as part of a randomised trial; 186 staff from 100 settings completed questionnaires on their CB self-efficacy, empathy, positive work motivation, and burnout. Objective measures of aggressive CB in the preceding 16 weeks were collected from each setting.

Outcomes and results: There was little association between staff exposure to aggressive CB and work-related well-being. Clustering effects were found for emotional exhaustion and positive work motivation, suggesting these variables are more likely to be influenced by the environment in which staff work.

Conclusions and implications: The level of clustering may be key to understanding how to support staff working in ID residential settings, and should be explored further. Longitudinal data, and studies including a comparison of staff working in ID services without aggressive CB exposure are needed to fully understand any association between aggressive CB and staff well-being.

What this paper adds?

This paper presents a unique method of data collection regarding staff exposure to aggressive challenging behaviour (CB), and takes into consideration the clustered nature of the data. In doing so, it is apparent that there is little evidence to suggest an association between staff exposure to aggressive CB and their work-related well-being. The clustering effects identified for two variables (emotional exhaustion and positive work motivation) have not been explored in previous research, and suggest an interesting avenue for future research.

Keywords: intellectual disability, challenging behaviour, work stress, well-being, social care staff, burnout

Highlights

- There was little relationship between exposure to aggressive CB and staff well-being
- Clustering was evident for emotional exhaustion and positive work motivation
- Comparisons between staff who work in settings with and without aggressive CB are needed

1. Introduction

Challenging behaviours (CB) are displayed by approximately one in five adults with intellectual disabilities (ID) known to services (Bowring et al., 2017), and are defined by their negative outcomes or effects, including their impact on other people in the person's environment (Hastings et al., 2013). Such negative impact on other people can include physical harm, risk of such harm, and the restriction of community activities with the person who engages in CB. There are high quality longitudinal research data suggesting that family members (parents and siblings) living with children or adults with intellectual and developmental disabilities who display CB are also at risk of psychological harm (increased stress or mental health difficulties) (e.g., Baker et al., 2003; Hastings, 2007; Hastings et al., 2006; Minnes et al., 2007; Neece et al., 2012). Whether exposure to CB as a part of paid support or care work is associated with psychological harm, is less clear.

Reviewing the research literature more than 15 years ago, Hastings (2002) identified a significant methodological challenge. Families often contain only one child or adult with ID, and so measurement of the extent of their CB and its association with family members' psychological distress is relatively straightforward. However, for staff in paid roles they often provide support to several individuals with ID. At least five methods have been used in the research literature to assess staff "exposure" to CB within multiple individual care settings and to explore relationships with staff work-related psychological outcomes. First, when asked to rate the extent to which they find different factors stressful at work staff rate CB as one of the most stressful (Hatton et al., 1995). However, this is not a direct measure of the extent to which CB causes staff psychological harm. Second, the well-being of staff working in a setting where people with CB reside has been compared to a setting where none of the residents displayed CB (Jenkins et al., 1997). However, there may be many ways in which two such compared services may differ and not just in the presence of CB. Third, CB has been directly rated using a behaviour problems questionnaire for each person in the care environment and exposure is assessed by using these scores for the individual for whom a staff member is the keyworker (Chung et al., 1996). Although a staff member may spend much of their time with an individual for whom they are the keyworker, it is not necessarily the case that during this time the

person engages in CB and also the staff member may be exposed to CB from other individuals in the care setting.

Two other methods have been used to examine exposure to CB amongst staff that more directly account for the fact that multiple individuals may display CB in the care environment. Fourth, staff have been asked to report on the level (or severity) of their exposure to CB over a recent period as associated with any of the individuals in their work environment (Hastings & Brown, 2002). This method addresses the problem of there being multiple individuals who could be the source of CB exposure, but does not capture either frequency of exposure or whether all or only some of the individuals in the care setting engage in CB. The final method of measuring staff exposure has been to ask staff to report on the proportion of the individuals in their care setting who engage in at least some CB (Freeman, 1984). This method again does not capture the frequency/total amount of exposure, although one would expect such dimensions of exposure to increase with the number of people in a setting who display some CB.

Since the Hastings (2002) seminal review, more recent research studies have used variations of the exposure measures outlined above, including: a single item rating of how frequently any of the individuals in the care setting display CB (Hensel et al., 2012; Mutkins et al., 2011); completing a rating scale about the CB of one individual in the care setting only (Chung & Harding, 2009; Mills & Rose, 2011); staff reports of the frequency of their exposure to violence within the care setting (Howard et al., 2009); and severity of exposure using the Hastings and Brown (2002) measure (Hensel et al., 2012). In all of these recent studies, researchers recruited staff from multiple different settings and services. However, none of the studies' analysis approaches recognized that staff were effectively nested within settings and that any exploration of the relationship between exposure to CB and staff work-related psychological variables should take account of the clustered nature of the data. These recent studies have essentially adopted a larger scale version of Jenkins et al.'s (1997) research design comparing staff in one CB service with staff in one non-CB setting. Differences between settings other than the extent of individuals' CB may explain variability in staff experiences and outcomes. As well as impacting staff psychological outcomes, CB can be influenced by staff

variables; for example, staff behaviour can result in or exacerbate CB for people with ID (Hastings et al., 2013).

In the present research, we adopted a research design that allowed for the effects associated with the service in which staff worked to be estimated. Two staff from each of a large number of settings were recruited as a part of a large scale randomized controlled trial (RCT) test of a staff training intervention (Hutchinson et al., 2014; Anonymous, 2017). The data within this paper were collected for the RCT, as such the variables being examined were related to the intended outcomes of the training intervention (to improve staff empathy and attitudes towards people who display CB). In addition, we extended previous research by using a new direct measure of aggressive CB within each care environment. We gathered data on the reported incidents of aggressive CB within the setting, and calculated the mean aggressive CB frequency over a 16 week period per individual residing in the care setting. Finally, we examined a range of staff psychological variables for their association with aggressive CB exposure including staff burnout as used in many previous studies, but also other psychological CB experience variables: staff empathy for people with CB, their efficacy/confidence in providing support to people with CB, and perceived positive experiences as a result of working with people with ID (Lunsky et al., 2014).

2. Method

2.1. Participants

Staff from 118 residences for people with intellectual disabilities in the UK were invited to participate in the research; two staff per setting were invited (one manager/senior support worker and one support worker). For the purposes of the research, participants were categorised as being either a manager or support worker, based on their responses to an initial question; this categorisation was separate to participants' reported job roles/titles. Of those approached, 186 participants from 100 settings completed the questionnaires. Participants worked within Residential Care Homes and Supported Living services, and were from various service providers throughout England and Wales. All settings were screened for study eligibility before they were admitted to the RCT study; screening questions pertained to the number of staff and residents within the setting, and the number of residents who

displayed aggressive CB. Within the settings, there was a median number of nine full-time (IQR: 4 to 15) and four part-time (IQR: 2 to 6) staff per setting, and five (IQR: 3 to 7) residents living within the settings. There was a median number of two residents who displayed some aggressive CB (IQR: 1 to 4 individuals).

The majority of participants were female (78%), and had a mean age of 40 years (SD: 11.5 years). Participants held a co-ordinator role (3.6%), managerial role (47.1%), leader role (13.0%), or support worker role (35.5%), and there was one Assistant Psychologist (0.7%). Participants had been in their current role for a mean of 2.4 years (IQR: 1.0 to 7.0 years), had been working with people with intellectual disabilities for a median of 10.0 years (IQR: 5.3 to 15.0 years), and had worked in Health or Social Care for a median of 11.0 years (IQR: 6.7 to 18.4 years). The majority of participants held a formal health or social care qualification (80%) and worked full-time (89%).

2.2. Materials

2.2.1. Maslach Burnout Inventory – Human Services version. The Maslach Burnout Inventory (MBI; Maslach et al., 1996) human services version is a 22 item measure with three subscales: emotional exhaustion, depersonalisation, and personal accomplishment. The emotional exhaustion subscale measures staff perceptions of being drained from their work (e.g. "I feel fatigued when I get up in the morning and have to face another day on the job"), the depersonalisation subscale determines whether staff have a detached or cynical attitude towards the people they support (e.g. "I worry that this job is hardening me emotionally"), and the personal accomplishment subscale asks about the respondents' level of personal accomplishment at work (e.g. "I feel I'm positively influencing other people's lives through my work"). The MBI items are scored using a 7-point Likert-type scale (1=Never; 2=A few times a year or less; 3=Once a month or less; 4=A few times a month or less; 5=Once a week; 6=A few times a week; 7=Every day). The combination of high scores on the emotional exhaustion and depersonalisation subscales and a low score on the personal accomplishment subscale is indicative of burnout. In previous research (Hastings et al., 2004) the MBI has been found to have good psychometric qualities for staff in intellectual disability settings (emotional exhaustion: $\alpha = .87$; depersonalisation: $\alpha = .68$; personal accomplishment: $\alpha = .76$).

2.2.2. Incidents of Aggressive Challenging Behaviour in Residential Homes. This question serves as a record of aggressive CB within the residential settings. Each service manager was provided with a definition of aggressive CB and was asked to report the total number of recorded incidents of aggressive CB within the service, based on the definition. Aggregated data for each outcome across the service were requested for the 16 weeks preceding participant data collection.

2.2.3. Staff Empathy for People with Challenging Behaviour Questionnaire. The Staff Empathy for People with Challenging Behaviour Questionnaire (SECBQ; Hutchinson et al., 2014) is a five item measure. Items include "I can relate to the everyday problems faced by people with intellectual disability/autism and challenging behaviour", and are scored using a six-point Likert scale (1=Disagree strongly to 6=Agree strongly). A high score on the SECBQ indicates high staff empathy towards people who have CB. Previous research (Hutchinson et al., 2014) has found that the Cronbach's alpha for this scale is good ($\alpha = .72$).

2.2.4. Challenging Behaviour Self-efficacy Scale. The Challenging Behaviour Self-efficacy Scale (CBSE; Hastings & Brown, 2002) is a five item measure, scored on a seven-point Likert scale. Items relate to feelings of confidence, control and satisfaction in dealing with CB, a perception that staff have a positive impact on the CB they deal with, and a rating of how difficult they find it to work with CB. An example of the items is: "To what extent do you feel in control of the challenging behaviours of the people with a learning disability you care for?" A high total score on the CBSE demonstrates that staff have high CB self-efficacy. This scale has been found to have a good level of internal consistency in previous research ($\alpha = .81$) (Hutchinson et al., 2014).

2.2.5. Staff Positive Contributions Questionnaire. The short version (Lunsky et al., 2014) of the Staff Positive Contributions Questionnaire (Hastings & Horne, 2004) has 11 items and measures staff's positive experiences at work. Items are each rated on a four-point Likert scale (1=Strongly disagree to 4=Strongly agree), an example item is "I consider working with people with developmental disabilities to be the reason I am able to cope better with stress and problems." From the scale, two subscale scores can be derived for general positive contributions (5 items) and positive work motivation (3 items). In previous research (Lunsky et al., 2014) the Cronbach's alpha for General positive contributions was .828 and Positive work motivation was .875.

193

194 **2.3. Procedure**

195 The study was approved by the Social Care Research Ethics Committee for England
196 (15/IED08/0030). Staff were recruited as part of a RCT (Anonymous, 2017). Two participants in each
197 setting were sent a full information sheet and were given the opportunity to ask questions about the
198 research. If agreeable to the study, participants provided their written consent and completed a self-
199 report questionnaire. Participants returned the questionnaire to the research team using a FREEPOST
200 envelope or by email.

201

202 **2.4. Analysis**

203 Non-parametric (Spearman's) correlation was used to provide an initial measure of association
204 between staff measures and the number of incidents of aggressive CB per resident over the preceding
205 16 week period. Partial correlations were estimated using Pearson's product moment correlation
206 coefficient, adjusting for staff type (manager/support worker) and length of time staff had worked in
207 their current role. Point biserial correlations are used when one variable is dichotomous (i.e., staff
208 type). The unadjusted Pearson's correlation coefficients are provided to illustrate the impact of the
209 adjustment.

210 Two-level linear mixed models were fitted to account for the clustered nature of staff within
211 residential settings. The models regressed staff measures (SECBQ; CBSE; emotional exhaustion,
212 depersonalisation, personal accomplishment subscales of the MBI; and the positive work motivation
213 subscale of the staff positive contributions questionnaire) onto a categorised version of the incidents
214 of aggressive CB per resident measure. The model also adjusted for staff type and length of time staff
215 had worked in their current role as control variables. For the latter, a natural logarithm transformation
216 was applied to improve model fit. The general positive contributions subscale of the staff positive
217 contributions questionnaire violated regression assumptions and was not amenable to transformation,
218 so is not reported.

219 Regression coefficients are reported alongside 95% confidence intervals and p-values. The
220 intraclass correlation coefficient is also reported for each model. This provides an indication of the

proportion of the variance (in the respective model) that is attributable to the (100 different) work settings.

3. Results

Table 1 provides the correlation between staff measures and exposure to aggressive CB. Both adjusted and unadjusted coefficients show that there was negligible correlation between these variables.

[INSERT TABLE 1 HERE]

As shown in Figure 1, the distribution of the incidents of aggressive CB per resident variable was highly skewed. Incidents per resident ranged from 0 to 292 (mean = 12, median = 4). This exposure variable was therefore categorised into four roughly equal-sized groups for analysis purposes (Table 2).

[INSERT FIGURE 1 HERE]

[INSERT TABLE 2 HERE]

Table 3 describes the associations between exposure to aggressive CB and staff measures of empathy, self-efficacy, burnout, and positive work perceptions. There was no evidence of an association between exposure to aggressive CB and any of these variables. There was negligible clustering by residential home for the models focusing on depersonalisation, personal accomplishment (ICC = 0 for both), and self-efficacy (ICC = 0.02). The ICC for staff empathy was 0.10 (i.e. 10% of the total variation in the staff empathy model was attributable to differences between residential homes). The models focusing on emotional exhaustion and positive work motivation produced the largest ICCs (0.33 and 0.40 respectively), indicating that these measures may be more similar within staff working in the same settings (compared to staff in other settings).

[INSERT TABLE 3 HERE]

4. Discussion

This cross-sectional analysis explored the association between exposure to aggressive CB and work-related well-being in a broad sample of ID staff in the UK who had some exposure to CB within their work environment. Our findings show little evidence to suggest that exposure to aggressive CB is associated with staff psychological variables. This is contrary to some recently published research (e.g., Hensel et al., 2012; Howard et al., 2009; Mills & Rose, 2011) and previous expectations that such a relationship is likely to exist (Hastings, 2002). However, not all published research has found an association between exposure to CB and staff work-related well-being (e.g., Chung et al. 1996; Chung & Corbett, 1998; Mutkins et al., 2011).

The present study is not conclusive evidence that there is no association between exposure to aggressive CB and staff work-related well-being. Within this sample, all participants were exposed to some degree of aggressive CB within their work setting. Mutkins et al. (2011) also found no relationship between burnout and well-being in ID support staff; similarly to the present study, all participants in Mutkins et al.'s study were exposed to at least some CB. The key level of exposure may be between no exposure to CB at work and some/any exposure (cf. Jenkins et al., 1997). Future research should include a comparison group of ID support staff who are not exposed to aggressive CB to ascertain whether staff who are exposed to some aggressive CB are at a greater risk of negative psychological consequences than staff who are not exposed to any aggressive CB within their work environment. Current research, including our own, is limited by the lack of longitudinal designs (although we measured exposure independently of staff report, and for a period that preceded staff responses to questionnaire measures). It is possible that gradual exposure to CB over time, and the associated negative emotional reactions experienced (Hastings, 2002; Mossman et al., 2002), does affect staff well-being. It may also be possible that we did not see a main effect association as staff workplace support impacts the hypothesised relationship between exposure to aggressive CB and work-related wellbeing, although we did not directly measure staff workplace support in this study.

We found a strong clustering effect for two of the staff variables (emotional exhaustion and positive work motivation). The remaining two dimensions of burnout (depersonalisation and personal accomplishment) did not show this clustering effect. This finding requires replication, but may have important implications for understanding and supporting staff well-being at work in ID services. Emotional exhaustion in particular may be more influenced by the environment in which staff work. Similarly, positive work motivation was putatively influenced by the environment in which staff work. Based on the reported ICCs, setting level (as opposed to staff-focused) well-being interventions (e.g., team building activities, staff social and emotional support systems within settings) may be more likely to affect staff emotional exhaustion and positive work motivation. Setting level interventions would be worth exploring in future research.

A large sample of ID staff working in residential settings were recruited to this study from multiple service providers across the UK. Although the sample was large, the representativeness of the sample is in question given the RCT recruitment context. As this study emanated from a RCT, the factors under consideration were restricted to those within the larger study; other factors may also be important to consider (e.g., the duration or severity of aggressive CB, contextual factors, emotional intelligence), besides those within this paper (Grey, Hastings, & McClean, 2007; Knotter et al., 2013; Willems, Embregts, Hendriks, & Bosman, 2016). Despite limitations, the present study is the first to account for within-setting clustering effects when exploring the relationship between exposure to aggressive CB and staff work-related well-being. The reported ICCs show that designs accounting for clustering are crucial since for some staff variables, the effect of clustering within settings was substantial. Although reliant on formally completed incident records, our measure of exposure to aggressive CB in this study was an objective direct exposure measure and was based on records completed in real time (as opposed to relying on staff memory of their exposure). Of course, there is a possibility that some of the reports were inaccurate. However, the sample size precluded obtaining meaningful reliability data for these data given the significant resources that would be required across over 100 residential settings. Thus, it is important to bear in mind that we may have found the

investigated association between challenging behaviour and staff outcomes with higher quality reports about challenging behaviour.

4.1. Conclusions

We found no evidence of an association between exposure to aggressive CB and staff work-related well-being in ID staff in the UK who have some exposure to CB within their work environment. The clustering seen within the data for two variables indicates that emotional exhaustion and positive work motivation are more substantially influenced by working environment than the other variables within this study. This may be an important factor in understanding how organisations can best prepare and support their staff on an individual and service-wide basis. Future research should consider longitudinal designs, and ideally comparisons should be drawn between settings where there is exposure to aggressive CB and where there is no exposure to CB at all.

Acknowledgements

We would like to thank the Who's Challenging Who? trial team, and in particular Rosie Knight, for assisting in the data collection for this study.

Funding source

National Institute for Health Research School for Social Care Research (CO88/T14-035/WURH-P64). This report is independent research by the National Institute for Health Research School for Social Care Research. The views expressed in this publication are those of the author(s) and not necessarily those of the NIHR SSCR, NHS, the National Institute for Health Research or the Department of Health.

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403 **Table 1:** Correlation between staff measures and exposure to aggressive challenging behaviour

Staff measure	Incidents of aggressive CB in the previous 16-weeks (per resident)	
	Unadjusted correlation*	Partial correlation†
Empathy towards people with an intellectual disability and CB	-0.028 (0.033)	0.039
CB self-efficacy	0.033 (0.160)	0.165
Emotional exhaustion	0.068 (-0.050)	-0.050
Depersonalisation	-0.008 (-0.063)	-0.066
Personal accomplishment	0.052 (0.045)	0.049
General positive contributions	-0.086 (-0.210)	-0.204
Positive work motivation	-0.043 (-0.239)	-0.231

404 *Based on Spearman's rank correlation coefficient (PPMCC in brackets for direct comparison with the
405 partial correlations). †Based on Pearson's product moment correlation coefficient. Adjusted for length
406 of time staff have worked in the setting and staff type (manager or support worker).

407

408 **Table 2:** Summary statistics for the incidents of aggressive challenging behaviour per resident

Percentile Group of incidents of aggressive CB per resident	N	Mean	SD	Median	Minimum	Maximum
1	52	0.33	0.30	0.27	0.00	0.90
2	48	1.97	0.95	1.73	1.00	3.80
3	52	6.77	2.26	6.21	3.83	11.25
4	50	39.40	58.32	17.00	11.80	292.00
Total	**202**	**12.05**	**32.92**	**3.83**	**0.00**	**292.00**

409

410

411 **Table 3:** Multivariable linear mixed models of the association between incidents of aggressive
412 challenging behaviour per resident and staff measures

Staff measures	Model estimates*	Incidents of aggressive CB per resident			
		0 to 0.9	1 to 3.8	3.83 to 11.25	11.8 to 292
Staff empathy	**Coefficient**	Ref	0.06	-0.37	-0.29
(186 staff within	**(95% CI)**		(-1.47 to 1.58)	(-1.83 to 1.09)	(-1.77 to 1.20)
100 settings)	**p-value**			0.929	
	ICC			0.10	
Self-efficacy	**Coefficient**	Ref	1.30	-0.01	0.98
(185 staff within	**(95% CI)**		(-0.37 to 2.97)	(-1.63 to 1.60)	(-0.65 to 2.62)
100 settings)	**p-value**			0.285	
	ICC			0.02	
Emotional	**Coefficient**	Ref	1.31	2.51	1.54
exhaustion	**(95% CI)**		(-3.07 to 5.69)	(-1.71 to 6.73)	(-2.76 to 5.85)
(184 staff within	**p-value**			0.710	
100 settings)	**ICC**			0.33	
Depersonalisation	**Coefficient**	Ref	-0.29	0.14	0.11
(184 staff within	**(95% CI)**		(-1.45 to 0.88)	(-0.98 to 1.26)	(-1.04 to 1.25)
100 settings)	**p-value**			0.887	
	ICC			0.00	
Personal	**Coefficient**	Ref	0.53	1.74	0.80
accomplishment	**(95% CI)**		(-1.98 to 3.05)	(-0.69 to 4.16)	(-1.68 to 3.27)
(185 staff within	**p-value**			0.558	
100 settings)	**ICC**			0.00	
Positive work	**Coefficient**	Ref	-0.70	0.59	0.04
motivation	**(95% CI)**		(-2.06 to 0.66)	(-0.73 to 1.90)	(-1.31 to 1.38)
(185 staff within	**p-value**			0.323	
99 settings)	**ICC**			0.40	

413 *Model estimates adjusted for staff type (manager / support staff) and length of time staff had worked
414 in their role (in years).

415

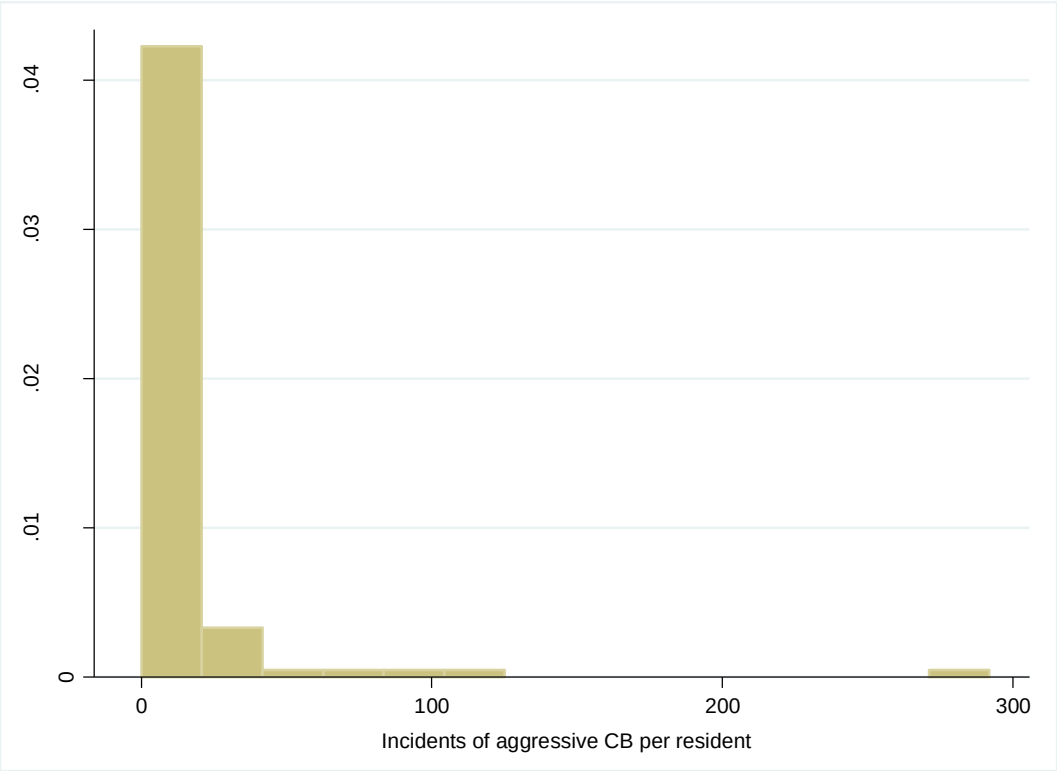

Figure 1: Distribution of incidents of aggressive challenging behaviour per resident