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Emotional availability in dyads of nursing aide - resident with dementia: Old tool, new perspective

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Abstract

Objectives: This study examined the emotional availability of nursing aide-resident with dementia dyads in a long-term care-facility. Emotional availability refers to the nursing aide's sensitivity toward the resident, structuring their interactions in a non-intrusive and non-hostile manner and the resident's responsiveness to and involvement of the nursing aide. The study evaluated the reciprocity in the emotional availability of nursing aides and the residents and examined whether emotional availability varies with the level of difficulty of taking care of the residents and with the context of the interaction.

Method: The study was conducted in three wards in one long-term care-facility. Twenty nursing aides and 40 residents took part in the study. Each nursing aide was videotaped during feeding,

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structured and unstructured interactions, with two residents, one that was nominated by the head nurse as difficult to take care of and one that was nominated as easy to take care of. The interactions were coded using the emotional availability scales.
Results: Linear mixed-effect model analyses indicated that higher emotional availability of nursing aides was related to higher emotional availability of the residents. Nursing aides' emotional availability did not vary between "difficult" and "easy" residents or across the three interaction contexts. "Difficult" residents involved their nursing aides less than "easy" residents.
Discussion: The study documented the reciprocal nature of the interaction between nursing aides and residents with dementia. It suggests that nursing aides have an important role in promoting residents' responsiveness and involvement.

Keywords
Emotional availability, dementia, nursing aides, communication

Emotional availability is a well-established empirical model used for assessing the quality of caregiving relationships (Biringen et al., 2014). It refers to the emotional health and positivity of such relationships. This study used the emotional availability model to evaluate the relationship formed between nursing aide-resident with dementia dyads. In doing so, we aimed to enrich the person-centered care approach regarding the communication between caregivers and residents in long-term care-facilities.

The person-centered care approach

There is a clear call for clinicians and theorists to view the nursing aide and the resident with dementia in long-term care-facilities as a dyad (McGilton et al., 2017; Sprangers et al., 2015). Compared to other staff members in long-term care-facilities, nursing aides have the most frequent interactions with residents, as they are responsible for helping the residents in all daily care tasks including mobility, bathing, clothing, and feeding (Estabrooks et al., 2015). Although nursing aides are responsible for several residents in their respective ward, there are many opportunities for dyadic, one-on-one interactions (Page et al., 2018).

Person-centered care communication is considered an important component in the nursing aide-resident relationship (Machiels et al., 2017). The person-centered care approach emphasizes the importance of relating to the person with dementia as an individual with a unique identity and personality (Kitwood, 1997). Communication between caregivers and persons with dementia should recognize, validate, and respond to their social and physical needs in attuned and appropriate ways (Williams et al., 2018). This approach emphasizes that despite the impairments of persons with dementia, their participation as partners in reciprocal communication and social interactions should be encouraged as much as possible (Stanyon et al., 2016; Williams et al., 2018). Person-centered care communication was found beneficial for residents with dementia and nursing aides alike. It is associated with higher overall quality of life of residents, better performance of nursing aides' daily care tasks, and lower sense of burden in work (McGilton et al., 2017; Page et al., 2018).

Nevertheless, promoting person-centered care communication with residents is often challenging due to several barriers. The first is the priority given to addressing the physical and medical needs of residents. As a result, the communication of the nursing aide-resident dyads is frequently limited to "task oriented" interactions and social interactions are not recognized as essential part of the work

schedule (Machiels et al., 2017; Ward et al., 2008). The second barrier is stereotyped views that nursing aides may hold regarding residents as incompetent communication partners. Hence, communication styles of nursing aides are often patronizing and controlling (e.g., "elderspeak"; Williams et al., 2009) and are characterized by "talking to" rather than "talking with" their residents (Sprangers et al., 2015). The third challenge is the limited training, and support that nursing aides receive to facilitate communication with residents (Estabrooks et al., 2015), especially when working under excessive workload (Westermann et al., 2014).

Significant challenges may also stem from the severity of the dementia of the residents. Cognitive impairment is often associated with difficulties in verbal communication (Lanzi et al., 2017), which in turn may lead to elevated levels of aggression and agitation as a way of communication (Cohen-Mansfield et al., 2014). These difficulties are usually termed as neuropsychiatric symptoms. They are not only disrupting to the residents but may also lead to increased emotional exhaustion and burnout of the nursing aides (Okure & Langa, 2011; Sink et al., 2005). In some cases, neuropsychiatric symptoms may lead to nursing aides' depersonalization of the residents, which in turn may trigger a vicious cycle that elevates further the neuropsychiatric symptoms of the residents (Jeon et al., 2012). This negative cycle may also contribute to a reduction in the quantity and quality of dyadic interactions (Ward et al., 2008). Taken together, these challenges often serve as a source of tension and frustration for nursing aides, limiting their opportunities to establish meaningful interactions with the residents (Page et al., 2018).

Assessment of person-centered care communication

Many researchers have advocated using the person-centered care approach to assess and improve nursing aide-resident communication (Morris et al., 2017). Intervention studies include efforts to improve the communication skills of nursing aides that are based on understanding residents' point of view and building opportunities for communication. These skills relate to verbal behaviors, such as using one-step instructions, repeating and rephrasing sentences, and using the residents' names (Eggenberger et al., 2013). Non-verbal behaviors include eye contact, smiling, affective touch, calm intonation, and singing during caregiving tasks (Hammar et al., 2011; Williams et al., 2018). As for the residents, several communication characteristics are often assessed. Verbal features include sharing personal information about themselves, contributing to conversations, and using intelligible utterances (Cohen-Mansfield et al., 2014; Savundranayagam et al., 2016). Non-verbal features include positive affect, eye contact and smile toward the nursing aide, engagement in activities, and responsiveness to social contacts (Cohen-Mansfield et al., 2014).

Another important aspect of person-centered care communication is reciprocity, reflecting the dyadic nature of the interaction (Stanyon et al., 2016). Research on reciprocity in nursing aide-resident communication focused mostly on non-verbal behaviors. Communication behaviors of nursing aides typically included relaxed and flexible behaviors toward residents. Communication behaviors of residents typically involved calmness and cooperation (Burgener et al., 1992; Wells et al., 2000). Other studies included similar affective measures for both nursing aides and the residents, such as the frequency of eye contact and smiling (van Weert et al., 2005). These studies suggested that mutual sharing in the interaction of nursing aide-resident dyads may rely mainly on the affective system, which remains intact even in advanced stages of dementia (Magai et al., 2002). Interestingly, when relating to verbal communication, studies usually assessed only the nursing aides' behavior (van Weert et al., 2005; Williams et al., 2018). This may reflect the impaired verbal communication abilities of residents with dementia and the assumption that nursing aides are

responsible for filling the "missing steps" in the communication with residents (Cameron et al., 2020; Williams et al., 2018).

From person-centered care communication to emotional availability

The aim of the current study was to enrich the person-centered care communication approach by presenting a dyadic model of caregiving—care-receiving relationships. The study proposed to conceptualize the communication between nursing aides and residents with dementia using the emotional availability model (Biringen et al., 2000). This model was conceived by developmental psychologists, and it refers to the capacity of dyads to share a positive emotional relationship (Biringen et al., 2014). Emotional availability reflects caregivers' accurate reading of their care-receivers' signals and prompt responsiveness to them in a warm and supportive manner without intrusiveness or hostility, as well as the care-receivers' responsiveness to and involvement of their caregivers (Biringen et al., 2014).

Emotional availability involves mutual sharing of emotions and reciprocity between caregivers and care-receivers. As a result, care-receivers, immature or limited in resources as they may be, are nonetheless viewed as active contributors to the interactive exchange rather than passive recipients (Ziv et al., 2000). Yet, the caregivers are considered the "navigators" of the interaction, and caregivers who are emotionally available are thought to foster their care-recipients' responsiveness and involvement (Oppenheim, 2012).

Emotional availability was examined in the context of typically developing children as well as children with disabilities and their parents and teachers. Across these varied populations and in more than 22 countries, emotional availability was found to be associated with the well-being of the child, as measured by secure attachment, better emotional self-regulation, and fewer behavior problems (Biringen et al., 2014).

The emotional availability assessment was also used successfully in two adult contexts: One study assessed the emotional availability in therapist-client dyads. The study showed that emotional availability in the therapeutic relationship was associated with clients' perception of a more meaningful therapeutic alliance (Söderberg et al., 2014). Another study found emotional availability was applicable and useful in measuring the quality of interactions between adults with profound intellectual and multiple disabilities and their direct support staff in residential support services (Hostyn et al., 2011). This study documented a high correlation between the emotional availability of the staff and the emotional availability of their clients, signifying the reciprocity in the dyad.

Using the emotional availability framework in the current study provided an opportunity to address aspects of the nursing aide-resident relationship that received little research attention thus far. First, it is not clear whether emotional availability is a relationship-specific or a personality characteristic of the caregiver, who, as noted above, is thought to set the tone of the interaction (Oppenheim, 2012). Put differently, little is known about the extent to which caregivers - care-receivers' emotional availability is stable for a particular caregiver or varies across the caregiver's different care-receivers. The gerontology literature points to challenges in interacting positively with residents who have more severe impairments in communication skills and elevated neuropsychiatric symptoms (Cohen-Mansfield et al., 2014; Sprangers et al., 2015). Thus, it could be that the emotional availability of a nursing aide depends on how difficult it is to take care of the residents. Nevertheless, we are not aware of studies directly examining this question.

A second question relates to the context in which emotional availability is assessed. Emotional availability was evaluated in various interactions, including play, naturalistic conditions, problem solving, and teaching tasks (Hostyn et al., 2011; Söderberg et al., 2014 and see a review in

Biringen et al., 2014). However, most studies focused only on one context (e.g., interaction using challenging objects such as putting blocks in a box in the study of adults with profound intellectual and multiple disabilities and their direct support staff; Hostyn et al., 2011 or a dialogue in the study of psychotherapist-client dyads; Söderberg et al., 2014). Thus, there is a need to examine whether emotional availability varies across various daily contexts, which may more accurately capture the caregiver - care-receiver relationships. In the gerontology literature, person-centered care communication was usually assessed in routine care tasks (Machiels et al., 2017). Examining various contexts of interactions, which are not limited only to caregiving tasks, may provide insights regarding the nursing aide–resident relationships.

The current study

To the best of our knowledge, our study was the first to use the emotional availability model to quantify the interactions between nursing aides and their residents with dementia in a long-term care-facility. The study addressed three questions. First, following the tenets of the emotional availability model, we examined whether nursing aides' emotional availability would be associated with the emotional availability of their residents. Second, to examine whether emotional availability is relationship-specific and whether it is shaped by both partners, we employed a quasi-experimental design and compared the emotional availability of each nursing aide with two of her/his residents. One was rated by the head nurse as difficult to communicate with and as not cooperative in routine care tasks and one was rated by her as easy to communicate with and as cooperative ("difficult resident" and "easy resident" herein). In parallel, we examined whether the emotional availability of the "difficult" and "easy" residents with the same nursing aide would vary. Finally, we explored whether dyads would vary in their emotional availability across three contexts: feeding (i.e., a routine care task), and structured and unstructured interactions (task-free one-on-one interactions).

Method

Participants

The study was conducted in three wards of a long-term care-facility for older adults with dementia. Twenty nursing aides volunteered to participate in the study and completed written consent. Inclusion criteria were speaking the local language and working in the ward for at least 3 months to ensure the nursing aides had meaningful acquaintance with the residents. Twelve (60%) of the nursing aides were female, their average age was 48.50 years (SD = 11.99), and their mean of years of work in this institution was 7.35 (SD = 4.98).

Forty residents, whose custodians provided a written consent, participated in the study. The residents gave their verbal consent to participate in the study, as accepted in the authors' country. Because of ethical constrains, the research team did not have a direct access to the residents' medical files. Information regarding participating residents was therefore provided to the research team by the institution. Fifty-eight percent of the participating residents were female. Their mean age was 81.20 years (SD = 8.40), and they were hospitalized in this institution for 2.85 years (SD = 1.94) on average. Based on assessments conducted by the institution's medical staff, using the Mini-Mental State Examination (MMSE; Folstein et al., 1975) and the Activity of Daily Living index (ADL; Katz et al., 1963), 35% of the participants were diagnosed with a severe cognitive impairment and were bed ridden (i.e., MMSE $\leq$ 9 and ADL $<$ 3) and 65% showed mild-moderate cognitive impairment

and needed support in some aspects of their daily functioning (i.e., MMSE range = 10–24, and ADL ≥ 3). The institution did not provide the residents' exact scores of MMSE and ADL.

The head nurse in each ward classified the participating residents from her ward into two groups ("difficult"/"easy"). The classification was based on the level of difficulty experienced in communicating with the residents and the level of their cooperation in daily care tasks. Residents in the "easy" and "difficult" groups did not vary in any of the above background variables ($.053 < p < .870$).

Procedure

Each nursing aide was observed with two residents that were randomly selected, one from the group designated as "easy" in her/his ward and one from the group designated as "difficult" in her/his ward. The nursing aides were unaware of the criteria for choosing the residents with whom they were observed and their assignment by the nurse as "easy" or "difficult."

After completing a demographic questionnaire, each nursing aide was filmed interacting with each of her/his two residents in a random order. Dyads were observed in a quiet room during three interactions. The first involved *feeding* during lunchtime and lasted about 6 mins. This type of interaction was chosen as a representative task in long-term care-facilities, which is often challenging for both nursing aides and residents (Chang & Roberts, 2008). Nursing aides were instructed to help the residents during the meal as they usually do. The second, *structured interaction*, involved an interaction around props used in the institution—dominoes and a booklet with a series of photographs, which are considered appropriate stimuli for residents with dementia (van der Ploeg et al., 2013). The nursing aides were invited to engage the residents in 5–7 mins of interaction in a way that would be pleasant for both. The third, *unstructured interaction*, was conducted without any props (Feniger-Schaal & Oppenheim, 2013; Sher-Censor et al., 2017). Although not considered a routine part of the daily schedule in the institution, unstructured task-free encounters are recommended for the benefit of nursing aides and residents (Cohen-Mansfield et al., 2011; Ward et al., 2008). Nursing aides were guided to interact in any way that would be pleasant for both the nursing aide and the resident (e.g., massage and singing). This interaction lasted 3 mins. The order of the three interactions was randomized across dyads. Ethics approval was provided by the institutional review board (IRB) of the participating university (#080/15).

Measures

The Emotional Availability Scales. The Emotional Availability Scales Biringen et al. (2000) include four caregiver scales and two care-receiver scales. The caregiver scales were as follows: *Sensitivity*, which ranges from 1 (highly insensitive) to 9 (highly sensitive) and describes the nursing aide's ability to read the resident's signals correctly and respond promptly and appropriately. *Structuring*, which ranges from 1 (non-optimal structuring) to 5 (optimal structuring) and reflects the degree to which the nursing aide follows the resident's lead. It assesses the extent to which the nursing aide provides scaffolding or a frame for the interaction in an unforced way and whether her/his suggestions are mostly picked up by the resident, which indicates that the nursing aide knows what "works" for the resident. *Non-intrusiveness* ranges from 1 (intrusive) to 5 (non-intrusive) and refers to the quality of "being" there for the resident while respecting her/his autonomy. *Non-hostility* ranges from 1 (overt hostility) to 5 (no observed hostility). It refers to lack of negative affect toward the resident. The resident's scales include the following: *Responsiveness*, which ranges from 1 (unresponsive) to 7 (highly responsive) and assesses the resident's eagerness to engage with the

nursing aide and follow her/his suggestions, as well as display of pleasure in interacting with the nursing aide. The second resident's scale, *Involvement* ranges from 1 (uninvolving) to 7 (highly involving) and assesses the degree to which the resident initiates interaction with the nursing aide, engaging her/him as an audience or as a source of support (for more information regarding the scales, see Table 1).

Table 1. Scoring criteria for emotional availability scales.

Emotional Availability Scales (range)	Lower score criteria (range)	Higher score criteria (range)
Sensitivity (1–9)	The nursing aide is unresponsive to the resident, which may be reflected in a harsh or affectively flat style. The nursing aide's behavior may show sudden shifts and inconsistencies (1–5.5).	The nursing aide shows flexible and adaptable behaviors that are appropriate to the situation. Miscommunications are handled by her/him smoothly and effectively. The nursing aide expresses positive affect towards the resident, verbally and non-verbally (6–9).
Structuring (1–5)	The nursing aide has difficulties in structuring the interaction, which can be seen in repetitive attempts to structure that are not successful and in "backing off" from the resident, leaving the resident with no guidance or support (1–3.5).	The nursing aide provides appropriate guidance and succeeds in providing scaffolding or a frame for the interaction in an unforced way (4–5).
Non-intrusiveness (1–5)	The nursing aide shows over-directiveness and tends to interrupt the resident's activity. This may be manifested in both verbal and physical ways (1–3.5).	The nursing aide is available to the resident and follows her/his lead while respecting the resident's autonomy and without interrupting her/him (4–5)
Non-hostility (1–5)	The nursing aide shows overt or covert hostility. Overt hostility is reflected in negative affect, expressed vocally or facially. Covert hostility includes rolling the eyes, impatience, or boredom (1–4.5).	No evidence of negative affect toward the resident is seen (5).
Responsiveness (1–5)	The resident shows low emotional and behavioral responsiveness to the nursing aide's initiatives. The resident may look reluctant to engage with the nursing aide, as manifested in verbal and non-verbal behaviors (1–4.5).	The resident engages with the nursing aide and follows her/his suggestions or bids for exchange. The resident expresses positive affect towards the nursing aide (5–7).
Involvement (1–5)	The resident shows non-optimal orientation toward the nursing aide. Little interest is expressed in the interaction with the nursing aide and even less interest is expressed in initiating new exchanges with her/him (1–4.5).	The resident initiates interaction with the nursing aide as an audience or as a source for help. S/he invites the nursing aide to join her/him by looking, talking, etc. (5–7).

Nursing aides' emotional availability scores (see Table 2) were highly interrelated (.57 ≤ r ≤ .86, .001, ≤ p ≤ .004). As we did not have specific hypotheses regarding each of these scales, they were standardized and aggregated based on their mean. The correlations between residents' scores were high (.66 ≤ r ≤ . 88, p ≤ .001) except for one correlation between "easy" residents' responsiveness and involvement scores in the feeding episode which was not significant (r = .36, p = .062). Therefore, they were not aggregated for primary analysis.

A team of four graduate students were trained to code the emotional availability of the dyads. Coders did not take part in data collection and were blind to all other data about the participants. To maintain blindness, a coder that coded the interaction of a nursing aide with an "easy" resident did not code the interaction of the same nursing aide with the "difficult" resident. Forty-eight percent of the interactions were double coded to establish inter-rater reliability. Inter-rater reliability based on intraclass correlation coefficient (ICC) was .83 for the nursing aides' aggregated emotional availability scores, .90 for residents' responsiveness scores, and .76 for residents' involvement scores. Disagreement between coders was discussed until a consensus was reached.

Planned analysis

Study variables were sufficiently normal to render parametric statistics valid (i.e., skewness < 2, kurtosis < 6; Curran et al., 1996). There was a dependency in the data because the level of difficulty of the residents and the three interaction contexts were nested within the residents' emotional availability scores, and these in turn were nested within nursing aides' emotional availability scores. This dependency is best handled by linear mixed-effect models using R and the lme4 package (Bates et al., 2014). This type of analysis was used to assess the effects of nursing aides' emotional availability, level of difficulty of the residents ("difficult"/"easy"), and interaction context (feeding, structured and unstructured interactions) on residents' emotional availability scales (responsiveness and involvement). The interaction context and the level of difficulty of taking care of the residents were considered as fixed effects to increase the explained variance and reduce the probability that the fixed effect of nursing aides' emotional availability would explain differences in residents' emotional availability scores (if any existed). We considered the variability associated with each nursing aide by computing a random intercept for each one of them. All random variables were assumed to have a zero mean and a Gaussian distribution. We ran an analysis of variance with Sattartwaite approximation for degrees of freedom using the lmerTest package (Kuznetsova et al., 2017). The data were also analyzed using the linear mixed-effect model to assess the effect of level of difficulty of taking care of the residents and interaction on nursing aides' emotional availability.

Results

Preliminary analyses

One resident passed away before data collection took place. The feeding interaction of another resident that was classified as "difficult" was not videotaped, because she refused to stay in the room where the interactions were videotaped. Thus, analyses were based on a sample of 38–39 residents and their nursing aides.

Descriptions of study variables are presented in Table 3. Interestingly, as shown in Table 2, nursing aides received on average a score above 5.5 in sensitivity and scores of 4 and above in structuring, non-intrusiveness, and non-hostility, which indicate that they were emotionally available (Biringen et al., 2000; see Table 1). The average responsiveness and involvement scores of

Table 2. Means and standard deviations for nursing sides' emotional availability in the context of the interaction and the level of difficulty of the residents.

	Interaction context					
	Feeding		Structured interaction		Unstructured interaction	
	"Easy" (n = 20)	"Difficult" (n = 18)	"Easy" (N = 20)	"Difficult" (n = 19)	"Easy" (n = 20)	"Difficult" (n = 19)
Sensitivity	6.21 (0.18)	6.03 (1.18)	6.21 (0.81)	6.00 (0.98)	6.33 (1.09)	6.42 (0.87)
Structuring	3.90 (0.80)	3.92 (0.72)	3.92 (0.57)	3.79 (0.79)	4.03 (0.88)	4.11 (0.74)
Non-intrusiveness	4.38 (0.86)	4.28 (0.81)	4.53 (0.50)	4.40 (0.51)	4.70 (0.44)	4.37 (0.78)
Non-hostility	4.90 (0.35)	4.83 (0.34)	4.88 (0.30)	4.90 (0.30)	4.95 (0.15)	4.92 (0.25)

Table 3. Means and standard deviations for nursing aides' and residents' emotional availability by the type of the interaction and the level of difficulty of the residents.

	Interaction context					
	Feeding		Structured interaction		Unstructured interaction	
	"Easy" (n = 20)	"Difficult" (n = 18)	"Easy" (n = 20)	"Difficult" (n = 19)	"Easy" (n = 20)	"Difficult" (n = 19)
	M (SD)	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*
Nursing aides' emotional availability (Z-scores)	.05 (.87)	−.05 (.88)	.09 (.71)	−.09 (.90)	.06 (.76)	−.06 (.88)
Residents' responsiveness	4.60 (.70)	4.25 (.83)	4.88 (.67)	4.37 (1.15)	4.93 (1.10)	4.78 (1.08)
Residents' involvement	5.08 (.6)	4.50 (.90)	4.68 (.77)	4.18 (1.42)	5.03 (.87)	4.62 (1.11)

the residents were for the most part above 4.5 in (see Table 3), which as explained in Table 1, reflected that they were at or just below the emotionally available range.

The correlations between background variables and emotional availability scores ranged between $-0.48 \leq r \leq .45$ and were not significant ($.052 \leq p \leq .65$), with one exception. Lower cognitive impairment of "difficult" residents was associated with their higher responsiveness in the feeding interaction ($r = .53$, $p = .023$).

Primary analyses

Linear mixed-effect models were examined next. We did not control in these analyses for residents' cognitive impairment for two reasons. First, this single effect could be coincidental, as it was the only significant correlation out of the 144 that were examined (i.e., three nursing aides' + five patients' background variables X three emotional availability scores X three episodes X two levels of difficulty status of patient). Second, there should be at least 10 participants per independent variable in mixed-effects models (Peduzzi et al., 1996). Hence, only three independent variables could be included in the analyses.

Examination of the first question of the study revealed that nursing aides' emotional availability was related to residents' responsiveness, F (1, 80.74) = 62.19, $p < .001$. Higher nursing aides' emotional availability was associated with higher residents' responsiveness, $\beta = 0.73$, $SE = 0.09$, t (80.74) = 7.88, $p < .001$. Nursing aides' emotional availability was also related to residents' involvement, F (1, 80.01) = 24.23, $p < .001$. Higher nursing aides' emotional availability was associated with higher residents' involvement, $\beta = 0.51$, $SE = 0.10$, t (80.01) = 4.92, $p < .001$.

As for the second question of this study, the examination of differences in nursing aides' emotional availability by the difficulty status of their residents indicated that their emotional availability did not vary by the level of difficulty of their residents, F (1, 94.32) = 1.64, $p = .203$. However, a marginally significant effect was found for the level of difficulty of residents on residents' responsiveness F (1, 95.96) = 3.61, $p = .060$, and a significant effect was found for the level of difficulty on residents' involvement, F (1, 96.28) = 7.50, $p = .007$. Involvement scores of "difficult" residents were lower than those of "easy" residents, $\beta = -0.42$, $SE = 0.15$, t (96.28) = −2.73, $p < .001$.

Finally, as for our third question regarding the effects of the context of the interactions, emotional availability of nursing aides and residents' responsiveness and involvement did not vary

Table 4. Linear mixed-effect models predicting residents' emotional availability by nursing aides' emotional availability, interaction context, and residents' level of difficulty (N = 38–39).

	Responsiveness				Involvement			
Variable in analysis	β	*SE*	*df*	t	β	*SE*	*df*	*T*
Nursing aides' emotional availability	.73	.09	80.74	7.88***	.51	.10	80.01	4.92***
Interaction context	.18	.16	92.90	1.07	−.35	.19	93.27	−1.92
Level of residents' difficulty	−.26	.13	95.96	−1.90	−.42	.15	96.28	−2.73***

***p < .001.

across feeding, structured, and unstructured interactions, F. (2, 93.08) = 2.09, p = .135; F. (2, 93.77) = 1.16, p = .315; and F (2, 94.11) = 2.09, p = .129, respectively (for all coefficient values, see Table 4).

Discussion

The first aim of the study was to examine the reciprocity in the nursing aide–resident with dementia dyad, one of the main tenets of emotional availability and of the person-centered care approach. The results showed that nursing aides' emotional availability was associated with the emotional availability of their residents. The more sensitive the nursing aides were toward their residents' signals and needs, the more they structured the interaction in a non-intrusive and non-hostile manner—the more the residents under their care displayed pleasure in interacting with them, followed their suggestions for turn taking, and initiated interactions with them. These links support the conceptualization of the relationship formed between nursing aides and their residents as bi-directional (Ayalon, 2015; McGilton et al., 2017). Importantly, as suggested by the emotional availability model, emotionally available interactions foster positive cycles in the dyadic relationship (Biringen et al., 2014). When efforts to communicate with care-receivers are rewarding, as reflected in the residents' responsiveness and involvement, caregivers may be motivated to interact more with their care-receivers. This may have helped nursing aides to get to know their residents better and facilitated further their sensitive responses, which in turn may have elevated residents' responsiveness to and involvement of the nursing aides.

The second question we explored addressed the extent to which emotional availability is relationship-specific or an individual characteristic of the caregiver. The quasi-experimental design of this study enabled an investigation of this issue by measuring the emotional availability of each nursing aide and two of her/his residents designated independently as "easy" or "difficult" to take care of. The results indicated that nursing aides' emotional availability was not different across the "easy" and "difficult" residents. This may suggest that nursing aides who demonstrate higher emotional availability are capable of adapting to the interaction styles of their residents and respond to their residents' emotional and social needs in an appropriate way, to a certain extent irrespective of the level of challenge the residents present. Importantly, nursing aides' averaged emotional availability scores indicated they were emotionally available, even when interacting with "difficult" residents. This finding indicates the importance of the interpersonal skills of nursing aides while interacting with their residents (Luff, 2010), even though their work is considered as "body work", fulfilling mainly physical and instrumental tasks (Kelly, 2014).

Despite the severity of residents' impairments, their average responsiveness and involvement scores indicated that they were engaged in the interaction. For the most part, they responded

positively to the nursing aides' suggestions and tried to involve their nursing aides in further interactions. In fact, their average emotional availability scores were similar to those documented among adult clients toward their therapists (Söderberg et al., 2014). These findings are consistent with the call to reduce the stigma that residents with dementia are non-responsive and incompetent communication partners (Kim et al., 2019; Sprangers et al., 2015).

At the same time, "difficult" residents showed somewhat lower responsiveness than "easy" residents, although the difference was only marginally significant. Furthermore, "difficult" residents showed significantly lower levels of involvement compared to those nominated as "easy". From the emotional availability perspective, involvement is more demanding than responsiveness because it reflects the residents' ability to actively initiate new exchanges in the interaction in verbal and non-verbal ways, such as requests that their nursing aides would help them (Biringen et al., 2014). This result is not surprising as the nomination of residents as "difficult" was based on the nursing staff reports that they were communicating less effectively. The fit between the nomination of residents as "difficult" by the nursing staff and the low involvement level they showed may suggest that the emotional availability scales are sensitive in capturing inherent communication constraints of residents.

Finally, emotional availability was examined in three interaction contexts. The first was feeding, an everyday task in long-term care-facilities considered as challenging for the nursing aides and residents alike (Chang & Roberts, 2008). The two other contexts are not considered as routine caregiving tasks: one was interacting using props suited for people with advanced dementia, the other was an unstructured interaction using no props. Both contexts were recommended by researchers as favorable interactions for residents with dementia and were associated with positive mood and reduced agitation of residents (Page et al., 2018; van der Ploeg et al., 2013). We found that these different contexts of dyadic interactions did not yield different emotional availability scores. Thus, even a challenging task, such as feeding, can allow positive emotional exchanges. At the same time, this finding points to the importance of integrating in the schedule of long-term care-facilities social one-on-one interactions with and without props, which may benefit nursing aides and residents alike.

Several limitations of the study should be mentioned. The first is the small sample size. It is possible that additional significant effects would have been found with a larger sample. Second, the study was conducted in one institution, which is known in the high-level training it provides to the nursing aides. Studies in additional institutions and in different countries are needed to examine the generalizability of the findings. The third limitation is that all measures were concurrent, which precluded causal interpretations. Our use of a quasi-experimental design that involved observations of each nursing aide with two residents supports the notions that nursing aides are the "navigators" of the interactions and that emotionally available nursing aides promote the emotional availability of their residents (Biringen et al., 2014; Williams et al., 2018). This issue should be further examined with longitudinal or intervention designs. If such studies will support the conclusion that the emotional availability of nursing aides shapes the residents' emotional availability, it will suggest that nursing aides can promote the communication abilities and positive affect of residents, both of which are important components in residents' quality of life (Cohen-Mansfield et al., 2011; Magai et al., 2002). Consequently, it may point to an urgent need to provide training and ongoing guidance to nursing aides that focus on their emotional communication with their residents (Estabrooks et al., 2015).

In sum, this study points to the relevance of the emotional availability model to the context of nursing aides-resident relationships and is consistent with the person-centered care approach. The study shows that residents can be competent communicative partners within the constraints imposed

by their condition (Biringen, 2014). By being attuned to their residents' style of interaction and needs, nursing aides who are more emotionally available may help elicit their receivers' responsiveness and involvement in social interactions. The findings highlight the need for further research to deepen our understanding of the determinants of emotional availability in nursing aide-residents with dementia dyads. Finally, the results point to the importance of developing interventions to enhance the emotional availability of nursing aides and their residents, thus improving the well-being of both.

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Author contributions

All authors conceived of the study, participated in its design, and took part in drafting the manuscript. LC participated in coordination, data collection and coding, and conducted statistical analyses. ESC supervised and participated in coding and statistical analyses. AD oversaw the video filming. All authors read and approved the final manuscript.

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