Persistent pain is estimated to affect 80% of nursing home residents (Ersek & Jablonski, 2014) and is often unrecognized and under-treated (Ersek & Carpenter, 2013). Cognitive impairment affects more than 60% of nursing home residents (Centers for Medicare & Medicaid Services [CMS], 2015) and complicates pain assessment because patients’ memory, comprehension, and alterations in pain processing and/or speech deficits challenge the use of the self-report, which is considered the gold standard of measuring pain (Herr, Coyne, McCaffrey, Manworren, & Merkel, 2011; Monroe et al., 2017). Certified nursing assistants (CNAs) provide 80% to 90% of residents’ direct care in nursing homes (Rice, Coleman, Fish, Levy, & Kutner, 2004) and spend three to four times more time with residents than licensed nursing staff (Gist & Hetzel, 2004).

Certified Nursing Assistants’ Understanding of Nursing Home Residents’ Pain

ABSTRACT
Pain is a significant problem for nursing home residents, yet its assessment is complex. Certified nursing assistants (CNAs) spend significant time with residents, but their role in understanding residents’ pain is largely unexplored. The current qualitative grounded theory study analyzed interviews with 16 CNAs who described their experiences caring for residents in pain. Findings revealed how CNAs understood, recognized, interpreted, and responded to residents’ pain. CNAs were found to differentiate between pain that they considered normal (everyday pain) and new pain judged significant enough to report to licensed nurses. CNAs exhibited a holistic understanding of pain, knowledge of strategies to identify and interpret pain, and actions to independently mitigate and report pain. Although additional confirmatory data are needed, the differentiation made between everyday and reportable pain may have important clinical implications suggesting that CNAs should always report to a licensed nurse when they perceive or suspect that residents have pain. [Journal of Gerontological Nursing, 44(4), 29-36.]

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Consequently, CNAs may know the resident better than anyone else, and may be in the best position to identify and interpret pain-related behavioral changes in residents who are cognitively impaired. However, CNAs do not have formal training in pain assessment. This practice–knowledge gap may result in inadequate pain management, especially for residents who are cognitively impaired. The gap also raises questions about the role of CNAs in identifying pain in nursing home residents.

Although limited, some evidence exists that CNAs have the potential to understand residents’ pain. Through spending time with, giving intimate care to, and forming emotional attachments with residents, CNAs were familiar with residents’ pain. Through spending time with, giving intimate care to, and forming emotional attachments with residents, CNAs were familiar with residents and could recognize deviations from normal behaviors that indicated and anticipated pain (Cohen-Mansfield & Creedon, 2002; Mentes, Teer, & Cadogan, 2004). Furthermore, CNAs were described as “taking action” to assess, report, and manage pain (Blomqvist, 2003; Liu, 2014; Mentes et al., 2004). These actions included making sure medications were given, working gently, distracting residents, and inspecting residents for causes of pain. When measured against residents’ own reports of pain, CNAs’ assessments were generally more accurate than other assessments, including those of licensed nurses (Engle, Graney, & Chan, 2001; Ersek, Polissar, & Neralde, 2011; Fisher et al., 2002; Horgas & Dunn, 2001).

Barriers to involving CNAs in pain management have been identified. Although the contribution of CNAs to pain assessment using tools designed specifically for use in nursing homes was explored, the pragmatic uses of these tools were generally confounded by the complex nature of residents’ pain and time constraints (Buhr & White, 2006; Cervo et al., 2012; Kaasalainen et al., 2011; Snow et al., 2004). In studies that evaluated CNAs’ practice and educational needs in relation to pain management, changing practice was found to be difficult because of residents’ characteristics and attitudes, as well as staffs’ deep-rooted beliefs and prejudices regarding pain. CNAs reported feeling insecure about pain assessment; their lack of understanding and poor access to information created feelings of isolation and inhibited quality pain assessment (Clark, Fink, Pennington, & Jones, 2006; Ersek, Kraybill, & Hansberry, 1999; Mezinskis, Keller, & Luggen, 2004; Molony, Kobayashi, Holleran, & Mezey, 2005).

The purpose of the current study was to describe how CNAs understood, recognized, interpreted, and responded to residents’ pain.

METHOD

Grounded theory, a methodology that provides inductive guidelines for exploring complex social processes, was used. Underlying the study were understandings that: pain is subjective and includes biological, psychological and social components; behaviors may be interpreted as indicators of pain, especially in residents whose cognitive impairment impedes communication; pain is common among nursing home residents; and treatment strategies are often effective (American Geriatrics Society [AGS], 2002).

Settings and Sample

The study took place at two sites in an urban environment: memory care units within a 780-bed, county-run facility, referred to here as “Buena Vista” (BV); and a corporate-owned, for-profit nursing home with 99-bed capacity, referred to as “Haverford” (HF). CNA-to-resident ratios at the two sites were similar, but the sites differed in location, training resources, specialist staff support, funding sources, union involvement, and compensation.

CNAs were recruited through introduction to the researcher by nursing staff and via snowball sampling. A convenience sample of 16 CNAs participated. All participants met the inclusion criteria of having worked at one of the sites for ≥1 year and being able to speak English. Each participant received a $20 gift certificate. The Research Overview Committee at BV and the University of California, San Francisco, Committee on Human Research approved this study.

Data Collection

After obtaining written informed consent, participant interviews were conducted using a semi-structured interview guide. Interviews were tape recorded and transcribed verbatim. Interview questions included asking CNAs how they knew if their residents had pain or were comfortable, and what they did if a resident had pain.

Data Analysis

Grounded theory inductive guidelines were used for the collection, synthesis, analysis, and conceptualization of data. The use of constant comparative analysis led to the identification of codes (i.e., patterns in the data),...
categories, common themes, and relationships between these elements (Strauss, 1987). As themes from interview data became apparent, subsequent interviews included questions related to those themes.

Ensuring Rigor
Approaches to ensure rigor included methodological transparency, the collection of rich and sufficient data, and reflexivity undertaken by the researcher (E.H.) to examine the researcher’s own preconceptions and biases. These approaches were achieved through discussions with a peer group of qualitative researchers, the researcher’s academic advisor (M.W.), and memo writing at each stage of the study.

RESULTS
Sample Characteristics
A total of 16 interviews were conducted with CNAs, 11 from BV and five from HF (Table). Participants’ average experience working as a CNA was 15.4 years. Compared to the HF site, CNAs at the BV site were more experienced, better educated, and older.

The Meaning of Pain
Pain was central to the work of these CNAs. As one CNA said, “Pain [is] worse if you ignore it. You have to realize the pain; you cannot hide it. You can see it…If there is pain, you’re here to help them…you cannot work if there is pain.” In describing the meaning of pain, four themes evolved: (a) CNAs understood pain as having biological, psychological, and social components and as an outcome of their work; (b) CNAs perceived residents’ pain through asking, listening, and observing behaviors; (c) CNAs differentiated between types of pain they witnessed (i.e., everyday pain and pain they reported); and (d) CNAs responded to pain by working flexibly and providing physical care and attention.

CNAs’ Understanding of Pain. CNAs’ understanding of pain was holistic, including and going beyond the basic idea of pain as a response to stimuli, a physical feeling. CNAs’ perceptions of pain demonstrated an appreciation of the contribution of psychological and social factors to the

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Note. BV = Buena Vista; HF = Haverford; CNA = certified nursing assistant.

*a 11 participants were from BV; five participants were from HF.

b N = 14, as two participants were born in the United States.
experience of pain, as was exemplified in one CNA’s interview:

It could be pain, not necessarily pain physically; it could be mentally. They could be stressed. We could have pain in our love... some of the residents here are in pain because they’re depressed, you know; there are different kinds of pain... physical pain, emotional pain, financial pain; that’s just how I see pain.

Always described as negative and synonymous with discomfort, pain was attributed to painful diagnoses such as cancer, joint disease, and contractures. CNAs also spoke of their own pain, and described their work as being "hard on your body." CNAs' pain was perceived as enhancing their understanding of others’ experiences.

Accepted by CNAs as "part of our feelings in life," emotional responses to pain included feelings of sadness, sorrow, concern, and worry. CNAs perceived their residents as feeling "bad" when they had pain, as well as unhappy, afraid, lonely, and depressed. However, CNAs differentiated these emotional responses to pain from pain that was a response to psychological distress. The most striking example of this differentiation was when CNAs spoke of the death of their residents, time after time equating grief with pain. When asked what "pain" meant, one CNA stated: "sometimes they are lonely." When asked, "What do you mean? The loneliness causes the pain, or the pain makes them lonely?" the CNA responded: "Either way."

Pain was characterized by CNAs as a loss of control: CNAs saw pain as limiting residents’ independence because more help was needed when they had pain. For example, one CNA stated, "Pain, for me, is something that you cannot handle... you need help." CNAs identified factors that exacerbated pain. Basic activities such as transferring, turning, or spending too long in one position were associated with pain in residents, as was hunger, the need to empty bowels, and everyday activities such as getting dressed. Perhaps most unexpected was the concept that CNAs not giving adequate attention to residents would make residents’ pain worse. In answer to the question, “What do you think makes pain worse for people?” one CNA answered, “...just the thought that they’re not being taken care of.”

Ways of Perceiving Residents’ Pain. CNAs identified two primary ways that they perceived residents’ pain: communicating through asking and listening, and observing behaviors that they understood as expressions of pain.

Through communicating by asking and listening, CNAs indicated that although some residents were able to tell them if they had pain, most presented challenges. For example, one CNA said, "[With] dementia, you don’t know what they want, where is the pain?" Cognitive impairment complicated the recognition of pain not just because residents were unable to give a verbal account of their pain, but because CNAs observed that they were inconsistent in their reports, forgetful, confused, and, on occasion, frightened and combative when approached. Communication was problematic when language barriers existed, and CNAs described relying on translators and the use of picture prompts. Despite these communication difficulties, CNAs still asked and listened, because, as one CNA reported: “I know she’s confused but... she can answer questions.” By using one-way conversations, asking questions with yes or no answers, and listing various options, CNAs determined information about residents’ pain.

In addition, to recognize residents’ pain, CNAs relied on observing residents and interpreting their behaviors. As one CNA said, “[Pain is] subjective and objective... You didn’t see the pain, but you can see the patient... are they comfortable, or what?” CNAs described recognizing pain primarily through residents’ facial expressions, which were considered a reliable indicator. As one CNA commented: “... they just pretend they’re comfortable... [but] they’re still in pain; I know it. See, the patient grimace... you can see their face...”

Other behaviors identified as indicators of pain were:

- **Verbalizations/Vocalizations.** Mostly non-language sounds that included shouting out, yelling, screaming, crying, moaning, and cursing.
- **Body Movements.** Stillness (rigidity) and movement (fidgeting). CNAs noted that residents sometimes responded differently to movement when in pain. As one CNA stated, “... you cannot ask them, but you can tell how it [is]—because when they move, you know.”
- **Changes in Interpersonal Interactions.** Examples included the resident being combative, agitated, or not talking.
- **Changes in Activity Patterns or Routines.** General lethargy, not wanting to walk, not wanting to stay in one place, or not eating.
- **Mental Status Changes.** Examples included being upset, looking sad, crying, mood swings, and irritability.
- **Gesturing.** CNAs interpreted resident gestures, including pointing with eyes or fingers, rubbing affected areas, or nodding yes and no in response to questions related to pain, especially in residents with communication difficulties.

Differentiating Between Types of Pain. It was striking that CNAs consistently differentiated between everyday pain, which residents experienced with normal activities, and new reportable pain that CNAs judged to be an increase in resident’s pain.

When talking about pain that occurred with everyday care, CNAs described an expectation that such pain was normal. For example, one CNA estimated that four of her nine regular residents would have pain with everyday care, including transfers. Described as most frequent when giving, morning care, this pain was characterized as persistent and often identified as "stiffness." For example, the CNA said, “... it’s not horrible pain for them... they’re probably stiff.”
Everyday pain was recognized in the same ways that other types of pain were recognized—everyday pain was not a silent pain. However, CNAs described managing everyday pain through their own interventions, and not reporting it to licensed nurses.

When CNAs saw that a resident had pain that was new—in other words, not everyday pain that they had witnessed before—they unanimously described that their first response was to report this change to a licensed nurse. For example, when a CNA noticed: “…it’s really different pain…[not] like normal pain,” the CNA reported it to the licensed nurses, while also handling it like everyday pain. CNAs described that their main motivation for reporting residents’ pain was to advocate for pain medication. CNAs expressed belief in the efficacy of medications as a solution for pain. They reported confidence in being listened to by licensed staff and were assertive in advocating for their residents: “I call them [licensed nurses]; ‘I want you to come here now, I want you to see my patient…I think he’s in pain.’” CNAs were clear that they felt responsible for following up their initial report in case the licensed nurse was busy or forgot.

**Responding to Residents’ Pain.** In the current study, CNAs independently sought to mitigate pain in ways that included working flexibly, undertaking physical interventions, and paying attention to and being present for residents. Although CNAs differentiated between pain that needed to be reported to licensed nurses and everyday pain that did not, strategies to mitigate pain were used in both cases. When reportable pain was identified, CNAs described responding to the pain while they were waiting for pain assessment, the administration of medications, or medications to work.

One CNA explained how she worked flexibly with residents in pain: “I slow it way down…and do a little bit at a time…I try to just make it more comfortable for them. Or if there’s something I can eliminate, I will; you know?” Other CNAs described consciously working in ways that would lessen residents’ experience of pain when care was given; for example, by working gently, smoothly, and quickly. These strategies included changing routines (e.g., coming back later), changing the care they gave (e.g., a sponge bath instead of a shower), and working with other CNAs (especially when transferring residents) to alleviate or avoid pain for residents.

In addition, CNAs considered physical care an important part of their work. Participants frequently referred to pain caused by residents’ position. CNAs described not only repositioning residents, but finding a balance between ensuring residents were out of bed long enough to enjoy social interactions and putting them back to bed to provide comfort and rest. Other physical care to mitigate pain included encouraging residents to use the bathroom, especially if CNAs suspected stomach pain; applying heat and cold; and massaging affected areas.

Furthermore, CNAs believed that residents needed attention and would have negative feelings, often characterized as psychological or emotional pain, if it was not given.

Certified nursing assistants believed that residents needed attention and would have negative feelings, often characterized as psychological or emotional pain, if it was not given.

**DISCUSSION**

The current study investigated how CNAs understood pain. This knowledge could lead to a better understanding of CNAs’ work, as well as the development of interventions that would promote optimal pain relief for residents. Findings provided insights into how CNAs understood, perceived, differentiated, and responded to pain.

**Understanding Pain**

The physical toll that working as a CNA takes is well documented (Graham & Dougherty, 2012; Walton & Rogers, 2017). Therefore, it is not surprising that CNAs’ understanding of pain was often informed by empathy derived from personal experiences of pain (Dobbs, Baker, Carrion, Vongxaiburana, & Hyer, 2014).
CNAs described residents’ pain as being caused by psychological and social distress (especially neglect or lack of attention), as well as emotional experiences that they perceived as painful (e.g., loneliness, fear, depression). The holistic way CNAs described their understanding of pain reflects the modern view that pain has biological, psychological, and social components (International Association for the Study of Pain, 1979).

Perceiving Pain
Participants reported that recognition of pain through verbal communication was difficult. However, through asking and listening, CNAs had success identifying pain. Their descriptions of communication difficulties reflected the reality that approximately two thirds of nursing home residents have some form of cognitive impairment (CMS, 2015).

The need to go beyond verbal reports to assess pain in individuals with cognitive impairment includes observing residents’ behaviors (Herr et al., 2011). However, the standardization of pain behaviors is difficult. It is accepted that the enactment of a behavior (i.e., fidgeting) may not necessarily be an indication of pain. Rather, it may be the result of anxiety or boredom. In addition, the many causes of cognitive impairment in older adults, including the different types of dementia, can lead to “idiosyncratic and unusual responses to pain” (Hadjistavropoulos, 2005, p. 140). Common pain behaviors specific to older adults with cognitive impairment include changes in facial expression; verbalizations/vocalizations; body movements; and changes in interpersonal interactions, activity patterns or routines, and mental status (AGS, 2002; Hadjistavropoulos et al., 2007). Participants observed pain behaviors in all categories. Participants assessed pain using techniques that included asking, listening, observing, and interpreting residents’ behaviors. In addition, participants were able to differentiate between types of pain.

Differentiating Pain
Participating CNAs recognized the everyday pain of their residents. They accepted it as a normal and predictable experience for them. This finding is consistent with previous reports that residents experience pain with everyday care activities (e.g., transfer, ring, washing, dressing). For example, in a study of Taiwanese nursing home residents with dementia (Lin, Lin, Shyu, & Hua, 2011), “passively received care was a major pain stimulus” (p. 1853). In another study that videotaped 51 episodes of morning care (Sloane et al., 2007), the authors concluded that morning care “presents considerable opportunity for the stimulation of pain and discomfort” (p. 372). In differentiating between everyday pain and reportable pain, CNAs determined what was and was not brought to the attention of licensed nurses trained to assess and manage pain. Although the responses of CNAs to everyday pain were not passive, a professional assessment and plan for pain management was not undertaken.

Although the CNAs from BV were better educated and had access to consistent, professional, and comprehensive ongoing training in dementia and pain, no differences were found between sites in how CNAs differentiated everyday from reportable pain. This lack of difference may indicate that some aspect or aspects of context, rather than levels of education or training, inhibit reporting of pain. It is possible that participants view pain as an inevitable part of aging, which may contribute to the acceptance of everyday pain (Wandner, Scipio, Hirsh, Torres, & Robinson, 2012). Further research is needed to explore this issue.

Responding to Pain
Analysis of the data identified three strategies that CNAs used to mitigate pain: working flexibly, providing physical care, and giving attention to residents. Working flexibly (i.e., prioritizing residents’ needs rather than routines) reflected the way that CNAs viewed residents as individuals and strove to give resident-centered care, as opposed to task-oriented care. CNAs favored resident-centered care despite working in nursing homes, where task orientation is reinforced by having CNAs complete checklists at the end of each shift. Data related to physical interventions centered on the need for comfort by positioning and repositioning residents, and possibly reflects the emphasis in nursing home management on skin breakdown as a published quality indicator (Medicare.gov, n.d.). In addition, participants described lack of attention as a source of emotional pain for residents. Giving attention to residents was equated with mitigating pain because it distracted residents from thinking about their pain. However, the dominant perception was that pain was forgotten rather than alleviated because of the attention provided. Participating CNAs also practiced recommendations to mitigate everyday pain for nursing home residents by using flexibility in routine and pace (Sloane et al., 2007). An additional recommendation not practiced by the CNAs in the current sample was the need to advocate for prophylactic medications prior to giving care.

Liu (2014) identified four roles nursing assistants had in pain management: pain assessor, pain reporter, subordinate implementing prescribed medications, and instigator implementing nonpharmacological interventions. These roles further support the importance of CNAs’ insights into residents’ pain. Participants in the current study played all four of these roles, but the role of reporter was used only when pain was assessed as new and therefore reportable. This finding suggests that opportunities to ameliorate pain that accompany routine care were missed. Interventions to assist CNAs with understanding the value of treating everyday pain may be useful in minimizing the pain experienced by nursing home residents.
as well as its related physiological and psychosocial toll.

**STUDY LIMITATIONS**

Several study limitations need to be acknowledged. The sample size was relatively small, but sufficient rich data were collected for a grounded theory analysis. Data were collected in only two facilities in one urban area, limiting generalizability. Despite attempts to recruit night shift workers, these workers were not represented in the current sample. Without direct observation of CNAs caring for residents, interview data may reflect what CNAs think they should be doing rather than what they are doing. However, consistency throughout the interviews suggests that CNAs’ data genuinely reflected their practice. Because only two CNAs spoke English as their first language, the interviews about the complex nature of pain were difficult to conduct, analyze, and interpret. Furthermore, it was not possible to establish the prevalence of pain or cognitive loss for residents that were cared for by CNAs. Despite these limitations, the study had the advantage of being conducted in two facilities that differed in many ways. The settings added to the diversity of the data gathered and made discovery of common themes more compelling.

**IMPLICATIONS FOR NURSES**

The current research indicates that CNAs may have expertise in understanding pain, which could have important implications for managing residents’ pain. To ensure more effective pain management in nursing homes, CNAs should always report to a licensed nurse whenever they perceive or suspect residents have pain. In addition, a resident’s plan of care needs to include the use of preventive measures and prophylactic medications. For these interventions to be effective, strategies need to be implemented to ensure that licensed nurses have the time and capacity to handle these additional reports.

**CONCLUSION**

CNAs expressed a holistic understanding of pain, discussed strategies to identify and interpret pain in individuals with cognitive impairment, differentiated everyday from reportable pain, and delineated actions taken to independently mitigate residents’ pain. Further research is needed to explore whether the differentiation of types of pain and how they are managed is similar across a broader sample of types of nursing homes in varying geographic locations. The goal is to identify how CNAs’ expertise can be harnessed for the benefit of residents. A comprehensive review of CNA education and training, with emphasis on pain assessment and management, would be beneficial to further explore CNAs’ practice-knowledge gap in pain management. Given that everyday pain was considered normal, any subsequent training should examine existing attitudes and include exercises to develop empathy and self-awareness regarding issues of ageism and expectations of aging. This type of research would lead to improvements in pain management for residents by creating a better understanding of what CNAs do at work; a reframing of the important role of CNAs; and an increased recognition of their contributions, particularly to effective pain management.

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