A Description of Staff-resident Interactions in Assisted Living

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Abstract

Positive social and care interactions are vital to understand and successfully accomplish the daily care needs of the residents in assisted living (AL) and optimize their quality of life. The purpose of this study was to explore and describe the staff-resident interactions in AL. This descriptive analysis utilized baseline data in a randomized trial that included 379 residents from 59 AL facilities. The majority of the interactions observed were positive; almost 25% were neutral or negative. Most interactions were care-related (31.9%) or one-on-one (27.4%), occurred with nursing (40.2%) or support staff (e.g., dining aide; 24.6%), and involved close interpersonal distance (64.6%). Future research should focus on the transition of neutral or negative interactions to positive and explore the factors that might influence neutral and negative interactions. Additionally, innovative approaches are needed to optimize interactions amid physical distancing in the context of the COVID-19 pandemic.

Keywords

staff–resident interactions; communication; assisted living; long-term care; COVID-19

Introduction

In the past three decades, assisted living (AL) has flourished as a preferred residence option for older adults who are unable to live independently but do not require nursing home care (Harris-Kojetin et al., 2019; Kaskie et al., 2015; Polzer, 2013). Approximately 811,500 individuals were living in 28,900 AL settings in the U.S. in 2016 and 93.4% were 65 years or older (Harris-Kojetin et al., 2019). A high proportion of AL residents require assistance with bathing (63.6%), dressing (48.2%), and other activities of daily living (ADL; Harris-Kojetin et al., 2019). Nearly 70% of AL residents have some form of cognitive impairment (Zimmerman et al., 2014); 40% have Alzheimer's disease or other dementias (Harris-Kojetin et al., 2019), which often result in agitation, resistiveness to care and other behavioral and psychological symptoms of dementia (BPSD) during care (Hyde et al., 2007;

Kaskie et al., 2015). Resident behavioral symptoms in addition to functional disability may increase the complexity of care and influence daily interactions between staff and residents in AL (Gaugler, 2005; Hyde et al., 2007).

Staff-resident interaction refers to any verbal or non-verbal exchange between staff and residents (Machiels et al., 2017; Paudel et al., 2019). While there is evidence of meaningful positive interaction of staff with the residents (Hartmann et al., 2018; Zimmerman et al., 2005), use of ineffective care approaches by long-term care staff is also widely discussed in literature (Bird et al., 2016; Lung et al., 2016; Savundranayagam, 2014). Rushing residents during care and juggling multiple responsibilities at the same time, speaking rapidly to or at residents, negative touching (e.g., quickly removing clothes to bathe a resident), discouraging and restricting activity to prevent falls (e.g., constantly telling residents to sit down as they might fall), limiting verbal or non-verbal contact (e.g., simply giving a meal tray or clearing the resident table without saying anything), and scheduling care without appropriate regard to resident choices (e.g., being assigned a bath time) are some examples of ineffective approaches staff use during care interactions with residents. Such ineffective approaches can negatively influence resident's mood, willingness to participate in care being provided by staff, or quality of life (Belzil & Vézina, 2015; Colón-Emeric et al., 2016; Eggenberger et al., 2013; Herman & Williams, 2009; Kolanowski & Litaker, 2006).

One contributor to use of ineffective care approaches by staff is lack of adequate knowledge and skills to recognize and interpret resident behaviors (Ryvicker, 2011; Savundranayagam et al., 2007) which may be related to licensing and training requirements in AL. The AL facilities are regulated at the state level and vary by size, services, case mix of residents, skill mix of staff, and policies (Carder et al., 2015; Guo & McGee, 2012; Kelly et al., 2018). There are fewer licensing and training requirements for AL staff with only a few states required to hire licensed staff (Carder et al., 2015; Guo & McGee, 2012; McKenize et al., 2012). In 2016, 83.3% of staff in AL settings were comprised of unlicensed direct care workers (Harris-Kojetin et al., 2019). These unlicensed staff assist older adults with physical and cognitive impairments in activities of daily living (ADL) such as bathing and dressing and instrumental activities of daily living (IADL) such as medication management and meals (Carder et al., 2015; Harris-Kojetin et al., 2019). Yet, staff are often inadequately prepared for the responsibility of this challenging and inadequately supervised role (Guo & McGee, 2012; Kelly et al., 2018).

The negative or neutral interaction between staff and residents can also be a consequence of the complex interaction between the resident's cognitive status and task-focused approach of staff. Due to neurocognitive disorders and resulting aphasia (impaired language), motor apraxia (impaired motor skills), and agnosia (impaired perception), residents have challenges with speaking and understanding speech, performing precise movements and gestures, and recognizing the care interactions from staff (Ellis & Astell, 2017; Forsgren et al., 2016; Hamdy et al., 2018; Hubbard et al., 2002; Zadikoff et al., 2005). Staff need to utilize respectful listening and observation to understand resident feelings, fulfill their needs and desires, and appreciate and address unmet needs. However, staff are often expected to and acknowledged for expedited completion of caregiving tasks (e.g., bathing, dressing) and hence engage in hurried, brief, fragmented interactions required to complete

the task (Gilster et al., 2018; Savundranayagam, 2014). While residents who are reserved and quiescent might generally adapt to such interactions, extroverted residents might be less adaptable and misinterpret the interactions as threatening and express their distress through physical behaviors such as hitting, resisting care, or via inappropriate vocalizations. This increases the likelihood the resident will be exposed to more negative and neutral interactions (Burgio et al., 2000; Kolanowski & Litaker, 2006; Lachs et al., 2011; Pitfield et al., 2011; Savundranayagam, 2014).

The interactions between staff and residents and the quality of the interactions are integral to the quality of life of residents in long-term care settings including AL facilities (Anderson et al., 2016; Bird et al., 2016). Positive meaningful interactions address resident needs and preferences and help to improve mood (Tappen & Williams, 2009), promote food intake (Liu et al., 2019), increase resident engagement (Hartmann et al., 2018), minimize behavioral symptoms (Teri et al., 2005), and reduce use of antipsychotic drugs thereby improving the overall well-being of the resident (Anderson et al., 2016). Conversely, negative or neutral interactions do not address residents needs and preferences adequately and negatively impact resident function and well-being (Anderson et al., 2016; Machiels et al., 2017). Negative interactions are most likely to exacerbate resident behaviors (Belzil & Vézina, 2015; Savundranayagam, 2014), increase the risk of staff-resident injuries during care (Boye & Yan, 2016; Lachs et al., 2011; Pitfield et al., 2011) and contribute to staff burnout and dissatisfaction and consequently turnover (Hayes et al., 2006; Pitfield et al., 2011; Squires et al., 2015) affecting the work ability of staff (Pitfield et al., 2011) and quality of life of the resident (Bird et al., 2016).

A considerable amount of work has focused on evaluating resident-caregiver interactions in long-term care with a special attention to residents with cognitive impairment or dementia. Most of the work has been done in nursing home settings and shown that while there are a higher number of positive interactions, negative and neutral interactions also persist in these settings with rates ranging from 16% to 28% (Chenoweth & Jeon, 2007; Fritsch et al., 2009; Hartmann et al., 2018; Paudel et al., 2019). The purpose of this study, therefore, was to explore and describe the interactions between staff and residents in AL. This study will specifically examine the characteristics and the quality of staff-resident interactions in AL. While the characteristics of staff-resident interactions provide descriptive information of interactions such as interaction location and interpersonal distance during interactions, the quality of interactions provides information on the frequency of positive, negative, and neutral interactions. Findings related to the quality of staff-resident interactions in AL can guide existing efforts and future work needed to optimize interactions between staff and residents in AL. This is particularly important to consider in the post COVID-19 pandemic era, as well as future emergency or disaster situations, in which staff-resident interactions may have to be altered to optimize safety and disease prevention while providing person centered care that considers other clinical outcomes (e.g., quality of life, behavioral symptoms associated with dementia).

Methods

Study Design, Sample, and Setting

This was a descriptive cross-sectional study utilizing baseline data from the second and third cohorts recruited in the Dissemination and Implementation of Function Focused Care for Assisted Living Using the Evidence Integration Triangle (FFC-AL-EIT) study. The baseline data was collected between 2017 and 2019. The focus of FFC-AL-EIT is to help AL settings integrate function-focused care into routine care of AL residents. Function-focused care is a philosophy of care that encourages older adults to engage in their highest level of physical activity during all care interactions. The two cohorts enrolled a total of 550 residents from 59 AL facilities in the U.S. across Maryland, Pennsylvania, and Massachusetts. The current study included data from 379 residents to focus on staff-resident interactions in AL. Data from 171 participants were excluded because the interactions recorded for the residents did not involve interaction with staff.

The study was approved by a University-based ethics committee. To be eligible to participate in the study the AL facilities were required to: (1) have at least 25 beds; (2) identify a nurse (direct care worker, licensed practical nurse, or registered nurse) to be the champion and work with the study team in the implementation of FFC-AL-EIT; and (3) access email and websites via a phone, tablet, or computer. In the current study, the participating sites had 91 ($SD = 66$) beds on average, majority were for profit ($n = 41$, 69%), were equally distributed between urban and rural areas, and had a mean staffing ratio of direct care workers to resident of 11.50 ($SD = 4.55$) to 1, a mean of 45.83 ($SD = 39.82$) hours of nursing oversight per week and 45.47 ($SD = 12.91$) hours of assisted living manager oversight per week. Residents were eligible to participate if they were: (1) 65 years or older; (2) able to speak English; (3) living in the AL at the time of recruitment; and (4) able to recall at least one of the three words per the Mini-Cog (Borson et al., 2003).

Data Collection and Measures

Data collection was completed through chart review, interview and observation by trained research evaluators who had prior experience working with residents in long-term care settings and their caregivers and families. The study variables include residents' demographic characteristics (age, gender, race, ethnicity, and marital status), cognition, and quality of staff-resident interactions in AL.

Data on age, gender, race, ethnicity, and marital status was obtained from resident charts/ electronic records at the facility. The Saint Louis University Mental Status Exam (SLUMS) was used to evaluate the cognitive status of the participants. The SLUMS is a 30-point 11 question cognitive screener, which includes items to assess orientation, memory, attention, and executive function of older adults through interview. Cut-off for diagnosis of the level of cognitive impairment or dementia is based on whether the resident had high school education (normal: 27–30, mild neurocognitive disorder: 21–26, and dementia: 1–20) or less than high school education (normal: 25–30, mild neurocognitive disorder: 20–24, and dementia: 1–19; Tariq et al., 2006). Prior research provided evidence of reliability and validity of SLUMS (Feliciano et al., 2013; Tariq et al., 2006).

The quality of staff-resident interactions was assessed using the Quality of Interaction Schedule (QuIS; Dean et al., 1993). Data on QuIS was collected based on direct observation of each staff-resident interaction by a research evaluator for approximately 20 minutes. Some observations were completed in the morning and lunch hours while some were completed in the afternoon or post lunch during activity hours. The research evaluators followed the residents participating in the study during their interaction with staff and sought permission from both staff and resident while doing so. QUIS was developed to assess the quality of staff-resident interactions in long-term care settings. The first part of the QuIS focuses on descriptive aspects of the interaction such as interaction location (e.g., dining and resident room), interaction situation (e.g., care-related and structured or unstructured group activities), interpersonal distance (e.g., less than 1.6 ft and 1.6 to 2.6 ft), type of staff or person(s) resident is interacting with (e.g., nursing and activity staff), and level of resident participation (e.g., active and passive). The second part focuses on the type or quality of staff-resident interactions. An evaluator observes and codes a staff-resident interaction as "positive social," "positive care," "neutral," "negative protective," or "negative restrictive" using a dichotomous response (present/not present). Positive social interactions involve good constructive conversation and companionship that is more than necessary to complete the task; positive care interactions involve limited interactions necessary to complete the task and or to keep residents safe and prevent from danger; negative protective interactions are those interactions that lack reassurance, comfort, and appropriate regard to the resident; negative restrictive interactions are those that oppose residents freedom of choice or action without a valid reason; and neutral interactions are brief interactions that lack verbal or non-verbal contact with residents (Dean et al., 1993). A detailed description of the QUIS with the definition of each type of interaction has been previously published (Paudel et al., 2019). The QuIS was quantified in the current study and scoring was done such that "positive social" was a 2 if present, "positive care" was a 1 if present, "neutral" was 1 if not present, "negative protective" was a 1 if not present, and "negative restrictive" was a 2 if not present (Resnick et al., 2019). The QUIS scores range from 0 to 7 with higher scores indicating a better, or more positive, quality of interaction between the staff member and the resident (Resnick et al., 2019). Since development, QuIS has been tested and used in both acute and long-term care settings as a valid and reliable measure (Dean et al., 1993; Mclean et al., 2017). Prior testing provided evidence of inter-rater reliability of the QuIS based on Cohen's kappa ranging from 0.60 to 0.96 (Dean et al., 1993; Jenkins & Allen, 1998). Additional testing provided evidence of internal consistency of the quantified QUIS with item separation of 6.33 and item reliability of .98 based on Rasch analysis (Resnick et al., 2019). In the current study, two evaluators observed the interaction in a subsample, that is, 10% of the enrolled participants and the inter-rater reliability was 100% for positive, negative, and neutral interactions.

Data Analysis

Statistical analyses were completed using Statistical Package for the Social Sciences, SPSS version 26.0. Descriptive statistics were used to report participant demographics and the interaction characteristics including interaction location, interaction situation, the interpersonal distance, person(s) resident is interacting with, and the level of resident

participation. Continuous variables were described with means, standard deviation and range while categorical variables were presented with frequencies and percentages.

Results

Sample Descriptive

Table 1 provides the descriptive characteristics of the residents participating in the study. The mean age of the residents (N = 379) was 88.18 years [standard deviation (SD) = 7.74)] and the mean score on the SLUMS was 15.85 (SD = 4.78) indicating dementia. The majority of the residents participating in the study were female (n = 269, 71.1%), Caucasian (n = 370, 98.1%), and non-Hispanic (n = 375, 99.2%). More than half of the participants were widowed, divorced, or separated (n = 232, 71.8%) with some individuals reporting being married and a few never married.

Characteristics of Staff-resident Interactions in AL

As shown in Table 2, the majority of the interactions observed were in the resident's room (n = 170, 39.7%) or dining room (n = 122, 28.5%) and the rest occurred in the hallway, living room, or other spaces such as the nurses' station, outside porch area, open sitting areas, bathrooms, and tub/shower rooms. The staff-resident interactions in the settings were mostly care-related such as during bathing, dressing or helping with a meal (n = 121, 31.9%) followed by one-on-one unstructured social interactions (n = 104, 27.4%). The interpersonal distance between the staff and resident for almost a half of the interactions was as close as less than 1.6 ft (n = 82, 21.6%) or 1.6 ft to 2.6 ft (n = 91, 24.0%). More than half of the observed staff-resident interactions in AL occurred with nursing staff (i.e., registered nurse, licensed practical nurse, and nurse aides; n = 175, 40.2%) or support staff, such as dining and housekeeping aides (n = 107, 24.6%). Most residents in AL were actively engaged with the staff during the interactions (n = 341, 90.0%).

Quality of Staff-resident Interactions in AL

As can be seen in Table 3, a total of 705 staff-resident interactions were recorded for 379 residents during the observation period. Overall, 342 (92.4%) of the interactions were positive social, 272 (75.8%) were positive care, 75 (20.7%) were neutral interactions, 12 (3.2%) were negative protective and 4 (1.1%) were negative restrictive. On average, the quality of staff-resident interactions in the AL were positive (mean = 6.3, SD = 1.03).

Discussion

This study examined the quality of staff-resident interactions in AL and the characteristics of the interactions using baseline data from a larger randomized trial. Our study found that the quality of interactions between staff and residents in AL were mostly positive. The prevalence of positive social and positive care interactions was 92.4% and 75.8%, respectively. This is similar to what has been reported in prior work done in nursing home, residential care, and acute care settings (Barker et al., 2016; Bridges et al., 2019; Chenoweth et al., 2009; Fritsch et al., 2009; Zimmerman et al., 2005). The prevalence of positive social and positive care interactions ranged from 73% to 84% in the long-term and acute care

settings (Barker et al., 2016; Chenoweth & Jeon, 2007; Hartmann et al., 2018; Paudel et al., 2019).

Although most of the interactions observed in this current work and prior studies were positive (Barker et al., 2016; Hartmann et al., 2018; Paudel et al., 2019), the findings from this study and prior work suggest that there still is room for improvement to decrease negative or neutral interactions in care settings. In the current study, approximately 21% of the staff-resident interactions in AL were neutral, 3.2% were negative protective, and 1.1% were negative restrictive. Prior research in long term care facilities and acute care settings have reported rates as high as 23% for neutral, 9% for negative protective, and 10% for negative restrictive interactions (Barker et al., 2016; Chenoweth & Jeon, 2007; Hartmann et al., 2018; Paudel et al., 2019). As mentioned previously, the negative and neutral interactions in AL could be attributed to the unlicensed status and consequently, the inadequate training of AL staff on care and communication with residents in AL, particularly those with cognitive impairment or dementia.

There are concerns that care interactions may transition to being more neutral if not negative due to some of the challenges associated with interactions following precautions necessary due to COVID-19 (Iaboni et al., 2020; Padala et al., 2020; Zimmerman et al., 2020). For example, in addition to staff turnover and shortage, there are communication challenges due to the wearing of masks and distance challenges with regard to trying to maintain a safe distance from a resident for their protection as well as the protection of the staff. Settings of care need to continue to focus on reducing neutral and negative interactions using innovative approaches such as simulation (O'Brien et al., 2018), roleplay (McCallion et al., 1999), workshops (McGilton et al., 2017), web enhanced and on-site coaching as part of the educational programs to help staff self-evaluate their daily interactions with the residents and identify negative and neutral interactions used knowingly or unknowingly in daily care.

Similarly, using positive statements, avoiding authoritative speech, showing empathy, maintaining eye contact, projecting a calm body posture, listening respectfully, and observing responses and non-verbal cues from residents are some supportive strategies to teach staff to help facilitate positive social and care interactions with residents with cognitive impairment or dementia (Clare et al., 2013; Medvene & Lann-Wolcott, 2010; Teri et al., 2005; Williams et al., 2003). Providing see-thru masks to facilitate communication when medically appropriate, and external amplification devices to help with communication are also options to improve interactions in the context of COVID-19 pandemic era. Utilizing these and other similar strategies to improve staff-resident interactions and quality of care in long-term care resulted in the decrease of negative and neutral interactions by almost 7% (28%–21.3%; (Hartmann et al., 2018) and 20% (27.3%–7.3%; Chenoweth & Jeon, 2007) in prior work.

In examining the characteristics of the staff-resident interactions in AL, we observed that most of the interactions were care-related or one-on-one and occur with nursing or support staff (e.g., kitchen aide, housekeeping staff). These findings support existing research noting that the AL staff make essential contribution to the typical needs of the residents by providing assistance with ADLs such as bathing, dressing, feeding, toileting and IADLs

including housekeeping and medication management (Carder et al., 2015; Harris-Kojetin et al., 2019). Similarly, the finding that most interactions are care-related also support existing research noting that long-term care staff are often engaged in task-focused interactions with the residents (Saldert et al., 2018; Savundranayagam, 2014).

In the current study, almost half of the interactions in AL involved a close interpersonal distance (i.e., <2.6 ft) between staff and residents; approximately two-thirds (i.e., 64.6%) involved a distance less than 4 ft. Research suggests that older adults prefer greater interpersonal distance (Sorokowska et al., 2017). Additionally, current guidelines on preventing the spread of COVID-19 infection recommend physical distancing of 6 ft. To consider the preference of older adults and more importantly, to protect the residents from infection, staff caring for older adults in long-term care will need to provide positive interactions done by maintaining a safe distance. While distancing might be impossible for personal care activities (e.g., bathing and dressing) at times, it could be achieved with Function Focused Care (FFC) approach (Resnick & Galik, n.d.). Function Focused Care provides a philosophy of care in which residents are helped to optimize their participation in personal care. Appropriate verbal cueing and role modeling, encouraged in FFC for example, may mean the caregiver can be safely apart from the resident yet providing the cues needed for the resident to complete the task. Additionally, replacing touch with smile or a wave or other positive body language during social interactions, playing familiar music to engage residents, and using simulated presence (i.e., playing an individualized video or audio recording of family members and friends) to reassure residents can further facilitate safe, positive interactions. It might be helpful to assess the difference in interpersonal distance by the type of care and or staff and teach appropriate communication techniques to the caregivers accordingly.

An important finding from this study was that a majority of the residents in AL actively participated in the interactions. Research suggests that it is possible for staff to maintain a therapeutic communication and relationship with the residents with cognitive impairment or dementia (Williams & Tappen, 1999). Further, prior research has also noted that residents with cognitive impairment retain the need for meaningful interactions (Williams et al., 2003) and are able to actively engage in interactions with the staff, even more so when staff identify the opportunities for engagement (Hartmann et al., 2018; Paudel et al., 2019).

Limitations

This study was limited as it included a sample of residents in relatively large assisted living facilities in only three states all of whom had consented to participate in a study focused on optimizing function and behavior. The findings cannot be generalized to all AL settings. Further, the study participants were mostly white, female, and non-Hispanic or Latino. As with any observation measure it is possible that the staff performed in a more positive, socially desirable manner than they would if interacting with a resident without an objective observer. The number of negative or neutral interactions could be higher during non-observation periods particularly given the less stringent licensing and training requirements in AL and staff tendencies to engage in brief, fragmented interaction with residents while juggling multiple responsibilities and prioritizing task completion.

To minimize potential bias, the research evaluators did not specifically indicate that they are evaluating interactions but instead maintained that observations are to learn about challenges related to care and communication in AL. In addition, the research evaluators maintained appropriate distance during observations and whenever possible, for example, during observation in dining hall, activity area, and other common areas did not mention particularly which residents were being observed. Future researchers could also utilize other methods such as evaluation of video recordings of interaction to minimize the bias. Despite these limitations this study provides useful descriptive information on the current ways in which staff interact with residents in AL and encourage the development and implementation of education and training approaches to decrease neutral and negative interactions in AL.

Conclusion

The ability of long-term care staff to maintain meaningful positive social and care interactions with residents, particularly those with cognitive impairment or dementia, is vital to understand and successfully accomplish the daily care needs of the residents and further improve their quality of life. Almost 25% of the interactions observed were neutral or negative suggesting that it may be helpful to educate staff and or implement behavior change interventions to transition these interactions from neutral or negative to positive interactions. Future research should focus on exploring the factors (e.g., resident agitation or aggression; staff gender, experience, or attitude; facility size, ownership, policy, and environment) that might influence these negative and neutral interactions. Further, innovative approaches are needed, such as using Function Focused Care, see-thru masks and other communication techniques to help with physical distancing in the context of the COVID-19 pandemic while improving the quality of the care interactions that should occur between residents and staff in AL settings.

Acknowledgments

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Table 1.

Descriptive Statistics of the Sample.

Resident characteristics (N = 379)	Mean (SD) or n (%)
Age (years), range: 65–105	88.18 (7.74)
SLUMS, range: 1–24	15.85 (4.78)
Gender (%, female)	269 (71.1)
Race (%)	
White/Caucasian	370 (98.1)
Black/African American	7 (1.9)
Ethnicity	
Hispanic/Latino	3 (0.8)
Non-Hispanic/Latino	375 (99.2)
Marital status (%)	
Married	63 (19.5)
Never married	28 (8.7)
Widowed/divorced/separated	232 (71.8)

Note. Numbers may not add to actual *N* due to missing values.

SLUMS = Saint Louis University Mental Status Examination.

Table 2.

Characteristics of Staff-resident Interactions in AL.

Characteristics of interactions	*n* (%)
Interaction location	
Resident room	170 (39.7)
Dining room	122 (28.5)
Hall	42 (9.8)
Living room	41 (9.6)
Other	53 (12.4)
Interaction situation	
Care-related	121 (31.9)
One-on-one	104 (27.4)
Small group	88 (23.2)
Large group	63 (16.6)
Family visit	3 (0.8)
Person(s) resident interacting with/type of staff	
Nursing staff	175 (40.2)
Activity staff	95 (21.7)
Support staff	107 (24.6)
Other staff	59 (13.5)
Interpersonal distance	
4+ ft	134 (35.4)
2.6–4 ft	72 (19.0)
1.6–2.6 ft	91 (24.0)
<1.6 ft	82 (21.6)
Level of participation	
Active	341 (90.0)
Passive	38 (10.0)

Note. *N* (sample) = 379. Numbers may not add to actual N due to missing values or, multiple choice options.

Table 3.

Quality of Staff-resident Interactions in AL.

Quality of interactions (mean = 6.3, SD = 1.03)	Present n (%)	Not present n (%)
Positive social	342 (92.4)	28 (7.6)
Positive care	272 (75.8)	87 (24.2)
Neutral	75 (20.7)	287 (79.3)
Negative protective	12 (3.2)	360 (96.8)
Negative restrictive	4 (1.1)	368 (98.9)

Note. N(sample) = 379; N(interactions) = 705. Numbers may not add to actual N due to missing values. A total of 705 interactions were present for 379 residents.